UNIVERSITY of HAWAI'I® SYSTEM

Office of Capital Improvements

December 6, 2010

Ms. Katherine Kealoha, Esq.
Office of Environmental Quality Control
235 South Beretania Street, Room 702
Honolulu, Hawai'i 96813

Dear Ms. Kealoha,

Subject: Finding of No Significant Impact (FONSI) to the Environment
for Honolulu Community College Advanced Technology Training Center
Honolulu, O'ahu, Hawai'i
TMK: (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001

The University of Hawai'i, Office of Capital Improvements has reviewed and responded to the comments received during the 30-day public review period for the subject project's Draft Environmental Assessment (EA) that began on September 8, 2010 and ended on October 8, 2010. We have determined that the proposed action will not have significant environmental effects and have issued a Finding of No Significant Impact (FONSI). Please publish this notice in the next issue of the *Environmental Notice*.

We have enclosed a completed OEQC Publication Form, one hard copy of the Final EA, and a CD-ROM containing the Final EA, project summary, and Environmental Notice publication form in electronic format.

If you have any questions, please call Loren Lau of our staff at (808) 956-2739 or our EA contractor, Gail Renard of Helber Hastert & Fee, Planners (808) 545-2055.

Sincerely,

Brian Minaai
Associate Vice President for Capital Improvements

1960 East West Road, Biomedical Sciences B-102
Honolulu, Hawai'i 96822
Telephone: (808) 956-7935
Fax: (808) 956-3175
An Equal Opportunity/Affirmative Action Institution

UNIVERSITY OF HAWAIʻI
**HONOLULU COMMUNITY COLLEGE**

# ADVANCED TECHNOLOGY TRAINING CENTER

F I N A L  E N V I R O N M E N T A L  A S S E S S M E N T

Honolulu District, Oʻahu, Hawaiʻi

**December 2010**

Prepared for:
**Design Partners, Inc. and**
**Honolulu Community College**

Prepared by:
**Helber Hastert & Fee, Planners**

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**HONOLULU COMMUNITY COLLEGE**

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## ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| ° | degree(s) |
| ATTC | Advanced Technology Training Center |
| BMP | best management practice |
| BWS | Board of Water Supply |
| CIA | Cultural Impact Assessment |
| CZM | Coastal Zone Management |
| DBEDT | Department of Business, Economic Development, Tourism |
| DLNR | Department of Land and Natural Resources |
| DOH | Department of Health |
| DPP | Department of Planning and Permitting |
| ECM | energy conservation measure(s) |
| EIS | environmental impact statement |
| F | Fahrenheit |
| FEMA | Federal Emergency Management Agency |
| FL | Fill Land, mixed |
| FONSI | Finding of No Significant Impact |
| ft | foot (feet) |
| $ft^2$ | square foot (feet) |
| gpd | gallons per day |
| HAR | Hawai‘i Administrative Rules |
| HCC | Honolulu Community College |
| HECO | Hawaiian Electric Company |
| HRS | Hawaii Revised Statutes |
| IBC | International Building Code |
| IMX-1 | Industrial-Commercial Mixed Use |
| in | inch(es) |
| kV | kilovolt(s) |
| LEED | Leadership in Energy & Environmental Design |
| LOS | Level of Service |
| LRDP | Long Range Development Plan |
| LUO | Land Use Ordinance |
| mg/l | milligrams per liter |
| mph | mile(s) per hour |
| MS4 | Municipal Separate Storm Sewer System |
| msl | mean sea level |
| NFPA | National Fire Protection Association |
| NPDES | National Pollutant Discharge Elimination System |
| $PM_{2.5}$ | particulate matter 2.5 microns or less |
| $PM_{10}$ | particulate matter 10 microns or less |
| PRU | Plan Review Use |
| PUC DP | Primary Urban Center Development Plan |

| | |
|---|---|
| PV | photovoltaic |
| SHPD | State Historic Preservation Division |
| SMA | Special Management Area |
| TOD | transit-oriented development |
| UFC | Uniform Fire Code |
| UH | University of Hawai‘i |
| USACE | U.S. Army Corps of Engineers |
| WRCC | Western Region Climate Center |

# 1.0 INTRODUCTION

## 1.1 Background

Honolulu Community College (HCC) is one of seven community colleges within the University of Hawai‘i (UH) system. It is a liberal arts and career and technical education institution that provides apprenticeship training and a variety of non-credit continuing education courses. Honolulu Community College was established in 1920 as the Territorial Trade School in Pālama, and has evolved from a vocational school to a comprehensive institution and the primary technical training center in the Pacific region for industries such as transportation, information technology, education, communications, and construction. Since 1970, HCC has been continuously and fully accredited by the Western Association of Schools and Colleges, and is authorized to award Associate in Arts and Associate in Science degrees.

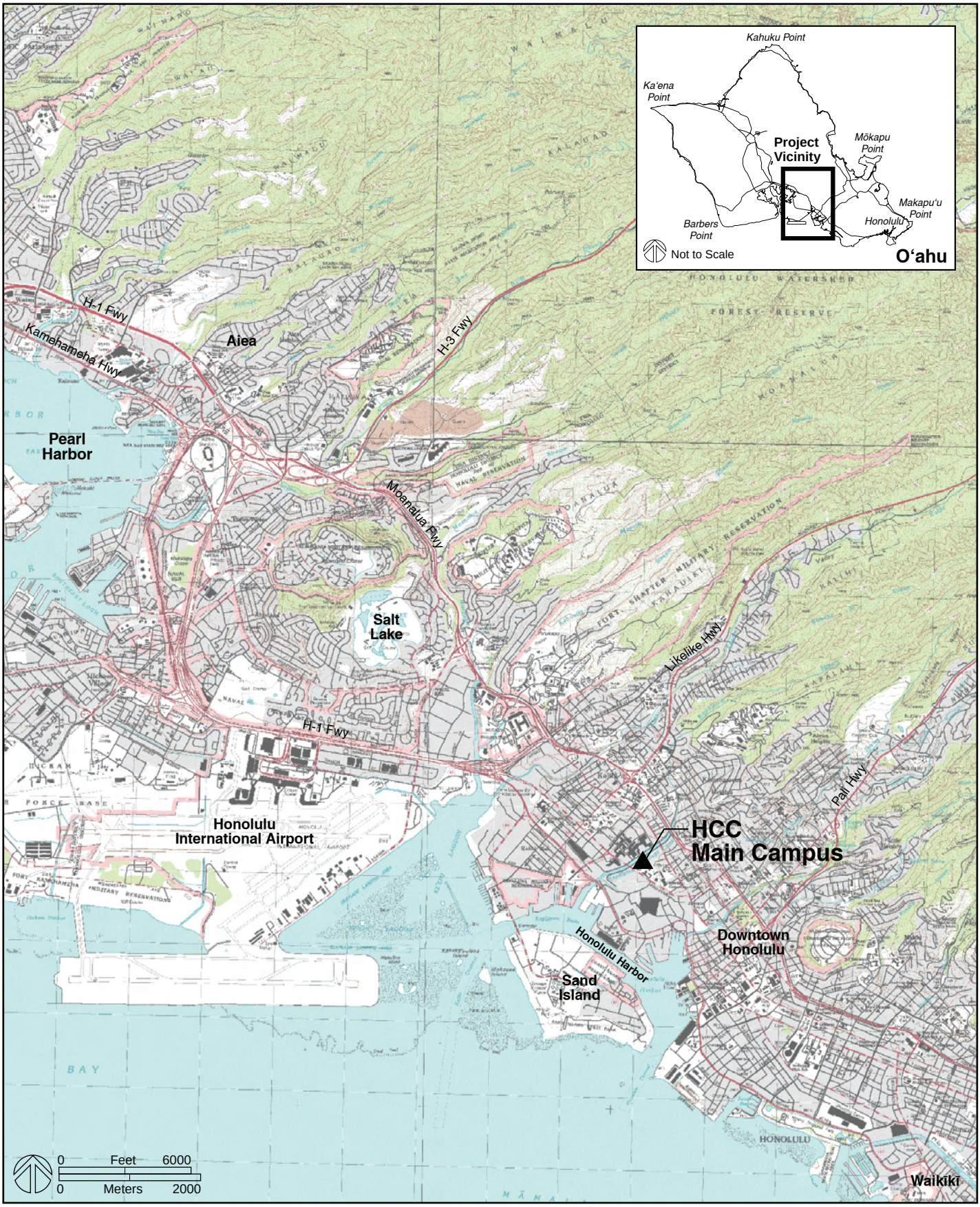
In addition to its Main Campus near downtown Honolulu (Figure 1), HCC provides educational services at four auxiliary sites on O‘ahu, the closest of which is the Kōkea Street Campus one block *makai* (seaward) of the Main Campus (Figure 2).

## 1.2 Proposing Agency and Action

HCC proposes to construct a new Advanced Technology Training Center (ATTC) building on an approximately 1.5-acre site on its Main Campus. The proposed ATTC is planned as an up to 6-story, approximately 145,000-square foot ($ft^2$), reinforced concrete and steel, technology and science instruction building[1]. The ATTC is being designed to incorporate sustainable building features to reduce energy and potable water demand, improve indoor environmental quality, and reduce stormwater runoff and wastewater generation. The proposed ATTC would be HCC’s first major new building at its Main Campus in over 30 years.

This Environmental Assessment (EA) was prepared in compliance with Chapter 343, Hawaii Revised Statutes (HRS), as amended, and the environmental impact statement (EIS) regulations promulgated by Chapter 200 of Title 11, Department of Health (DOH). Since the proposed action involves the use of public lands and funds, it is subject to the State’s environmental review process. This document was prepared to determine whether the proposed action may have a significant impact on the environment and whether an EIS is required.

[1] The Draft EA estimated the floor area of the ATTC at 125,000 $ft^2$. Although the net areas for the science and technology programs remained the same, the increase in estimated gross floor area since publication of the Draft EA is due to recalculation of the required circulation and common area spaces (i.e., more space for these areas is required than was estimated in preliminary calculations).



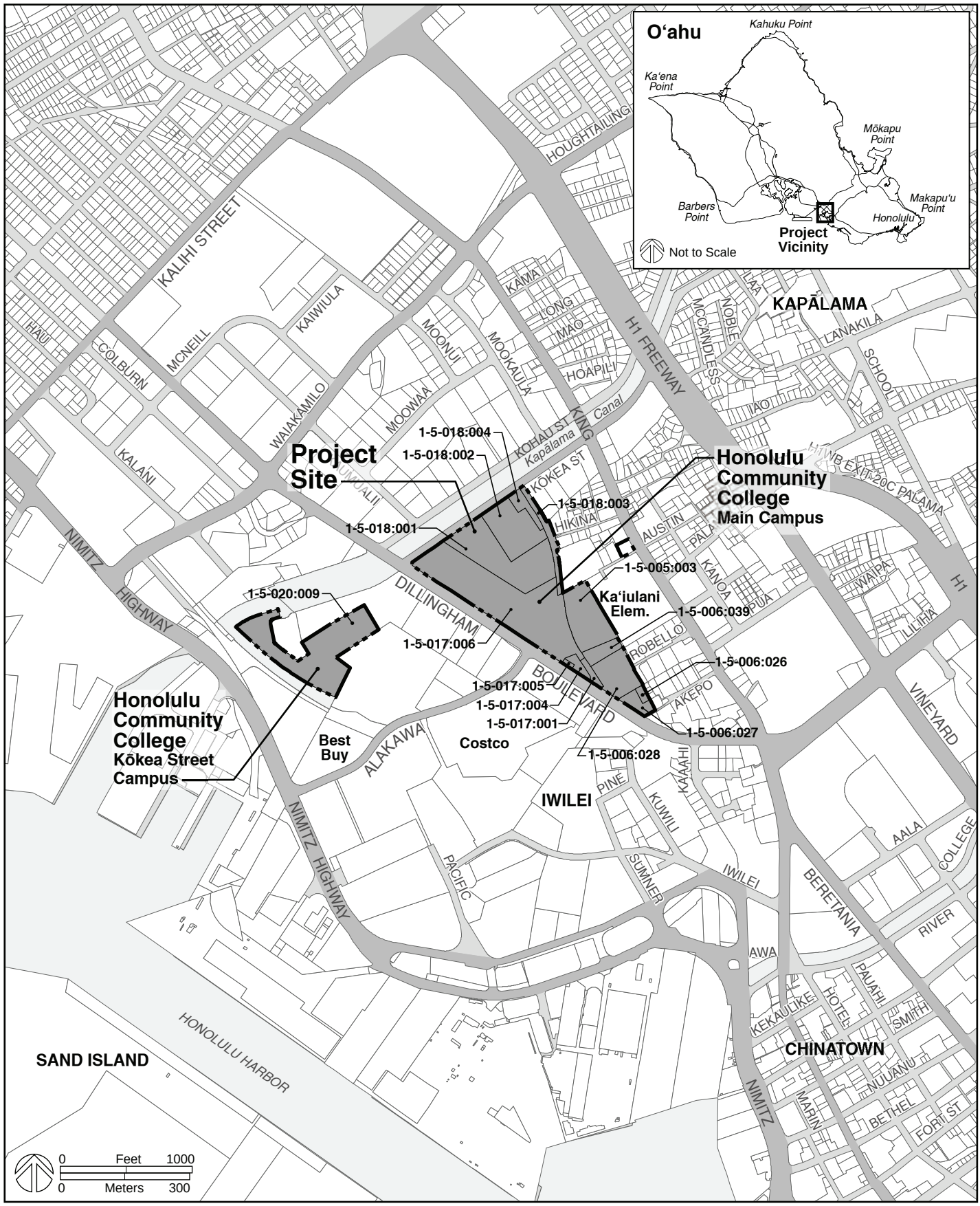

Honolulu Community College Advanced Technology Training Center

Environmental Assessment

**Figure 1**

**Location Map**

Helber Hastert & Fee
*Planners, Inc.*




Honolulu Community College Advanced Technology Training Center

Environmental Assessment

**Figure 2**

**Project Site**

Helber Hastert & Fee
*Planners, Inc.*

## 1.3 Project Summary

| | |
|---|---|
| Project Name: | Honolulu Community College Advanced Technology and Training Center (ATTC) Facility |
| Applicant: | University of Hawai'i<br>Office of Capital Improvements<br>1960 East West Road, Biomedical Sciences, B-102<br>Honolulu, Hawai'i 96822<br>Brian Minaai, Associate Vice President for Capital Improvements<br>Phone: (808) 956-7935, Fax: (808) 956-3175 |
| EA Preparer: | Helber Hastert & Fee, Planners<br>733 Bishop Street, Suite 2590<br>Honolulu, HI 96813<br>Phone: (808) 545-2055 Fax: (808) 545-2050<br>Tom Fee / Gail Renard |
| Approving Agency: | University of Hawai'i, Office of Capital Improvements |
| Proposed Action: | Construction of a new up to six-story, approximately 145,000-$ft^2$ facility to provide modern laboratory, classroom, lecture hall, and faculty office space to replace aging facilities on campus. Facility will also include an auditorium. |
| Chapter 343, Hawai'i Revised Statutes "Trigger:" | Use of State lands and funds |
| Project Location: | Honolulu Community College<br>874 Dillingham Boulevard<br>Honolulu, Hawai'i 96817 |
| Tax Map Keys: | (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001 |
| Landowner: | University of Hawai'i, State of Hawai'i |
| Existing Land Uses: | HCC off-street parking and open space |
| State Land Use District: | Urban |
| Primary Urban Center Development Plan: | Institutional: College/University |
| Zoning: | Industrial-Commercial Mixed Use (IMX-1) |
| Plan Review Use (PRU): | Pending (*As of December 2010, PRU permit application was under consideration by the City Council.*) |

## 1.4 Required Permits and Approvals

| Agency | Permit |
|---|---|
| State of Hawai‘i | |
| Department of Health | Air Quality Permit (*for emergency generator*)<br>Noise Permit<br>National Pollutant Discharge Elimination System (NPDES) Stormwater Permit |
| City and County of Honolulu | |
| Department of Planning and Permitting | Building Permits (various)<br>Grubbing, Grading, and Stockpiling<br>Sewer Connection<br>Industrial Wastewater Discharge Permit<br>Temporary Use Approval<br>Trenching Permit for work in City right-of-way<br>Drain Connection License (potential)<br>Dewatering Permit (potential)<br>Municipal Separate Storm Sewer System (MS4) Permit |
| Department of Transportation Services | Street Usage Permit |

## 1.5 Determination

Based on the information gathered during preparation of this EA, it is concluded that the direct, indirect, and cumulative effects of the proposed action will not have a significant adverse effect on the environment and an EIS will not be required. In accordance with Chapter 343, HRS and Section 11-200, Hawai‘i Administrative Rules, the University of Hawai‘i determined that a FONSI be issued for the proposed action. The rationale for this determination is described in Chapter 7.

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# 2.0 PROPOSED ACTION

## 2.1 Project Location

The proposed action is located within the HCC Main Campus in the Kalihi-Pālama neighborhood of Honolulu, Oʻahu, Hawaiʻi (Figure 1), on portions of Tax Map parcels 1-5-017:006 and 1-5-018:001 (see Figure 2). The 25.9-acre HCC Main Campus is approximately two miles west of downtown Honolulu, in the large block bounded by Dillingham Boulevard, North King Street and Kōkea Street (Figure 2). Dillingham Boulevard and Kōkea Street form the southwestern and northwestern boundaries of the Main Campus, respectively, and provide vehicular access to the site. The northeast boundary of the generally triangular Main Campus is parallel to the North King Street alignment, but separated from North King Street on the northeast by warehouse and industrial uses, Kaʻiulani Elementary School, and residential uses. The Kapālama Drainage Canal is parallel and adjacent to the west side of Kōkea Street along its Main Campus frontage. The commercial and industrial area of Iwilei is located to the south of the Main Campus.

## 2.2 Project Description

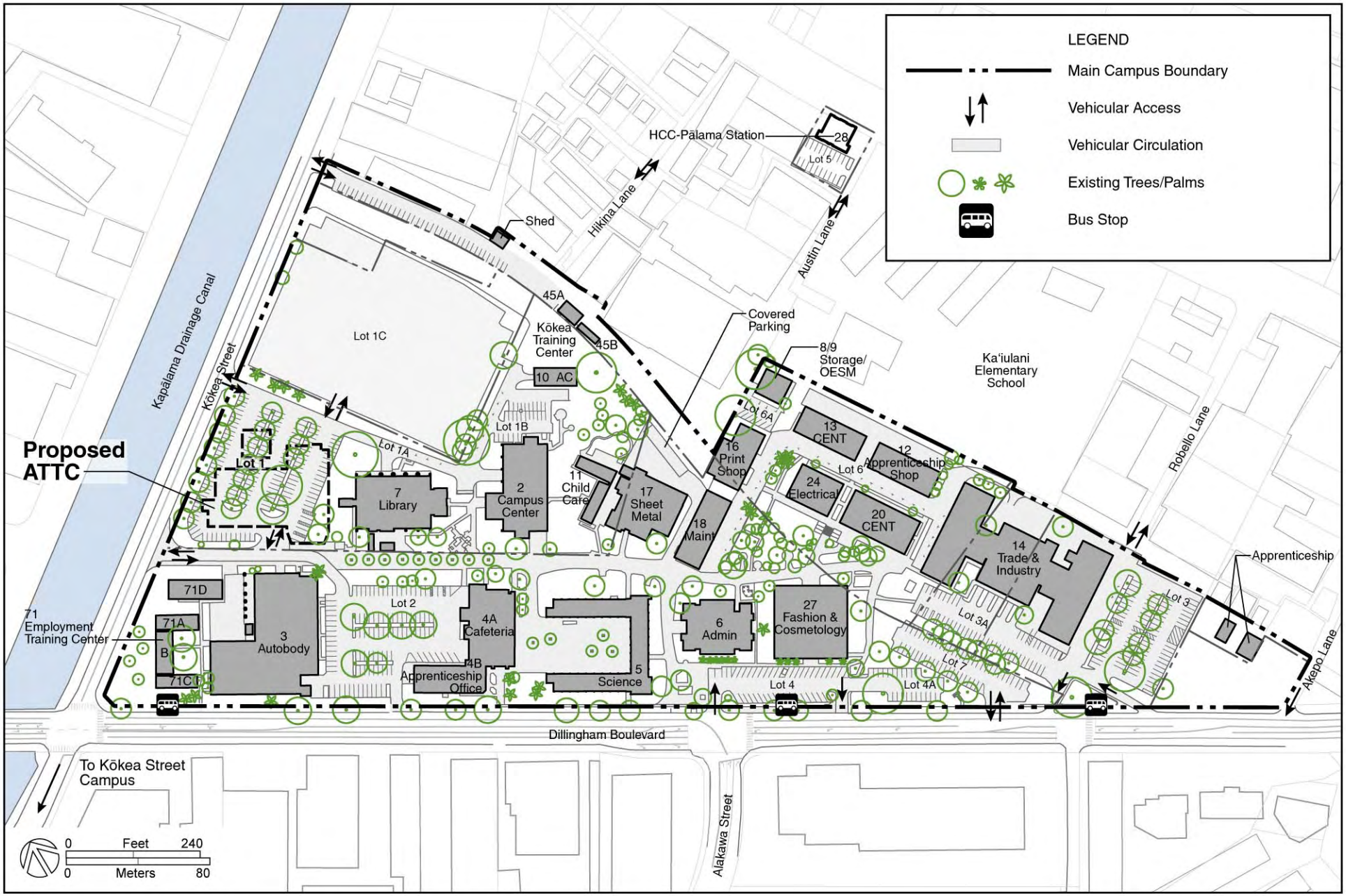
### 2.2.1 General

The proposed action is to construct a new technology and science building at HCC to provide modern laboratory and classroom spaces for the science and technology programs listed in Section 2.2.2. As shown in Figure 3, the approximately 1.5-acre project area is located in the northwest sector of the Main Campus. The new ATTC would be located on an existing paved parking area (Lot 1), adjacent to the existing six-story library building (Building 7), with frontage along the campus pedestrian mall. Figure 4 shows site photos.

HCC's 2009-2010 total student enrollment headcount was about 7,700 students including 3,350 in credit programs (liberal arts and career and technical education programs), 850 in non credit classes, and 3,500 in the apprenticeship program. The HCC Strategic Plan 2008-2015 projects the student headcount to climb to about 8,000 by 2015. In the Fall of 2009, HCC's employee count was 646, consisting of 316 faculty and staff, 280 lecturers, and 50 temporary hires. About 200 of the lecturers support the apprenticeship and non-credit programs.

HCC recently submitted a PRU permit application with the City and County of Honolulu Department of Planning and Permitting (DPP), which, as of December 2010, was being considered by the City Council. The PRU Master Plan included the proposed ATTC, and is consistent with the HCC's 1996 Long Range Development Plan (LRDP), with the exception of modifications along Kōkea Street to accommodate the ATTC, and the City's planned Kapālama Transit Station (covered under its own FEIS). The PRU Master Plan also accounts for improvements to the campus' streetscape and vehicular and pedestrian circulation.

The ATTC is part of Phase I of the PRU Master Plan—near-term development priorities and anticipated Main Campus changes consisting of the ATTC, Kapālama Transit Station,




Honolulu Community College Advanced Technology Training Center

Environmental Assessment

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**Figure 3**

**Existing Conditions Plan - Main Campus**




Photo 1: Proposed building site from west bank of Kapālama Canal.



Photo 2: At north corner of Lot 1 and Kōkea Street showing proposed ATTC building site.



Photo 3: At corner of pedestrian mall and west corner of Bldg. 7 (library) looking north at proposed building site of ATTC.

Honolulu Community College Advanced Technology Training Center

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**Figure 4**

**Site Photos**

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gateway/mall improvements, and parking lot improvements (i.e., converting some surface parking in Lot 2 to green space for informal and formal gatherings; paving and striping Lot 1C). The Phase I projects are anticipated to be initiated as separate projects within about a five-year timeframe. The near-term projects in the vicinity of the ATTC project area are depicted in Figure 5. The ATTC project is not expected to directly increase employment or enrollment; it is needed to address an existing inadequacy in science and technology facilities. Therefore, the analysis in this EA assumes that there would be no increase in student enrollment or faculty and staff resulting from the ATTC. Cumulative impacts of the development of the entire Master Plan are discussed in Section 3.7.

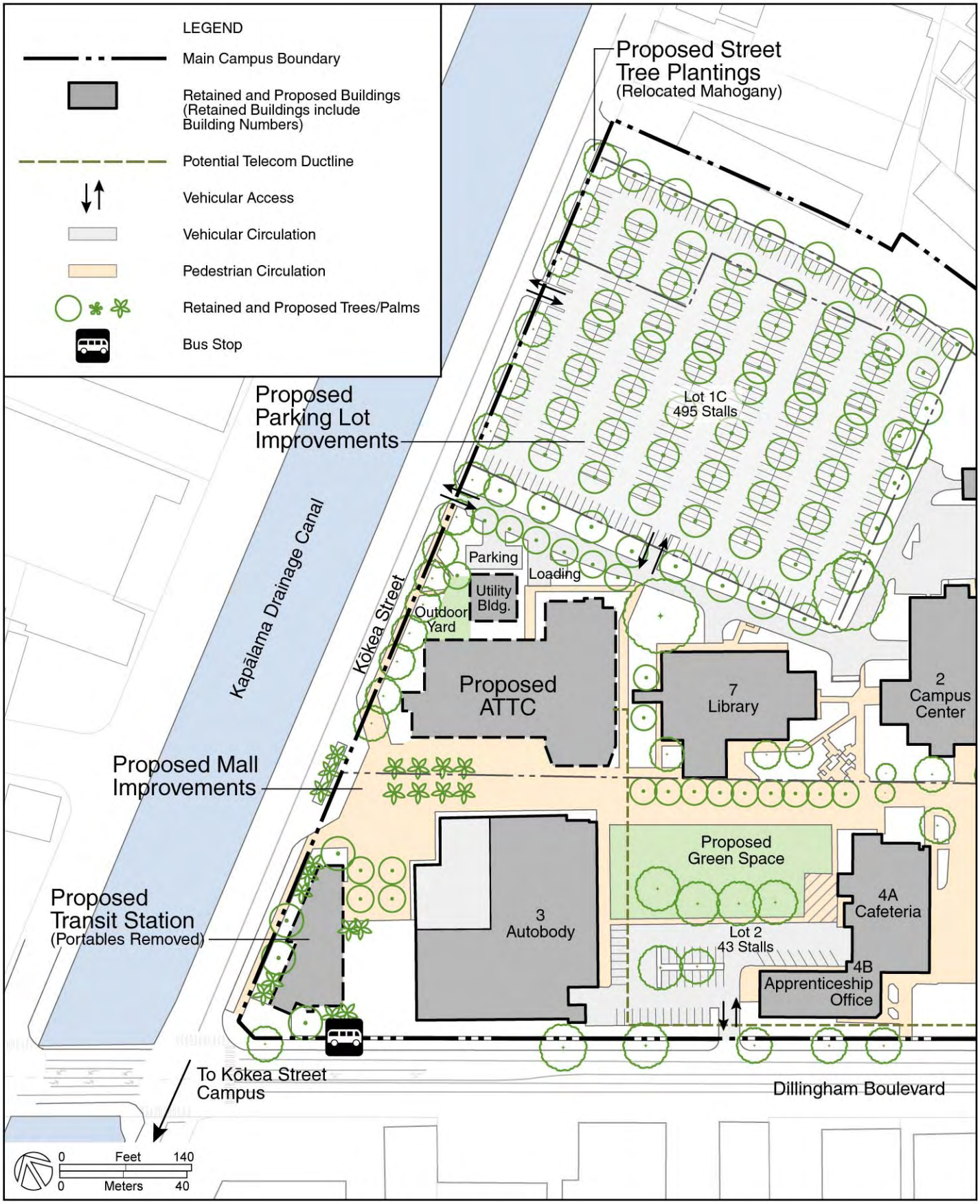
The new ATTC is being designed to meet Leadership in Energy & Environmental Design (LEED) Silver Certification criteria.[2] Examples of sustainable design features likely to be included in the ATTC are described below. The project's preliminary LEED checklist is attached as Appendix E; however, specific sustainable strategies may change as detailed design progresses.

### 2.2.2 ATTC Building

Preliminary programming by HCC indicates the need for approximately 145,000 gross square feet ($ft^2$) of building area.[3] The proposed ATTC would be constructed of reinforced concrete and steel, supported on a pile foundation. The building will be designed to resist wind speeds of 105 miles per hour (mph), in accordance with the 2006 International Building Code (IBC). It will primarily consist of instructional classrooms and laboratories for the following programs: Natural Sciences (Chemistry, Biology, Microbiology, Anatomy, Physiology, Oceanography, and Marine Biology); the Pacific Center Advanced Technology Training and Information Technology Center; Architectural Engineering Computer-Aided Design & Drafting Technologies; Information and Computer Science; and Computing Electronic Networking Technology. Specific spaces include teaching classrooms and laboratories, instructor offices, and storage. The proposed ATTC will also include space for a general auditorium. A separate utility building would also be constructed on the north side of the ATTC, which would have an enclosed space for chillers and pumps, with cooling towers on the roof. The approximate site development area is 75,715 $ft^2$. The main building footprint is approximately 28,245 $ft^2$ and the utility building is 2,500 $ft^2$, for a total lot coverage of 30,745 $ft^2$. This results in a lot coverage of approximately 40.6%. See Figure 5 for preliminary site plan.

[2] The LEED Green Building Rating System is a performance-oriented system to rate new and existing commercial, institutional and residential buildings. The rating system for new construction is organized into the following categories: Sustainable Sites, Water Efficiency, Energy & Atmosphere, Materials & Resources, Indoor Environmental Quality, Innovation & Design, and Regional Priority. Credits are earned for meeting criteria within each of the categories, with different levels of green building certification awarded based on total credits earned (U.S. Green Building Council 2009). There are four levels of LEED certification (Certified, Silver, Gold, and Platinum); a building requires 50-59 points (out of a total of 100 base points) to be awarded Silver Certification.

[3] Estimated floor areas and general site plans reported in the EA are based on the results of an August 2010 charrette with the ATTC design team and HCC stakeholders, and are subject to change in the forthcoming design process. The increase in the floor area from what was reported in the Draft EA is due to recalculation of internal circulation and common use areas (i.e., the total net program area remained the same, but upon more detailed calculations, areas for hallways, restrooms, elevators, etc. were found to require more space than originally estimated).




Honolulu Community College Advanced Technology Training Center

**Figure 5**

Environmental Assessment

**Master Plan Phase 1 - Main Campus**

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*Planners, Inc.*

The ATTC will replace the functions in the existing science building (Building 5) and consolidate various technology programs, which are now scattered throughout the Main Campus (e.g., Buildings 2, 5, 13, and 20).

An approximately 15,000 $ft^2$ primary construction staging area would be established in the Parking Lot 1 area adjacent to the project site. A secondary area for contractor parking may also be established elsewhere on campus.

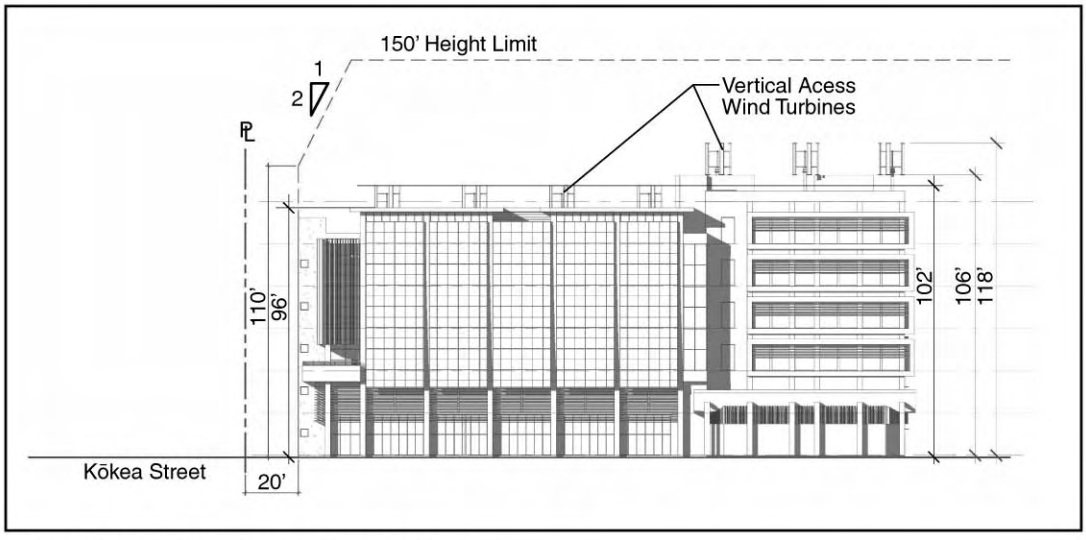
Figure 6 provides a conceptual 3-dimensional rendering that indicates the approximate scale and massing of the proposed ATTC. The artist's conception shows the facility as having a five-story west wing and six-story east wing. Building dimensions and façade are subject to change as the design process proceeds. Figure 6 also illustrates how the facility complies with Kōkea Street setbacks and building height envelopes allowed by the IMX-1 zoning district in that area (City and County of Honolulu Land Use Ordinance Section 21-3.140-1(c)(3)). The rendering depicts a five-story west wing approximately 96 feet tall and a six-story east wing approximately 106 ft tall (excluding the proposed wind turbines), well within the allowable building envelope and height limits (150 feet). The proposed roof-mounted wind turbines (alternative energy source) are currently envisioned to extend approximately 12 ft above the highest points of the roof structures. (Note: Building floor areas and heights are subject to change during the design process, but would comply with existing Land Use Ordinance height, setback, and floor area requirements.)

### 2.2.3 Utilities and Infrastructure

***Electrical.*** Primary electrical power for the new building would likely be derived from the nearest electrical manhole until a planned campus-wide electrical project upgrades the existing switchgear and primary conductors (see discussion in Section 3.4.6). Building forms and details such as sunshades, skylights and light tubes will maximize natural daylighting while minimizing solar gain to reduce the building's energy load. Exterior windows will be designed to maximize views from inside the building to improve occupant satisfaction and efficiency. Exterior light fixtures will be full cut-off type to minimize light pollution and emphasize dark skies and designed to meet accepted green building standards. All interior lights will be programmed to automatically turn off when the building is not in use and the lights will be positioned to prevent light spillover outside the building. Lighting controls will be provided for a minimum of 90 percent of the building's occupants and for all multi-occupant spaces to enable lighting adjustments to suit individual or group lighting needs. The project will purchase renewable energy credits called "green certificates," which are tradable commodities representing proof that a unit of electricity was generated from a renewable energy resource.

Roof-mounted photovoltaic (PV) and vertical axis wind turbine systems will be coordinated with the energy efficiency project currently underway with a private energy services provider (see discussion in Section 3.4.6). The project's proposed PV and wind turbine systems will be coordinated with the private energy services provider's project to determine the maximum renewable energy system size allowable by Hawaiian Electric Company.

3D massing study: view from southwest (subject to change). Landscape features are conceptual only.




Kōkea Street setback and building envelope.

Source: Design Partners, Inc.

Honolulu Community College Advanced Technology Training Center

Environmental Assessment

Helber Hastert & Fee
*Planners, Inc.*

**Figure 6**

**Conceptual 3D Massing & Street Setback**

An emergency electrical generator will be included with the project. The emergency generator will be provided to supply emergency power to selected elevators as currently required by current State elevator and City & County fire codes for high rise buildings. The emergency generator will also be used to provide emergency power to the fire alarm and emergency egress lighting systems, and standby power to essential loads such as telecom servers, server room air conditioning systems, and lab refrigerators. Electrical and mechanical equipment will either be pad mounted and located on higher floors of the facility, or on the roof.

***Mechanical, Ventilation, & Air Conditioning.*** The building is being designed to attain an energy cost savings reduction of at least 25 percent over the baseline building performance. This will be achieved through a combination of technologies such as:

- water-cooled chilled water air conditioning system that uses a magnetic bearing frictionless chiller, which has high full- and partial-load efficiency;
- demand-activated ventilation controls in the auditorium; and
- variable-flow laboratory exhaust hoods to conserve energy when they are not in use.

Indoor environmental quality will be enhanced through the following features:

- outdoor air ventilation rate for occupied areas of the building 30 percent greater than the minimum required;
- development and implementation of indoor air quality plans during construction and prior to occupancy to reduce the potential exposure of construction workers and building occupants to air-borne contaminants;
- entry capture systems for potential air-borne contaminants;
- ventilation and use of air filters in laboratories, storage rooms, janitor closets, and other areas where hazardous chemicals may be generated;
- thermal comfort system controls in individual spaces and shared multi-occupant spaces; and
- carbon dioxide sensors and automatic control system to modulate and increase the level of outside air ventilation.

The ventilation and air conditioning systems will be designed to meet the requirements of ASHRAE 55-2004.

***Telecommunication and Fire Alarm Systems.*** A new telecommunications manhole/ductline connection will be provided from the main telecommunications node in the Building 6 (Administration). The new ductline would be routed to avoid existing underground utilities, and likely be aligned along the Dillingham Boulevard frontage, through existing parking lots (see Figure 4 for potential alignment). The ductline would probably proceed *mauka* (inland) on the east side of Building 3 (Autobody) to the project site.

Fire alarm connectivity to the campus-wide fire alarm for the ATTC would be derived from Building 7 (Library). See Section 3.4.9 for discussion of upgrades to the campus fire alarm system planned under a separate action.

***Potable Water.*** The ATTC would be connected to an existing 8-inch (in) waterline located under the pedestrian mall adjacent to the project area. High-efficiency plumbing fixtures such as 0.125 gallon/flush urinals, dual flush water closets, ultra low flow lavatories, and low flow shower heads will be used to achieve a reduction in potable water usage of about 35 percent below that of a standard facility.

***Wastewater.*** According to DPP's Wastewater Branch, the ATTC wastewater system should be connected to the existing 36-in sewerline on Dillingham Boulevard. Wastewater generation will be reduced by the use of high-efficiency plumbing fixtures in the building design (described earlier under Potable Water).

***Storm Drainage.*** The proposed drainage system will consist of a series of grassed swales (where feasible), inlets, catch basins, and piping. The system will direct stormwater flows into a water quality unit to separate any pollutants prior to flowing into the City's municipal storm drainage system. Based on the City and County of Honolulu's Storm Drainage Standards (Honolulu 2000), the storm drainage system will be designed for 10-year, 1-hour storm conditions. The underground detention system will attenuate any increases in onsite stormwater flows over existing conditions that may result from the proposed action, so that there will be no net increase in the rate of stormwater discharge into the municipal storm drainage system. In addition, grassed swales are being planned as part of the storm drainage system, which will allow some stormwater to infiltrate into the ground, reducing the surface runoff into the municipal drainage system.

### 2.2.4 Roadways, Parking and Circulation

Vehicular access to the HCC Main Campus is via Kōkea Street and Dillingham Boulevard. There are currently 905 off-street parking/loading stalls at the Main Campus and 328 off-street parking/loading stalls at the Kōkea Street Campus, for a total of 1,233 existing stalls (Helber Hastert & Fee 2010). All the parking lots are paved and striped with the exception of Lot 1C, which is a gravel lot with aisles marked by traffic cones. On-street parking is allowed along both sides of Kōkea Street.

The new ATTC will be constructed over a portion of an existing 160-stall parking lot (Lot 1) that is accessible from two access points on Kōkea Street. As part of this action, the remaining portion of Lot 1 will be restriped to provide six parking stalls and two loading stalls. In the long-term, a parking structure planned for Lot 1C--as part of a separate action--would replace the surface parking in Lot 1 (see discussion of parking in Section 3.4.2).

The ATTC's main entry will face south and connect to the pedestrian mall that runs through the campus. This pedestrian mall will be extended to Kōkea Street by a separate near-term project

that is part of Phase I of the PRU Master Plan (see Figure 5 and discussion in Section 2.2.1). Secondary building entrances will be located on the north and east sides of the ATTC. In order to enhance the new campus gateway where the campus mall meets Kōkea Street, the ATTC project will consider ground level site elements such as benches or other amenities for student gathering, shade trees, campus directory and signage, and spaces for public art, and a transparent exterior ground floor wall facing Kōkea Street to visually connect pedestrians along Kōkea Street with the building's interior spaces.

The proposed action also includes construction of a sidewalk with curbs and gutters along the project area's Kōkea Street frontage between the campus pedestrian mall and the entrance to the campus parking lot (see Figure 5). Improvements to other sections of HCC's Kōkea Street frontage will be undertaken with future improvements adjacent to those sections, such as the campus gateway project, Kōkea Street parking garage, and the planned transit station. According to the City's Rapid Transit Division's plans, the Kapālama rail transit station project will provide sidewalk improvements along the Kōkea Street frontage of the station, between Dillingham Boulevard and the campus mall.

As part of the project's sustainable design features, bicycle racks will be provided, along with preferred parking for low-emitting and fuel efficient vehicles.

### 2.2.5 Landscape Plan

The intent of the proposed landscape improvements is to integrate outdoor learning environments with sustainable practices, such as conservation and using native and plant species adaptable to the urban surroundings on the HCC campus. The goal is to create an educational environment that enhances learning as well as interaction between students, faculty, and the community. The proposed landscape improvements will provide an aesthetically pleasing exterior environment that compliments the ATTC and integrates the facility with the campus, consistent with the landscape master plan of HCC's PRU Master Plan. As described in the HCC Plan Review Use application, the landscape concept for HCC is to create a sustainable outdoor environment that reinforces a distinctive campus identity and establishes an "urban oasis" within the surrounding commercial-industrial area of Honolulu (Helber Hastert & Fee June 2010). Native and site-adapted plants will be used in project landscaping to minimize the project's irrigation water demand. In addition, specific measures are being identified to reduce potable water demand, including connecting landscape irrigation lines to reclaimed water lines (i.e., using water harvested from the building's roof.

The construction of the ATTC would require removal of several mature trees from Lot 1. The project includes transplanting seven mahogany trees from the project area to the east side of Kōkea Street, fronting Lot 1C. The remaining trees at Lot 1 that are displaced by the project would be removed.

## 2.3 Purpose and Need for Proposed Action

The purpose of the action is to provide a modern, consolidated instructional facility with specialized classroom and laboratory space to enable HCC to continue its role as the premier technological training center of the Pacific. The proposed ATTC would serve as a focal point for technical training for both students and businesses in the State and the Pacific. The action is needed because the building that currently houses the majority of HCC's science and technology programs (Building 5) is over 30 years old and was not designed to support instruction in the rapidly changing science and technology fields. In addition, science and technology-related programs are presently dispersed throughout the HCC Main Campus (e.g., in Buildings 2, 5, 13, and 20) and the programs are presently in inadequate and overcrowded facilities. Consolidating the programs into a single, integrated facility would facilitate interaction and knowledge-sharing among the instructors. The proposed action is critical to the State's efforts in developing a robust technology industry that can support both mature (e.g., tourism) and growing (e.g., biotechnology) industries. It will also make the vacated spaces available for backfilling with other existing HCC programs that are also operating in overcrowded conditions.

## 2.4 Project Timing

The project's notional schedule is as follows, assuming completion of HRS 343 environmental review in late 2010:

- Building permit application – Summer 2011
- Contractor bid – Early 2012
- Contract Award – Spring 2012
- Start Construction – Summer 2012
- Completion – Summer 2014 (assuming 22-month construction period)

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# 3.0 AFFECTED ENVIRONMENT, SUMMARY OF IMPACTS AND PROPOSED MITIGATION MEASURES

This chapter describes the existing natural and human environment that may be affected by the proposed action, provides an assessment of probable impacts to resources areas, and, where warranted, describes proposed measures to mitigate or minimize potential adverse impacts resulting from development of the proposed action.

## 3.1 Physical Environment

### 3.1.1 Climate and Air Quality

***Affected Environment.*** Characteristic of Hawai'i's climate, Honolulu experiences mild and uniform temperatures year round, moderate humidity and a relatively consistent northeasterly trade wind. Local terrain conditions on the island are largely responsible for variations in climate. The average annual maximum temperature (1949-2009) at Honolulu International Airport, located approximately 4 miles west of HCC, is approximately 84 degrees (°) Fahrenheit (F); the average minimum is 70.2° F. The maximum temperatures are usually reached in August and September (~88°F) and the minimum temperatures are usually reached in January and February (~66°F) (Western Region Climate Center [WRCC] 2010a). Rainfall at the nearby Beretania Street Pump Station averages approximately 29 inches per year with the greatest rainfall generally occurring in January (4.36 in) and the least in June (0.93 in) (WRCC 2010b).

Air quality in Hawai'i, including the project area, is considered good and continues to be one of the best in the nation (AIRNow 2010). Levels of pollutants monitored by the State of Hawai'i Department of Health remain well below state and federal ambient air quality standards (State of Hawai'i DOH 2009). There are two State air quality monitoring stations near HCC; one is located at Sand Island and the other is located on Punchbowl Street (Honolulu), approximately 1.4 miles southwest and 1.4 miles southeast of the project area, respectively. The Honolulu station monitors particulate matter that is 10 microns or less ($PM_{10}$) in aerodynamic diameter, particulate matter that is 2.5 microns or less ($PM_{2.5}$) in aerodynamic diameter, ozone, carbon monoxide, and sulfur dioxide. The Sand Island station monitors only $PM_{2.5}$ and ozone (State DOH 2009).

$PM_{2.5}$ pollutants are considered "fine" particles that generally result from fuel combustion from motor vehicles, utility generation and industrial facilities. These fine particles can also be formed when gases, such as sulfur dioxide and nitrogen dioxide, are chemically transformed into particles. Ozone is the main constituent in photochemical air pollution. Carbon monoxide is a formed from the incomplete combustion of carbon fuels with the majority of the emissions generated from transportation sources. Emissions of sulfur dioxide are largely from sources that burn fossil fuels; however, in Hawai'i another source of sulfur dioxide is from the eruption of Kilauea Volcano on the Big Island. The data for the both stations indicate that the pollutants measured were well within State and Federal standards (State DOH 2009).

***Probable Impacts and Mitigation.*** The proposed action will not significantly impact climate or air quality because it would not introduce any new major air pollution sources, and the existing ambient air quality at the project area is likely well within Federal and State standards. There will be short-term, temporary air quality effects during the construction period resulting from diesel-powered construction equipment and earth-moving activities. Prior to construction, a dust control management plan will be developed. Construction contractors will operate under this plan and best management practices for dust control will be implemented. All construction activities will comply with State DOH standards for fugitive dust. If an emergency generator is utilized during the operational period, the generator will comply with all applicable DOH permit requirements.

### 3.1.2 Geology, Soils and Topography

***Affected Environment.*** The island of Oʻahu was initially formed by two massive, extinct shield volcanoes: Waiʻanae on the west and Koʻolau on the east. These volcanoes are separated by the Schofield Plateau of central Oʻahu which was formed by the lavas from the Koʻolau Range banking against the older Waiʻanae Range. North and south of the Schofield Plateau is Oʻahu's coastal plain, which is comprised of marine and terrigenous sediments deposited when the sea stood at a higher level or stand (Stearns 1985). HCC is located along the Honolulu Coastal Plain in an area underlain by fill material which was placed over coral limestone.

According to the United States Department of Agriculture National Resource Conservation Service (USDA 2005), the soil type found at the project area is Fill Land, mixed (FL). The FL soils underlie the majority of the Main Campus including the project area. This type of soil consists of areas filled with material dredged from the ocean or hauled from nearby areas, garbage, and general material from other sources.

Elevations at the Main Campus range from approximately 4 feet above mean sea level (msl) at the west end of the campus to about 18 ft above msl at the east end. The project site is moderately to gently sloping with an approximate gradient of 0.5 percent from the northeast to the southwest corner. The project area is generally flat, sloping slightly down from the *mauka* end to the access driveway from Kōkea Street. The elevation near the *makai* end of the project area is approximately seven feet above msl.

***Probable Impacts and Mitigation.*** The proposed action is not expected to affect geological, soil or topographic conditions in the vicinity of the project area. Significant grading is not expected due to the project area's generally flat conditions. The construction contractor will develop and implement a site-specific best management practices (BMP) plan that will identify BMPs to minimize soil erosion during construction.

### 3.1.3 Surface and Ground Water

***Affected Environment.*** There are no streams, wetlands or other surface waters on the project area. However, Kapālama Drainage Canal is located approximately 50 feet west of the western edge of the campus and Kapālama Basin is located approximately 2,500 feet south of the project area (USGS 1998). The U.S. Army Corps of Engineers (USACE) identified Kapālama Drainage Canal as meeting the definition of "navigable waters of the U.S." within the Rivers and Harbors Act of 1899 jurisdiction (as defined by 33 Code of Federal Regulations Part 329). However, the USACE also determined that the parcel proposed for development does not contain any navigable waters or other waters of the U.S.; therefore a Section 10 of the Rivers and Harbors Act of 1899 permit and/or a Section 404 of the Clean Water Act permit are not required.

The Kapālama Drainage Canal collects runoff from the upper Kalihi District and stream flow from Kapālama Stream, as well as stormwater from HCC's Main Campus. The Kapālama Canal is listed as an impaired waterbody under Section 303(d) of the Federal Clean Water Act. It is the subject of a State DOH fish and shellfish consumption advisory for urban streams of Honolulu. Kapālama Stream was channelized into a drainage canal around 1936. As late as 1920s or possibly earlier, at least a portion of the project area was part of wetland-aquaculture feature fed by the Kapālama Stream and/or the former Niuhelewai Stream. This feature may have been abandoned *loʻi* (taro patch). A 1947 Sanborn Fire Insurance map indicates that Niuhelewai Stream ran through the project area, east of and parallel to Kōkea Street and west of the former Kapālama Incinerator and the present Library building (Building 7). The natural drainage pattern was disrupted when the area was filled and the majority of surface water in the project area is diverted to concrete storm drains which drain into the canal.

The project site is underlain by a shallow basal, unconfined sedimentary aquifer and a deeper basal, confined, flank aquifer. The shallow aquifer is expected to occur at approximate mean sea level (4- to 18- ft depth). It is currently used, has moderate salinity (1,000 to 5,000 milligrams per liter [mg/l] chlorides). It is considered replaceable and has a high vulnerability to contamination (Mink and Lau 1990).

The deeper aquifer is a currently used drinking water source that is considered fresh (less than 250 mg/l chlorides). It is considered irreplaceable and has a low vulnerability to contamination (Mink and Lau 1990). The estimated depth to the deeper aquifer in the vicinity of the project area is in excess of 100 feet.

***Probable Impacts and Mitigation.*** The proposed action is not expected to have significant impacts to surface and ground water during the construction or operational periods. The project will comply with Hawaiʻi Administrative Rules (HAR) 11-54 regarding discharges to State receiving waters, and will also comply with State water quality standards. The project will require a NPDES permit for construction activities because the project site exceeds one acre in size. The project will also require an MS4 permit from the City and County of Honolulu for stormwater discharge into the municipal drainage system. The aforementioned site-specific

BMP plan along with the NPDES permit conditions will minimize the risk of construction-period soil erosion reaching receiving waters. The project will comply with all NPDES permit conditions. During the operational period, the project area would either be covered with impervious surfaces or landscape materials; however, the amount of impervious surfaces at the project site, after project completion, is not expected to significantly vary from existing conditions. Stormwater generated at the site would be directed to water quality units to remove sediments and pollutants prior to discharge into Kapālama Drainage Canal via the City's municipal storm drainage system. Tests by the manufacturer of water quality units planned for and in use at other UH campuses (e.g., Windward Community College and UH Maui College) indicate mean removal efficiency rates by these units ranging from 71 to 91 percent for total suspended solids concentrations, depending on the material and rate of flow. The water quality units were tested as having oil capture efficiency rates between 57 and 95 percent, depending on the rate of flow and amount of oil injected during the test (Mailloux and White 2004 and Mailloux 2005).

Use of hazardous and regulated materials used at the new ATTC will comply with all applicable Federal, State and County requirements for storage, handling and disposal. Therefore, no significant impacts to groundwater are expected from the proposed action. The project will not introduce new sources of contaminants that could leach through the soil to the shallow non-potable aquifer underlying the site.

### 3.1.4 Natural Hazards

***Affected Environment.*** According to Flood Insurance Rate Map Community Panel Number 150003C0353F (Federal Emergency Management Agency [FEMA] 2004), the project area is located in Zone X. This zone is defined as areas determined to be outside 500-year flood (FEMA 2004). (Note: Areas within Zone X are also considered to be outside the 100-year flood zone.)

The project area is located outside tsunami evacuation areas shown on draft updated City and County of Honolulu maps (City and County of Honolulu Department of Planning and Permitting 2010c).

The building site is classified as Seismic Design Category "D" by the 2003 IBC. An IBC seismic zone ranking of A indicates very low level of design ground motions, and seismic design category "F" indicates a very severe design earthquake ground motion, base on a two-percent probability of exceedance within a 50-year period.

There is no topographic wind effects at the project site.

***Probable Impacts and Mitigation.*** The proposed action is not expected to increase the risk to human health or safety due to natural hazards such as tsunami, flooding or hurricanes. The project area is outside flood hazard areas and the tsunami evacuation areas identified by the County. The project will be designed to meet the IBC standards for the seismic risk zone in

which it is located, and will be designed to withstand wind speeds of 105 mph, in accordance with the IBC.

### 3.1.5 Noise

***Affected Environment.*** Ambient noise at the project area is generated by vehicular traffic on nearby Dillingham Boulevard and Kōkea Street, along with occasional noise associated with the campus classes and events. Noise sensitive receptors within the vicinity of HCC include Ka‘iulani Elementary School located immediately north of the site and residential buildings located north of and east of the project area.

***Probable Impacts and Mitigation.*** The proposed action is not expected to significantly impact ambient noise levels in the construction or operational periods. Short-term, temporary noise impacts will be generated during project construction by equipment and vehicles. Construction noise may be audible at nearby noise-sensitive locations such as HCC classrooms closest to the construction site and at Ka‘iulani School *mauka* of the campus. However, project activities shall comply with the Administrative Rules of the State DOH, including Chapter 11-46 “Community Noise Control.”

## 3.2 Biological Resources

***Affected Environment.*** Although the Main Campus is largely developed, there are numerous large trees and palms located throughout the campus. The vegetated portions of the campus include grass with shrubs and ground covers planted at entry ways and building foundations. There are two rows of trees within Parking Lot 1 (the project area) comprised of 11 mature mahogany trees (*Swietenia mahogani*) and one large Chinese banyan (*Ficus benjamina*). There is also a row of mahogany trees along Kōkea Street adjacent to Lot 1. None of the plant species found on the project are or within the Main Campus--including at the project area--are considered threatened, endangered or protected; most are considered common, introduced species. There are a number of large, mature trees on campus; however, none are on the City’s exceptional tree list (Honolulu 2010b). None of the trees within the project area were determined to have historical significance (i.e., not associated with historical figures or events).

There are no sensitive habitats at the project site. Fauna and avifauna likely to inhabit the site include those common to urbanized areas. They include mongoose, rats, dogs and cats, and introduced bird species. There are no threatened, endangered, and/or otherwise protected animal species known to, or likely to, occur or frequent the area.

***Probable Impacts and Mitigation.*** The project would require removal of several mature trees from Lot 1 for the new ATTC. Seven of the existing eleven mahogany trees from the project area would be relocated to the east side of Kōkea Street, fronting Lot 1C. The remaining trees at Lot 1 that are displaced by the project would be removed. However, the proposed action will not significantly impact protected species of flora and fauna because none are known to be present at the project area or surrounding vicinity.

## 3.3 Archaeological and Cultural Resources

### 3.3.1 Archaeological Resources

***Affected Environment.*** An archaeological field investigation and literature review was conducted for the project by Cultural Surveys Hawai'i, Inc. to gather historical and archaeological information associated with the project area and greater Kapālama area. The study assesses if there are any major archaeological concerns within the study area and to develop data on the general nature, density and distribution of archaeological resources. The findings of the study are summarized in this section; the full report is included as Appendix A.

The field investigation was carried out on April 28, 2010; no archaeological surface features were noted at the project area.

Although the study area has been extensively modified throughout the 20th century, and no surface archaeological features remain, background research suggests that intact pre-contact and early post-contact cultural deposits associated with traditional Hawaiian habitation, agriculture and burials may lie undisturbed beneath fill layers in the project area. Post-contact cultural deposits associated with western settlement and residential development from the 19th and 20th centuries are also possibly present. Evidence of pre-contact land use could be in the form of human burials, midden deposits, and artifacts such as stone tools. Evidence of post-contact land use could be in the form of human burials, trash pits, privies, and building foundations.

***Probable Impacts and Mitigation.*** By its letter dated November 1, 2010, the Department of Land and Natural Resources (DLNR) State Historic Preservation Division (SHPD) determined that the project will not affect historic property (see correspondence in Appendix A). No surface archaeological features are located in the project area. However, construction activities have the potential to adversely affect subsurface historic resources if any are located within the project area. An archaeological monitoring program will be conducted during ground disturbing activities associated with construction, if required by SHPD. In accordance with Section 6E, HRS, if any significant cultural deposits or human skeletal remains are encountered during construction, the SHPD will be contacted. The treatment of any remains or artifacts would be in accordance with procedures required by the O'ahu Burial Council and SHPD.

### 3.3.2 Cultural Resources

***Affected Environment.*** Article XII, Section 7 of the Hawai'i State Constitution (as amended) addresses traditional and customary rights, and states: "The State reaffirms and shall protect all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by *ahupua'a* tenants who are descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778, subject to the right of the State to regulate such rights." HRS Chapter 343 requires disclosure of the effects of a proposed action on the cultural practices of the community and State. A cultural impact assessment (CIA) to address the

effects that the proposed action may have on cultural resources, practices, and traditions was prepared by Helber Hastert & Fee, Planners. This section summarizes the study's findings. The full report is included as Appendix B.

The project area is located in a place that is rich in cultural and historic resources and heritage. The *ahupua'a* (land division extending from uplands to the sea) of Kapālama was known for its extensive and productive taro terraces and fishponds.

The project area and vicinity was once named Niuhelewai, after a stream of the same name that ran through the project area. Over time, this place name and many others referring to the land in the study area have been lost. A famous battle occurred at Niuhelewai in the 1780s between the war chief of Kahekili, king of Maui and the O'ahu ruling chief Kahāhana. O'ahu forces were defeated and slaughtered at this place.

In the mid-1800s, Niuhelewai Stream fed numerous taro terraces within the study area and though it survived the creation of the Kapālama Drainage Canal in 1938-39, sections of the stream flowing through the study area were filled sometime in the mid-20th century.

Specific resources within or adjacent to the project area related to the cultural practice of cultivating taro include the *kahawai* (stream), Niuhelewai Stream; numerous *'auwai* (irrigation ditches); the *mānowai* (dam); and *punawai* (fresh water springs). The land division, or *Māhele 'Āina* of 1848, allowed the native peoples in Hawai'i who did not originate from the ruling class the opportunity to acquire land fee simple, also known as *kuleana*. For the most part, native tenants or *hoa 'āina* made claims to land on which they lived and actively cultivated. The documentation of such land use practices collected under the auspices of the Republic of Hawai'i's Board of Land Use Commission offers a clear picture of study area as it was in the 1840s and 1850s. *Māhele* records indicate upwards of 45 taro patches were cultivated within the area known today as HCC's Main Campus.

In the last decades of the nineteenth century, the project area was converted into rice lands and duck farms. Sometime in the early part of the 20th century, the lands of the project area were filled, probably with dredged material from Kapālama Basin and perhaps later with dredged material from the Kapālama Drainage Canal.

By 1913, sugar cane was growing in the study area and the O'ahu Railway and Land Company had built a rail line (known as the Kalihi Branch) transecting the study area. A portion of the rail line followed the contour of a limestone ledge still visible in places along the campus. The *mānowai* at Niuhelewai Stream served as a foundation for the railroad stream crossing in this location. For a few decades, this railroad branch and the surrounding land served as a dividing line between the North King Street-oriented development *mauka* of the Kalihi Branch line and the industrial growth of the Iwilei district *makai* of the railroad track.

Community consultations conducted for the CIA concluded that the proposed ATTC site has always been in an industrial part of Pālama during the participants' lifetimes and was not a

popular place to visit. Respondents acknowledge that the Kapālama Drainage Canal has always been a popular crabbing locale, though the water quality of the canal has fluctuated over time and the canal is the subject of a fish and shellfish consumption advisory for urban streams in Honolulu. Participants felt that the study area and Pālama in general, represented a diverse ethnic community in which cultural traditions were practiced within the household and cultural tolerance was practiced on the streets.

Traditional access ways through the study area, consisting of the lanes Hikina Lane, Austin Lane, Robello Lane and Akepo Lane, have been used over generations to connect *mauka* and *makai* areas. In the last several generations, these routes provided *mauka-makai* access were linking the residential and business areas alongside the King Street corridor with the industrial uses centered in Iwilei, principally the pineapple canneries.

***Probable Impacts and Mitigation.*** There are no Native Hawaiian (or other ethnic group's) cultural practices customarily and traditionally exercised for subsistence, cultural or religious purposes that are known to occur on the project area. Therefore, the proposed action would not impact traditional Hawaiian rights related to gathering, access, or other customary activities within the project area or its vicinity, or any cultural practices or beliefs. As recommended in the CIA, the proposed action will take measures to protect the water quality of the Kapālama Drainage Canal during project construction to minimize impacts on subsistence crabbing in the waterway (an ongoing practice despite the fish consumption advisory identified for urban streams in Honolulu). These measures are described in Section 3.4.5 Stormwater Drainage.

## 3.4 Infrastructure and Public Services

### 3.4.1 Transportation and Roadways

***Affected Environment.*** As described earlier, the HCC Main Campus is located within the large block bounded by City-owned Dillingham Boulevard, North King Street, and Kōkea Street. Dillingham Boulevard borders the southwest (*makai*) edge of the campus and Kōkea Street borders the northwest (*'ewa*) edge. Access to the Main and Kōkea Street campuses is from these streets.

Dillingham Boulevard is a major arterial street linking the downtown area with the Kalihi and airport areas to the west. Fronting the campus, it is a five-lane roadway, generally with two eastbound lanes and two westbound lanes and a center for dedicated left turns, with sidewalks running along both sides of the street. A three-phase traffic signal is located on Dillingham Boulevard near the east end of campus at the intersection with a driveway that serves Costco and the Gentry Design Center. Toward the center of campus, at the Dillingham Boulevard/ Alakawa Street intersection, there is a five phase signal: separate phases for protected left turns from Dillingham, two phases for through traffic and right turns from Dillingham, and a fifth phase for Alakawa Street traffic. A third signal is located at the Dillingham/Kōkea Street intersection at the west end of the Main Campus. Direct access from Dillingham Boulevard to

HCC parking lots 2, 3, 3A, 4, 4A and 7 is provided. The City & County of Honolulu has designated a 5-foot road widening setback along the *mauka* side of Dillingham Boulevard.

Kōkea Street is a two-lane local street adjacent to the east bank of the Kapālama drainage canal. Along its frontage with the Main Campus, Kōkea Street shoulders are unimproved (the Diamond Head sidewalk connection with North King Street ends at the *mauka* HCC boundary). HCC students and others park their vehicles along these unpaved shoulders. Currently, direct access to the Main Campus from Kōkea Street is via a driveway at the *makai* end of Lot 1, a gated maintenance road at the *mauka* end of the campus, and an access point directly into Lot 1C, which is gated and used for major events. South of Dillingham Boulevard, Kōkea Street is curbed without sidewalks and parallel parking is permitted on both sides. It terminates at the entry drive into the HCC Kōkea Street Campus.

Three lanes extend from North King Street to the Main Campus.

- Hikina Lane is a narrow (about 12 feet wide) roadway with no sidewalks that carries two-way traffic. The existing right-of-way is not much wider (varies, about 16-20 feet), and at the end, only a narrow portion (about 5 feet wide) of the street right-of-way abuts HCC property. The City & County of Honolulu has designated a road widening setback on Hikina Lane, and a connection of the lane to Kōkea Street via HCC's existing maintenance driveway.

- Austin Lane is a two-way street that abuts Kaʻiulani School. It does not have any sidewalks and provides access to large warehouses. A well-used pedestrian path connects Austin Lane with the Main Campus across the west edge of Kaʻiulani School (TMK 1-5-005:016). Vehicle access to the Main Campus is possible across a large warehouse parcel (TMK 1-5-005:007) owned by Kamehameha Schools. There is a designated road widening setback at the *mauka* end of Austin Lane, at its intersection with King Street.

- Robello Lane is a two-way street but with limited width and no sidewalks. In many places, cars are parked on the existing sidewalk since on-street parking would reduce the width available to traffic to a single lane. Robello Lane provides vehicular access to the back of the Trade & Industry Building (Building 14) and to small HCC parking areas; a gate (normally closed) blocks vehicular access to Lot 3, but there is an opening for pedestrian access. There is no designated road widening setback on Robello Lane.

- Akepo Lane is a one-way street carrying a single *makai*-bound lane from North King Street to Dillingham Boulevard (also with no sidewalks). It provides access to the residential area immediately *mauka* of the east end of the campus but is not connected with the HCC campus *per se*. The City & County of Honolulu has designated a road widening setback on Akepo Lane extending into the extreme east end of the HCC campus.

A traffic report prepared in 2006 for the Honolulu Community College Long Range Development Plan and Environmental Assessment described existing conditions in the area (Phillip Rowell and Associates 2006). Traffic patterns and conditions generally have not changed. The 2006 report showed acceptable peak hour conditions at the intersections of North King Street and Kōkea Street, Dillingham Boulevard and Kōkea Street, and Dillingham Boulevard and Kohou Street. The 2006 report also found very long delays and over-capacity conditions at the intersection of Dillingham Boulevard and Alakawa Street.

Field observations and peak period turning movement counts of the Dillingham Boulevard intersections with Alakawa Street and with Kōkea Street were conducted in March 2010 by Julian Ng, Inc. to update the findings of existing conditions (see traffic assessment in Appendix C). Analysis was done of the peak hour traffic assignments based on the new counts, and the results are compared with those presented in the 2006 traffic report in Table 1.

**Table 1: Comparison of 2006 and 2010 Traffic Analyses**

| | AM Peak Hour | | | | PM Peak Hour | | | |
|---|---|---|---|---|---|---|---|---|
| | 2006 report[1] | | 2010 update[2] | | 2006 report | | 2010 update | |
| Intersection | V/C[3] | LOS[4] | V/C | LOS | V/C | LOS | V/C | LOS |
| Dillingham Boulevard at Alakawa Street | 0.94 | D | 0.60 | C | 1.19 | F | 0.67 | C |
| Dillingham Boulevard at Kōkea Street | 0.66 | B | 0.79 | C | 0.84 | B | 0.87 | C |

NOTES:

1. Phillip Rowell and Associates, *Traffic Impact Analysis Report for Honolulu Community College Short Range and Long Range Development Plans,* August 1, 2006.
2. Julian Ng Inc., Letter report, March 2010.
3. V/C denotes ratio of volume to capacity.
4. LOS denotes Level-of-Service calculated using the operations method described in *Highway Capacity Manual*. LOS is based on the average delay per vehicle (LOS B for up to 20 seconds, LOS C for >20 and up to 35 seconds, LOS D for >35 and up to 55 seconds, LOS E for >55 and up to 80 seconds, and LOS F for >80 seconds.

The 2010 study found that both intersections operated at acceptable conditions during the a.m. and p.m. peak hours.

Vehicle access into the Main Campus is provided by driveways that serve existing parking lots. The primary entrance is from Kōkea Street, just *mauka* of Building 7, where a driveway extends into the campus and transitions into the pedestrian campus mall. This driveway serves three large parking lots, 1, 1C and 2. A second driveway into Lot 1 is chained and not used. Two additional vehicle gates along Kōkea Street are closed and locked and not used for access to the campus.

Several additional driveways are located along Dillingham Boulevard and provide access to Lots 3/3A, 4/4A, and 7. Some drives are ingress only; all egress lanes permit right-turn only onto Dillingham. A secondary entrance from North King Street via Robello Lane is used for service vehicles accessing the rear of the campus. A vehicle entrance to Lot 2 from Dillingham is chained and currently not in use.

The Kōkea Street Campus is accessed by a gated driveway at the *makai* terminus of Kōkea Street.

The City & County of Honolulu maintains three bus stops along the campus' Dillingham frontage as shown on Figure 3: one near the entry to Lot 3, another just east of the Alakawa Street intersection, and the third just east of the Kōkea Street intersection (both sides of Dillingham). Current bus routes include the Country Express, and routes 9, 40, 40A, 42, 43, 52 and 62. Both local and suburban buses use Dillingham Boulevard; daytime weekday service consists of approximately 12 buses per hour. HCC students are eligible for TheBus University Bus Pass Program or U-Pass, which is a reduced-rate bus pass tailored to the needs of Hawai'i's college students.

***Probable Impacts and Mitigation.*** The proposed action is not expected to have a significant impact on roadways and traffic in the area because, since it is consolidating programs that are currently dispersed throughout the campus rather than introducing new programs, the new ATTC building will not generate additional peak hour traffic. Any associated improvements within the Dillingham Boulevard and Kōkea Street rights-of-way will be constructed in accordance with the City and County's Standard Details.

During construction, the project may affect bus routes, bus stops, and paratransit operations. The construction contractor will notify O'ahu Transit Services, Inc. of the scope of work, location, proposed closure of any street, traffic lane, sidewalk, or bus stop and duration of project at least two weeks prior to construction.

Based on current project schedules, there would be no conflict(s) between the construction of the ATTC (2012 to mid-2014) and the City's Kapālama Transit Station (2015-2018) at the Kōkea-Dillingham corner of the campus, although there is a potential for traffic congestion along Dillingham Boulevard as work on the City's Honolulu High-Capacity Transit Corridor Project transit guideway along the median of Dillingham Boulevard would be underway commencing 2013. When operational, the City's rail transit project will offer a long-term transportation alternative for HCC students.

### 3.4.2 Parking

***Affected Environment.*** There are currently 905 existing off-street parking/loading stalls at HCC's Main Campus and 328 parking/loading stalls at the Kōkea Street Campus, for a total of 1,233 existing stalls (Helber Hastert & Fee 2010). The minimum off-street parking requirement needed to meet City and County of Honolulu Land Use Ordinance (LUO) standards was calculated at 745 for Main Campus and 120 for the Kōkea Street Campus, for a total of 865 stalls (Helber Hastert & Fee 2010). Therefore, there are currently 160 surplus stalls at the Main Campus and 208 surplus stalls at the Kōkea Street Campus, or a total of 368 surplus off-street parking stalls. Students also park along the City-owned Kōkea Street to avoid the $20/semester parking fee and for convenience (vacant off-street stalls are available for use). On a peak day,

approximately 50 vehicles (students and others) park parallel to the canal bank (west side) and approximately 80 vehicles are parked perpendicular and parallel to the east side of the street.

***Probable Impacts and Mitigation.*** Construction of the ATTC will remove about 154 of the 160 stalls from Lot 1, reducing the total HCC off-street parking surplus from 368 stalls to 214 stalls. The ATTC facility will not generate additional parking demand because it will accommodate existing programs relocated from other facilities. The vacated facilities, in turn, will be backfilled with other overcrowded HCC programs. If the programs to be housed in the ATTC facility were to be considered new programs, based on the LUO off-street parking methodology, it would generate the need for 273 additional parking stalls (Table 2).

**Table 2: Parking Requirement Calculation (LUO Standards)**

| Use | Standard | Area ($ft^2$)[1] | Stalls Required[2] |
|---|---|---|---|
| Classroom | 1/200 $ft^2$ | 44,455 | 223 |
| Laboratory | 1/500 $ft^2$ | 14,825 | 30 |
| Office | 1/400 $ft^2$ | 7,615 | 20 |
| | | **Total** | **273** |

[1] Preliminary estimate, net square feet; subject to change
[2] Rounded

The net effect of using the LUO methodology for new programs would be a loss of 154 existing stalls and an increased requirement for 273 stalls, resulting in a total HCC deficit of 59 stalls (368 surplus – 154 loss – 273 additional demand = [59]). However, the proposed ATTC is not expected to generate additional enrollment or appreciably change HCC's employment, enrollment, or vehicle trips because it is envisioned as addressing an existing shortfall of instructional space and improving the quality of educational services for its students. HCC's science and technology programs are expected to increase enrollment over time, along with other HCC programs, consistent with its Strategic Plan (Section 2.2.1) and LRDP, and not as a result of the proposed action. Therefore, the ATTC is not expected to significantly increase actual demand for off-street parking at HCC's Main or Kōkea Street campuses.

### 3.4.3 Potable Water

***Affected Environment.*** Water service for domestic consumption and fire protection is supplied to the Main Campus through multiple meters located along Dillingham Boulevard, including an 8-in flow meter (for fire protection and domestic consumption), an 8-in compound meter (for domestic consumption), and a 6-in detector check meter (for fire protection) (Helber Hastert & Fee 2010). The meters are connected to the Board of Water Supply (BWS) 12-in water main within Dillingham Boulevard. The laterals from each of these meters are connected to each other.

Since the laterals from the meters are interconnected, the estimation of the flow rate is based on the combined meters providing water. According to BWS, based on water service

information, the existing potable water consumption rate is estimated at 162,000 gallons per day (gpd) (D. Shimazu personal communication in HHF 2010). The static pressure along Dillingham Boulevard is 65 pounds per square inch, which exceeds the minimum required pressures for domestic and fire protection services.

HCC is in the process of implementing water conservation measures as part of a multi-year program (see related energy conservation discussion in Section 3.4.6), and expects to achieve a 22 percent reduction in campus-wide potable water use via retrofitting existing bathroom fixtures, installation of "smart" irrigation systems (i.e., controllers connected to environmental monitors), and implementation of sustainable landscape designs that include the incorporation of drought-tolerant plants that will reduce irrigation water demand. The use of non-potable water for irrigation is also being considered. In addition, new technologies for water harvesting and conservation are being considered, including rainwater catchment systems (e.g., cisterns linked to roof drains) and landscape bioswales in tandem with a stormwater retention pond that could supplement the campus' irrigation water.

***Probable Impacts and Mitigation.*** The project is not anticipated to have a significant impact on potable water sources, storage, or transmission systems. Because the project would include high efficiency plumbing fixtures (e.g., low flow urinals, water closets, lavatories, shower heads), it is anticipated that the resulting potable water demand would be approximately 40 percent less than a comparable standard building.

As a State-sponsored project requiring water service from the Honolulu BWS, the project will need to obtain water allocation credits from DLNR's Engineering Division prior to receiving a building permit and/or water meter. All water system improvements will be in accordance with the BWS Water System Standards. The BWS indicated that the existing water distribution system is adequate to accommodate the new ATTC (see BWS correspondence dated May 19, 2010 in Appendix D); the final decision on water availability will be confirmed during the building permit approval process. When water is made available, the applicant will be required to pay the BWS's Water Systems Facilities Charges for resource development, transmission and daily storage. The project is subject to BWS Supply Cross-Connection Control and Backflow Prevention requirements prior to the issuance of building permits. The on-site fire protection water requirements will be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

### 3.4.4 Wastewater

***Affected Environment.*** Wastewater generated at the Main Campus is conveyed to the City's the 36-in Kapālama Interceptor Sewer Line within Dillingham Boulevard. The wastewater is ultimately conveyed to the City's Sand Island Wastewater Treatment Plant where it receives primary treatment. According to the City DPP Wastewater Branch, existing City sewage systems are operating at approximately 60 percent of their capacity (W. Nakamura personal communication in HHF 2010). The DPP Wastewater Branch noted that there is limited excess capacity in the 36-in sewer line in Dillingham Boulevard (see June 2, 2010 correspondence from

DPP in Appendix D). According to the LRDP EA (Gerald Park 2007), four connections from Main Campus to the City sewer systems accommodate an estimated average flow of 162,000 gpd.

***Probable Impacts and Mitigation.*** The proposed action is not expected to significantly impact existing wastewater collection or treatment systems. The project area is within an urban area served by existing municipal utilities. Wastewater treatment for the project will be provided by the Sand Island Wastewater Treatment Plant. Sewer improvements would be constructed according to City DPP Wastewater Branch standards and will also conform to applicable provisions of the State DOH's Administrative Rules, Chapter 11-62, "Wastewater Systems." Only non-hazardous materials will be disposed of into the wastewater system. Because potable water usage would be much lower than a comparable standard facility (i.e., due to high efficiency plumbing fixtures and other water conserving measures), resulting in a commensurate reduction in wastewater generation, the proposed ATTC is not expected to significantly impact existing wastewater systems. A Site Development Master Application for sewer connection is required for sewer capacity reservation. The project will be subject to a Wastewater Facilities Charge. Construction plans will be submitted for DPP for its review and approval.

### 3.4.5 Storm Drainage

***Affected Environment.*** Existing stormwater runoff within the Main Campus sheet flows into grate inlets located at localized low points within the campus. The inlets connect to a concrete box drain under the central campus pedestrian mall, which discharges into the Kapālama Drainage Canal. The canal is maintained by the City and eventually discharges into the waters of Honolulu Harbor. Runoff generated within areas along Dillingham Boulevard flows into City catch basins within Dillingham Boulevard that discharge into the canal. Storm runoff generated along the western edge of the campus is directed to drain inlets along the Kōkea Street boundary, which flow into drain lines under the street to the canal. An on-site box drain just *mauka* of parking lot 1C collects runoff from the northeastern edge of campus and discharges to the canal via a drain line under Kōkea Street. Stormwater generated within the project area presently flows *makai* into the drain inlets connected to the box drain under the campus pedestrian mall.

***Probable Impacts and Mitigation.*** The proposed action is not expected to significantly impact existing municipal storm drainage facilities serving the area. The proposed action is not expected to significantly change the amount of permeable surface at the project area. The project's proposed storm water system (that includes a water quality unit) will serve as a BMP to improve the quality of the runoff entering the receiving waters. The proposed drainage improvements will also attenuate stormwater discharge rates so there will be no increase in the rate of stormwater discharge into the municipal storm drainage system and meet the City's storm drainage standards (Honolulu 2000). An NPDES permit for storm water runoff associated with construction activities will be required if more than one acre of total land area is disturbed during construction. Project construction will comply with all applicable Clean Water Act permit conditions to minimize stormwater runoff impacts to receiving waters. Any discharges

or dewatering related to project construction or operation will comply with applicable State Water Quality Standards (HAR 11-54). The planned grassed swales will also reduce the pollutants entering the municipal drainage system, and subsequently to receiving waters.

### 3.4.6 Electrical Power and Telecommunications

***Affected Environment.*** Hawaiian Electric Company (HECO), Hawaiian Telcom and Oceanic Time Warner Cable provide electrical, telephone and cable television services, respectively, to HCC. Electrical power is supplied to the Main Campus through an 11.5 kilovolt (kV) dual radial system (Gerald Park 2007). The system is fed from existing 11.5kV primary switchgear. The current system capacity is 5 megavolt amperes. The highest demand recorded by HECO was 1.5 megawatts in September 2009. The switchgear is fed with a single HECO 11.5kV primary circuit from overhead lines on Dillingham Boulevard. Power is distributed throughout the campus by existing electrical handholes and manholes. Honolulu Community College is currently implementing a new project to replace the existing switchgear and switchgear building. The new project is also looking at providing a second HECO feeder for greater redundancy. This will be a near-term project that will be implemented independently of the ATTC project.

Honolulu Community College has a goal of a 70 percent reduction in fossil fuel use by the year 2030 (UH Energy Strategy 2008 in Helber Hastert & Fee 2010). The UH Community College system recently contracted a private energy services provider to provide Energy Savings Performance Contracting Services to the four University of Hawai'i Community Colleges on O'ahu. The first goal of this initiative is to increase energy efficiency and building performance with the goal of reducing energy usage and demand (also referred to as energy conservation measures or ECMs). Projects proposed to accomplish this goal include retrofits with efficient, cost effective equipment as well as many efforts to effect behavior such as training and mentoring University personnel and co-authoring a plan to decrease energy use by integrating energy conservation and awareness into the educational curriculum. Once the ECM's have been installed, the energy services provider will evaluate the feasibility of generating on-site alternative energy through PV panels and wind turbines. Likely locations for PV panels include parking lots and roof tops. Wind turbines may be free standing or mounted atop roofs. The capacity of HECO's feeder grid in the vicinity of the campus currently restricts the potential for on-site energy generation until downstream grid improvements are made, or until on-site battery storage technology has improved.

***Probable Impacts and Mitigation.*** The proposed action is not expected to significantly impact the existing electrical generation and distribution system serving the area, as service to the site exists and necessary improvements will be provided by the project. The baseline peak electrical demand for the ATTC is estimated at 16 to 19 watts/$ft^2$, or approximately 2,320 to 2,755 kilowatts for a 145,000 $ft^2$ building. The facility's overall electrical demand on off-site sources will be reduced by at least 25 percent over the baseline building performance rating by employing sustainable technologies described earlier in Section 2.2.3. The proposed roof-mounted PV and wind turbine systems would also reduce the facility's overall electrical demand on off-site generation sources (this has been factored into the electrical load estimate).

### 3.4.7 Solid Waste

***Affected Environment.*** A private waste disposal company collects solid waste from HCC three times a week. There are currently nine trash collection sites on the Main Campus.

Honolulu Community College actively sponsors recycling efforts to divert used materials from being disposed of as solid waste. There is a collection point at the Main Campus for recyclable items such as aluminum cans, newspaper, glass bottles, cardboard, office paper, and recyclable plastics on the *mauka* side of Building 7. The Trades and Apprenticeship programs reuse building materials, particularly lumber, for multiple semesters. A concrete crusher is used to crush old CMU blocks, which is then used as fill material. Metal framing waste is usually sent to a metals recycler along with the other waste metal from the sheet metal program. Electronics and other "e-waste" items generated at HCC, such as computers and peripheral devices, office equipment, audio-visual equipment, and hand-held devices, are collected quarterly through the Apple Products' e-waste program. Photocopier and toner cartridges are also recycled via the printer/copy machine vendors.

***Probable Impacts and Mitigation.*** Because this project will seek LEED Silver certification, a construction waste management plan will be developed and included in the project specifications as part of the bid documents. The selected contractor must adhere to the construction waste management plan as identified in the bid specifications. Construction practices will recycle or salvage at least 50 percent of non-hazardous construction waste and site clearing debris from the municipal landfill to meet LEED requirements. The construction contractor will develop a site specific construction waste management plan for the project. Because the buildings that currently house the programs that will be relocated into the ATTC will be retained and reused for other existing HCC programs (i.e., not demolished), project-related construction waste will be further minimized.

No significant changes or impacts to HCC's or the City's solid waste disposal system are anticipated from the project. Solid waste collected from the ATTC building will continue to be removed by a private waste disposal company along with other waste generated at the college.

### 3.4.8 Hazardous Materials and Waste

***Affected Environment.*** Three general types of hazardous materials are used by HCC's science programs in small quantities: acids, acid bases and organic solvents. Hazardous wastes generated at HCC are managed pursuant to the college's Hazardous Material Management Plan, and according to applicable federal, state, and county regulations. The general procedure is as follows. Hazardous waste is identified and tagged by the generator, then stored in a controlled area. Once a year, the accumulated hazardous wastes are packaged by a contractor and shipped to a U.S. Environmental Protection Agency-permitted facility for disposal.

***Probable Impacts and Mitigation.*** The quantities and types of hazardous materials used, stored and disposed of will be generally the same under the proposed action as under the

existing conditions. No adverse impacts are anticipated as handling, storage, and disposal of these materials and wastes will comply with applicable federal, state, and county requirements, both in the construction and operational periods.

### 3.4.9 Police and Fire Protection

***Affected Environment.*** The project area falls within the Honolulu Police Department's District 5 (Kalihi), Sector 5, which includes the Waiakamilo, Liliha, and Iwilei areas in central Honolulu.

HCC maintains eight on-site fire hydrants dispersed throughout the Main Campus. Four fire hydrants are located along the main pedestrian mall, which also serves as a fire vehicle access route through the campus. The on-site fire hydrants are supplemented by six City-maintained fire hydrants along Kōkea Street and Dillingham Boulevard. Individual campus buildings are also equipped for suppressing fires either through wet standpipe systems, fire sprinkler systems, and/or fire extinguishers. A campus-wide fire alarm backbone cabling project is currently underway. The project will replace all the existing inter-building copper cables with fiber optic cables, which will have spare capacity to connect the new ATTC building to the campus-wide fire alarm system. Fire alarm connectivity to the ATTC would be derived via the hub at Building 7.

***Probable Impacts and Mitigation.*** The Honolulu Police Department indicated by correspondence dated May 6, 2010 that, after its completion, the project will not impact its services (correspondence included in Appendix D); however, impacts to traffic are anticipated during the construction phase. The proposed action is not expected to significantly impact fire protection service on campus or throughout the community as the project will comply with applicable Honolulu Fire Department requirements, including the following:

- Provide a fire apparatus access road such that any portion of the facility or any portion of an exterior wall of the first story of the building is located more than 150 feet (46 meters) from a fire department access road (National Fire Protection Association [NFPA] 1; Uniform Fire Code [UFC]$^{TM}$, 2006 Edition, Section 18.2.3.2.2.).
- A fire department access road shall extend to within 50 ft (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; UFC $^{TM}$, 2006 Edition, Section 18.2.3.2.1).
- Provide a water supply, approved by the county, capable of supplying the required fire flow for fire protection to all premises upon which facilities or buildings, or portions thereof, are hereafter constructed or moved into or within the county.
- Provide on-site fire hydrants and mains capable of supplying the required fire flow when any portion of the facility or building is in excess of 150 feet from a water supply on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, as required by the authority having jurisdiction (NFPA 1; UFC $^{TM}$, 2006 Edition, Section 18.3.1, as amended).

The project's civil drawings will be submitted to the Honolulu Fire Department for review and approval as the design process proceeds.

## 3.5 Socio-Economic Factors

***Affected Environment.*** In 2000, the population of the City and County of Honolulu was 876,156 (State of Hawai'i 2008, Table 1.06). The estimated population in 2008 for the City and County of Honolulu is 905,034 (State of Hawai'i 2008, Table 1.06). In 2008, there was an average of 1,550 agriculture and 454,150 nonagricultural jobs in the City and County of Honolulu, including 16,150 jobs associated with the Department of Defense (State of Hawai'i 2008, Table 12.13). In its second quarter 2010 summary of its outlook for the economy, the State DBEDT stated that, based on the most recent data and analysis, Hawai'i's economy is expected to continue seeing signs of recovery in 2010 and beyond. Visitor arrivals are expected to increase modestly in 2010. Modest growth in jobs is expected in the second half of 2010, and projected to increase in 2011.

According to long-term occupational projections for 2008-2018, prepared by the State of Hawai'i Department of Labor and Industrial Relations (Hawai'i 2010), statewide employment is projected to grow by 7.1 percent from 2008 to 2018. Personal care and service occupations are expected to experience the fastest job growth (20.4 percent), followed by healthcare support (19 percent), healthcare practitioners and technical occupations (both with 15 percent growth). The State projects small contractions in the legal (-0.6 percent) and architecture/engineering (-0.5 percent) occupations. Construction, installation, maintenance and repair, arts, design, and food preparation and serving occupations are estimated to grow in the 6 to 7 percent range during the same period.

***Probable Impacts and Mitigation.*** The proposed action is not expected to increase the County's resident or visitor populations. The project will contribute to short-term, temporary design and construction-related jobs, but is not expected to result in increasing permanent jobs. Because the project will provide replacement facilities for existing programs, and because the vacated facilities will be backfilled with programs that currently operate in overcrowded conditions, the project is not expected to increase HCC enrollment. The project will, however, improve the delivery of educational services and opportunities for the people of Honolulu.

## 3.6 Visual Resources

***Affected Environment.*** There are no prominent views from ground level on the campus, with the exception of distant *mauka* views of the Ko'olau Mountain Range. Distant *makai* views of O'ahu's south shore are available from the upper floors of multi-story buildings. The Kapālama Drainage Canal provides an open space corridor along Kōkea Street in the vicinity of the project site. Views of the project area from Kōkea Street are dominated by the mature trees along the Kōkea Street frontage and within Lot 1. The vehicular access to the campus from Kōkea Street forms a visual boundary for the project area along its southern perimeter. At approximately 60

feet and 80 feet high, respectively, nearby Building 7 and Building 2 are the tallest buildings on Main Campus. The upper floors of both buildings are visible from Dillingham Boulevard.

The City's Primary Urban Center Development Plan (PUC DP) identifies significant panoramic views of important view objects from public vantage points within urban Honolulu. Some of the important view objects include the Koʻolau and Waiʻanae Mountain Ranges; the Pacific Ocean, Honolulu Harbor, and Keʻehi Lagoon; and the craters of Diamond Head and Punchbowl. The project area is not located within a viewshed of important panoramic views. The PUC DP also identifies Kapālama Stream (i.e., Kapālama Drainage Canal) *makai* of Kuakini Street as a stream segment for which a streamside pathway should be considered for priority action.

***Probable Impacts and Mitigation.*** The proposed action will not have a significant impact on important visual resources, as defined by the City in its PUC DP. Currently planned at approximately 106 feet tall (excluding roof-mounted wind turbines), the new ATTC building will be visible intermittently from Kōkea Street and Dillingham Boulevard, although much of the building's mass would be screened by street trees along Kōkea Street and intervening existing and future buildings along Dillingham Boulevard. The scale and massing of the ATTC building would be similar to the neighboring buildings to the east (Buildings 7 and 2).

## 3.7 Cumulative Impacts

Cumulative impacts on environmental resources result from the incremental effects of development and other actions when evaluated in conjunction with government and private, past, present and reasonably foreseeable future actions. The reasonably foreseeable future actions that were considered in the analysis of cumulative impacts include:

- ***Honolulu Community College PRU Master Plan/LRDP Ultimate Plan.*** As described in Section 2.2, the HCC PRU Master Plan provides a framework for HCC's growth and redevelopment over the next 25-30 years. It is intended to better organize program spaces and related programs to promote stronger academic connections and physical relationships. It identifies the long-term facility improvements necessary to accommodate the future educational program needs of a 5,000-full time equivalent student enrollment, as determined in the HCC Educational Specifications. An HRS Chapter 343 EA was prepared to assess the effects of HCC's 1996 LRDP Ultimate Site Plan (Park 2007). A FONSI was published on October 8, 2007. The 2007 EA addressed the environmental effects of the 1996 LRDP (*Long Range Development Plan Honolulu Community College*, Paul Louie and Associates, Inc. May 1996, as amended), including a conceptual 6-story, 102,000-ft$^2$ building formerly planned for the natural sciences program on a site *mauka* of Building 7 (Library). This proposed facility is being programmed and designed as the ATTC, and located on the current proposed site (Lot 1). Any variations between environmental effects of the facility addressed in the 2007 EA and the current project are documented in this EA.

- ***Honolulu High-Capacity Rail Project.*** HCC has been coordinating its campus planning processes with appropriate City agencies. The City's current plan for the Honolulu Rail Transit Project includes an elevated guideway down the center of Dillingham Boulevard (in a raised median) and a transit station on the HCC Main Campus at the Dillingham/Kōkea intersection. Impacts of the planned stations (including Kapālama Station) and guideway are analyzed in the City's Honolulu Rail Transit Project Final EIS. The City's plans show the proposed Kapālama Station (west-bound direction) on a vacant, triangular site at the extreme west end of HCC's Main Campus, along Dillingham Boulevard. The station is projected to be under construction by 2015 with the complete 20-mile system operational by 2019. The HCC Main Campus, including the ATTC project area, lies within the 2,000-ft radius "Transit-Oriented Development" (TOD) zone around the planned Kapālama Transit Station. The City DPP's Land Use Division is developing TOD plans for station areas (including the Kapālama Station) in accordance with the LUO's Section 21-9.100, transit-oriented development special district provisions. DPP plans to commence TOD planning for the Kapālama Station in late summer 2010.

The proposed action, collectively with future actions planned in the area, would not have a significant cumulative impact on the resource areas analyzed. The proposed action is expected to have minor temporary or incremental effects on topography, soils, surface and ground water, natural hazards, air quality, noise, biological resources, archaeological and cultural resources, parking, potable water, wastewater, storm drainage, electrical power and telecommunications, solid waste, hazardous materials and waste, police and fire protection, socio-economic resources, and visual resources, when considered collectively with the foreseeable actions listed. Short-term temporary impacts include construction storm water runoff, noise and air quality impacts. Each of these impacts will be mitigated by compliance with applicable Federal and State standards and environmental permits (e.g., NPDES).

In the long-term, the City's High-Capacity Transit Corridor Project identified the removal of 28 true kamani trees, located on both sides of Dillingham Boulevard between Kōkea and Kaaahi Streets, that have been identified as "Notable Trees" (i.e., those deemed to be important to the urban landscape character) (Honolulu 2008) that are eligible for nomination to the National Register of Historic Places. A preliminary determination was made that removal of these trees would constitute an adverse effect on historic properties, and appropriate mitigation will be conducted under Section 106 of the National Historic Preservation Act. Although the ATTC project would relocate or remove several mature trees from Lot 1, none are considered "exceptional" or "notable" trees. There were no historic properties identified at the project area, and the SHPD determined that the project would not affect historic properties. Therefore, there would be no cumulative impacts to historic properties resulting from implementation of the two projects.

The estimated construction period for the ATTC is from the summer of 2012 through the summer of 2014. HCC's other near-term projects, as described in Section 2.2.1 and depicted in Figure 5, include the gateway/mall improvements and parking lot improvements. Although timing for these other HCC projects has not yet been identified, it is possible that their

construction periods may overlap that of the ATTC. If this were to occur, there may be associated disruptions to local circulation patterns due to construction vehicles, and temporary displacement of off-street parking. However, all on-campus construction activities would be coordinated to minimize disruptions, which would be temporary and short-term. Therefore, these projects are not expected to result in significant cumulative impacts to transportation facilities or circulation.

Based on current project schedules, there would be no conflict(s) between the construction of the ATTC (2012 to mid-2014) and the City's Kapālama Transit Station (2015-2018) at the Kōkea-Dillingham corner of the campus, although there is a potential for traffic congestion on Dillingham Boulevard as work on the City's Honolulu High-Capacity Transit Corridor Project transit guideway along the median of Dillingham Boulevard would be underway commencing 2013. However, as noted in Section 3.4.1, in the long-term, the City's rail transit project will provide alternatives to the use of private automobiles in the Honolulu urban core, including on Dillingham Boulevard and to or from the HCC Main Campus.

Considered cumulatively with these projects, the proposed action would not have a significant cumulative impact on traffic conditions, since the new ATTC is not expected to increase student enrollment or headcount or vehicular traffic, but instead, address existing facility deficiencies. Furthermore, the proposed action is not expected to have a significant cumulative effect on the other resource areas studied.

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# 4.0 CONFORMITY OF PROPOSED ACTION WITH EXISTING STATE AND COUNTY PLANS, POLICIES AND CONTROLS

This chapter describes the proposed action's conformity with various relevant State of Hawai'i ("State") and City and County of Honolulu ("City") plans, policies and land use controls. The federal government has no direct jurisdiction over the project site and, therefore, federal plans, policies, and controls are not discussed. Relevant objectives and policies are excerpted and presented below, along with a discussion of the project's conformance.

## 4.1 State of Hawai'i

### 4.1.1 State Land Use Law

The State Land Use Commission, pursuant to Chapter 205, HRS and Chapter 15-15, Hawai'i Administrative Rules, is empowered to classify all lands in the State into one of four land use districts: urban, rural, agricultural, and conservation. The project area is located in State's Urban District. The City regulates activities or uses within the Urban District. The proposed use of the property is consistent with Urban District provisions.

### 4.1.2 State Environmental Policy

Chapter 344, HRS, the State Environmental Policy, encourages productive and enjoyable harmony between people and their environment. The policy promotes efforts which will prevent or eliminate damage to the environment and biosphere, stimulate the health and welfare of humanity, and enrich the understanding of the ecological systems and natural resources to Hawai'i's people. The State Environmental Policy seeks to conserve natural resources and enhance the quality of life for residents of Hawai'i. Expanding citizen participation in the decision making process is one of the guidelines specified in Chapter 344, HRS.

***Discussion:*** *The proposed facility will promote the understanding of the physical environment, including ecological systems and natural resources, by improving the post-secondary science instruction facilities available to the people Hawai'i. The sustainable features incorporated into the building's design will minimize use of the earth's natural resources. The EA approval process includes multiple opportunities for public input. Requests for input during the EA's pre-assessment consultation process were sent on April 20, 2010 to 41 Federal, State, and County agencies; public utilities; elected officials; and other potentially interested organizations and on September 3, 2010, the Draft EA was sent for review to 32 similar entities. In addition, HCC held an informational workshop on the LRDP update process on April 19, 2010 for HCC staff, students, and other interested parties. A presentation on the PRU permit application was made to the Kalihi-Pālama Neighborhood Board No. 15 on February 17, 2010. A follow-on presentation on HCC's long-range plan, including the proposed ATTC building, was made to the Kalihi-Pālama Neighborhood Board No. 15 on October 20, 2010. At the meeting, the Board unanimously adopted a motion to support HCC's planning efforts.*

### 4.1.3 Hawai‘i State Plan

*The Hawai‘i State Plan* (Chapter 226, HRS) is the umbrella document in the statewide planning system. It serves as a written guide for the future long-range development of the State by describing a desired future for the residents of Hawai‘i and providing a set of goals, objectives, and policies that are intended to shape the general direction of public and private development. It provides the basis for determining priorities and allocating limited resources, such as public funds, services, manpower, land, energy, water, and other resources. The objectives and the policies of the State Plan that are relevant to the proposed action and alternatives include: (1) Section 226-6 Objectives and Policies for the Economy – In General; (2) Section 226-10 Objectives and Policies for Economy – Potential Growth Activities; (3) Section 226-10.5 Objectives and Policies for the economy – information industry; (4) Section 226-14 and 226-18 Objectives and Policies for facility systems – general and -telecommunications; and (5) Section 226-21 Objectives and Policies for Socio-Cultural Advancement – Education. These sections are discussed in the following paragraphs.

**Section 226-6 Objectives and Policies for the Economy – In General.**
Planning for the State’s economy in general shall be directed toward achievement of the objectives listed below.

**Objective A (1):** Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawai‘i’s people.

**Objective A (2):** A steadily growing and diversified economic base that is not overly dependent on a few industries, and includes the development and expansion of industries on the neighbor islands.

**Objective B:** To achieve the objectives listed above, the State Plan establishes policies. The policies related to the proposed project are listed below.

**Policy 12:** 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.

**Section 226-10 Objectives and Policies for Economy – Potential Growth Activities.**

**Objective A:** Planning for the State’s economy with regard to potential growth activities shall be directed towards achievement of the objective of development and expansion of potential growth activities that serve to increase and diversify Hawai‘i’s economic base.

**Objective B:** To achieve the potential growth activity objective, the State Plan establishes policies. The policies that relate to the proposed action are listed below.

**Policy 2:** Expand Hawai'i's capacity to attract and service international programs and activities that generate employment for Hawai'i's people.

**Policy 3:** Enhance and promote Hawai'i's role as a center for international relations, trade, finance, services, technology, education, culture, and the arts.

**Policy 8:** 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.

**Section 226-10.5 Objectives and Policies for the economy – information industry.**

**Objective A:** Planning for the State's economy with regard to the information industry shall be directed toward the achievement of the objective of positioning Hawai'i as the leading dealer in information businesses and services in the Pacific Rim.

**Objective B:** To achieve the information industry objective, the State Plan establishes policies. The policy that relates to the proposed action is listed below.

**Policy 5:** Provide opportunities for Hawai'i's people to obtain job training and education that will allow for upward mobility within the information industry.

**Section 226-13 Objectives and policies for the physical environment--land, air, and water quality.**

**Objective 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:

**Objective A (1)**: Maintenance and pursuit of improved quality in Hawai'i's land, air, and water resources.

**Objective A (2)**: Greater public awareness and appreciation of Hawai'i's environmental resources.

**Objective B**: To further achieve the telecommunications objectives, the State Plan establishes policies. The policy that relates to the proposed action is listed below.

**Policy 1**: Foster educational activities that promote a better understanding of Hawai'i's limited environmental resources.

**Section 226-14 Objectives and Policies for facility systems – in general.**

**Objective 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.

**Objective B:** To further achieve the general facility systems objective, the State Plan establishes policies. The policy that relates to the proposed action is listed below.

**Policy 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.

**Section 226-18.5 Objectives and Policies for facility systems - telecommunications.**

**Objective 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.

**Objective C:** To further achieve the telecommunications objective, the State Plan provides policies to meet the objectives. The policy that relates to the proposed action is listed below.

**Policy 4:** Facilitate the development of education and training of telecommunications personnel.

**Section 226-21 Objectives and Policies for Socio-Cultural Advancement – Education.**

**Objective 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.

**Objective B:** To achieve education objective, the State Plan establishes policies. The policies that relate to the proposed action are listed below.

**Policy 2:** Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs.

**Policy 5:** Provide higher educational opportunities that enable Hawai'i's people to adapt to changing employment demands.

***Discussion**: The proposed action is consistent with objectives and policies of Sections 226-6, -10, -10.5, -14, -18.5, and -21 as the actions would provide HCC with updated educational facilities, which will be designed to accommodate current physical space requirements, as well as provide flexibility for future changes in technology. The proposed action will contribute to increasing the quality of science and technology training for Hawai'i's people, thereby increasing job choices and income potential.*

*The new facilities would be used to educate and train students in various employment fields including architectural, engineering, and CAD technology; information and computer science; and electronics; as well as prepare students for further education at 4-year colleges and*

*universities. These educational and training opportunities support the State's ability to expand and diversify its economic base by making Hawai'i attractive to local, national, and international businesses by providing an educated and trained citizenry. By investing in projects such as the proposed ATTC, the State is investing in its future workforce for industries such as transportation, information technology, education, communications, and construction. Well-trained and qualified employees are fundamental to attracting diversified industries to the State. Furthermore, the educational and training opportunities help solidify Hawai'i's role as a center for international trade, services, technology, and education in that they give students the tools necessary to adapt to changing employment demands in an international marketplace.*

*In addition, the proposed ATTC facility would be used by HCC's sciences departments which would foster a greater understanding of Hawai'i's natural environment which is consistent with the objectives and policies of Section 226-13. The proposed actions and action alternatives would be in consonance with State and county plans per Section 226-14. The proposed action will produce economic benefits that are described in Section 3.5.*

### 4.1.4 State Functional Plans

The State functional plans are plans that set forth the policies, statewide guidelines, and priorities within a specific field of activity. Functional plans have been developed for agriculture, conservation lands, education, employment, energy, health, higher education, historic preservation, housing, human services, recreation, tourism, transportation, and water resources development.

The State functional plans have been reviewed and the plan that has direct relevance to the proposed action is presented here.

**State Higher Education Functional Plan (State of Hawai'i 1987).**

The *State Higher Educational Functional Plan* is intended to serve as a guide to the objectives and policies pursued by the post-secondary education community in meeting its many responsibilities.

**Objective A:** Maintain a number and variety of post-secondary education institutions sufficient to provide the diverse range of programs required to satisfy individual and societal needs and interests.

**Policy A (2):** Focus increased attention on the role higher education plays in supporting the economic development of the State.

**Objective B:** Attain the highest level of quality, commensurate with its mission and objectives, of each education, research, and public service program offered in Hawai'i by an institution of higher education.

**Policy B (3):** Identify for program enrichment and emphasis those programs considered important in terms of State needs and emphases, those programs for which special advantages in Hawai'i provide an opportunity for national or international prominence, and those programs which have already achieved such prominence.

***Discussion:*** *The development of the ATTC facility would significantly enhance the general education and technical programs at HCC, which is consistent with the objectives and policies of the State Higher Education Plan. The facility would allow HCC to provide improved education and training of local students for potential positions in a variety of fields as well as prepare them for higher education at 4-year colleges and universities. These educational and training opportunities support the State's ability to expand and diversify its economic base to include existing and emerging technology-based industries.*

### 4.1.5 Hawai'i Coastal Zone Management Program

The Coastal Zone Management Program is a comprehensive state plan that establishes and enforces standards and policies to guide the development of public and private lands within the coastal areas. The State's Coastal Zone Management Program is articulated in the State Coastal Zone Management (CZM) Law (HRS 205A). The CZM Law charges the counties with designating and administrating Special Management Areas (SMAs) within the State's coastal areas. Any "development", as defined by the CZM Law, that is located within the SMA requires a SMA Use Permit.

The objectives of the Hawaii CZM program are set forth in HRS Chapter 205A. The objectives of the program are intended to promote the protection and maintenance of valuable coastal resources. All lands in Hawaii are classified as valuable coastal resources. The CZM objectives and policies (Section 205A-2) applicable to the proposed project are cited and addressed below.

- Protect, preserve, and where desirable, restore or improve the quality of coastal scenic and open space resources;
- Provide public or private facilities and improvements important to the State's economy in suitable locations;
- Improve the development review process, communication, and public participation in the management of coastal resources and hazards;
- Ensure that new developments are compatible with their environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline.

***Discussion:*** *The proposed action is not expected to have any adverse impacts on marine resources as it is not located near the coast. The project will not involve alterations to stream channels or other water bodies or water sources. Best management practices will be employed during construction to prevent pollutant discharge in stormwater runoff that eventually reaches the ocean. The project area is outside the County's SMA.*

*The project area is located within an existing urbanized area and served by water, wastewater, drainage, transportation and public safety facilities. Continued educational use of the project area would be suitable for its location. The surrounding Kapālama community has a variety of commercial, industrial and residential uses and the proposed action would continue an existing educational use compatible with the existing environment.*

*The EA process provides opportunity for public input. The EA process included a pre-assessment consultation with federal, state, and county agencies as well as with interested organizations and individuals.*

*It is unlikely the proposed action will have significant adverse impacts on the quality of scenic and open space resources. The project design will comply with the height and setback requirements of its zoning district. The proposed ATTC will be compatible with HCC's Long Range Development Plan in building orientation, architectural design, and landscaping. Significant panoramic views--as identified in the PUC DP--of the Koʻolau and Waiʻanae Mountain Ranges; the Pacific Ocean, Honolulu Harbor, and Keʻehi Lagoon; and the craters of Diamond Head and Punchbowl from public vantage points will not be negatively impacted by the proposed action.*

## 4.2 City and County of Honolulu

### 4.2.1 General Plan

As required by the City Charter, the *General Plan of the City and County of Honolulu* serves two purposes. The first is a statement of the long-range social, economic, environmental and design objectives for the welfare and prosperity of the people of Oʻahu. Second, the General Plan is a statement of broad policies that facilitate the attainment of the objectives of the plan.

Objectives and policies of the General Plan appropriate to the proposed action are as follows:

**Economic Activity**

**Objective A:** To promote employment opportunities that will enable all people of Oʻahu to attain a decent standard of living.

**Policy 1:** Encourage the growth and diversification of Oʻahu's economic base.

**Objective E:** To prevent the occurrence of large scale unemployment.

**Policy 1:** Encourage the training and employment of present residents for currently available and future jobs.

**Policy 3:** Encourage the provision of retraining programs for workers in industries with planned reductions in their labor force.

**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.

**Policy 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 PUC; second, in the secondary urban center at Kapolei; and third, in the urban-fringe and rural areas.

**Policy 5:** Provide for more compact development and intensive use of urban lands where compatible with the physical and social character of existing communities.

**Policy 6:** Encourage the clustering of developments to reduce the cost of providing utilities and other public services.

**Objective B:** To provide a wide range of educational opportunities to the people of O'ahu.

**Policy 1:** Support education programs that encourage the development of employable skills.

**Policy 4:** Encourage the construction of school facilities that are designed for flexibility and high levels of use.

**Policy 5:** Facilitate the appropriate location of learning institutions from the preschool through the university levels.

**Objective C:** To make Honolulu the center of higher education in the Pacific.

**Policy 1:** Encourage the improvement in the quality of higher education in Hawai'i.

**Policy 2:** Encourage the development of diverse opportunities in higher education.

***Discussion:*** *The proposed action is consistent with the objectives and policies outlined above by providing educational and training facilities. These facilities will be utilized to educate and train local students and prepare them for employment in diverse enterprises for current and future jobs. The facility will be located in the PUC, within the HCC's highly developed and well-established Main Campus in the mixed-use Kalihi-Pālama area of Honolulu. Consistent with the General Plan, the facility will serve numerous programs and departments, providing space for classroom instruction, hands-on and laboratory training, and office space during the day and evening.*

### 4.2.2 Primary Urban Center Development Plan

The City's *Primary Urban Center Development Plan* (PUC DP) creates a vision for Honolulu in the year 2025 based on five key elements that would achieve the vision. These elements include:

(1) protection and enhancement of natural, cultural, and scenic resources; (2) creation and/or enhancement of livable neighborhoods that include business districts, parks, plazas, and walkable streets; (3) creation and/or maintenance of in-town housing options for people of all ages and incomes; (4) development of Honolulu as the Pacific's leading city and travel destination; and (5) creation of a balanced transportation system that provides excellent mobility.

The planning goal for the PUC is to enhance its livability while accommodating a moderate amount of growth. The PUC DP acknowledges the role of schools, including colleges and universities, as contributing to livable neighborhoods and enhancing Honolulu as a major Pacific destination. The plan recognizes that the PUC hosts the largest concentration of public and private post-secondary institutions on the island and the State. The Land Use Map for the PUC Central (see Figure 7) designates HCC's Main Campus as Institutional (College/University). The PUC DP's policies include one policy geared toward higher education: "Support the development of a high quality educational system of schools and post-secondary institutions that increase the attractiveness of the PUC as a place to live and work."

The PUC DP also contains guidelines for stream greenways and drainage. One of the guidelines is to develop streamside pathways to improve access to recreation sites and natural areas, and to provide safe, convenient pedestrian routes between neighborhoods. The segment of Kapālama Stream (drainage canal) *makai* of Kuakini Street is identified for consideration for priority action in this area (Section 3.1.3.5 in Honolulu 2004.)

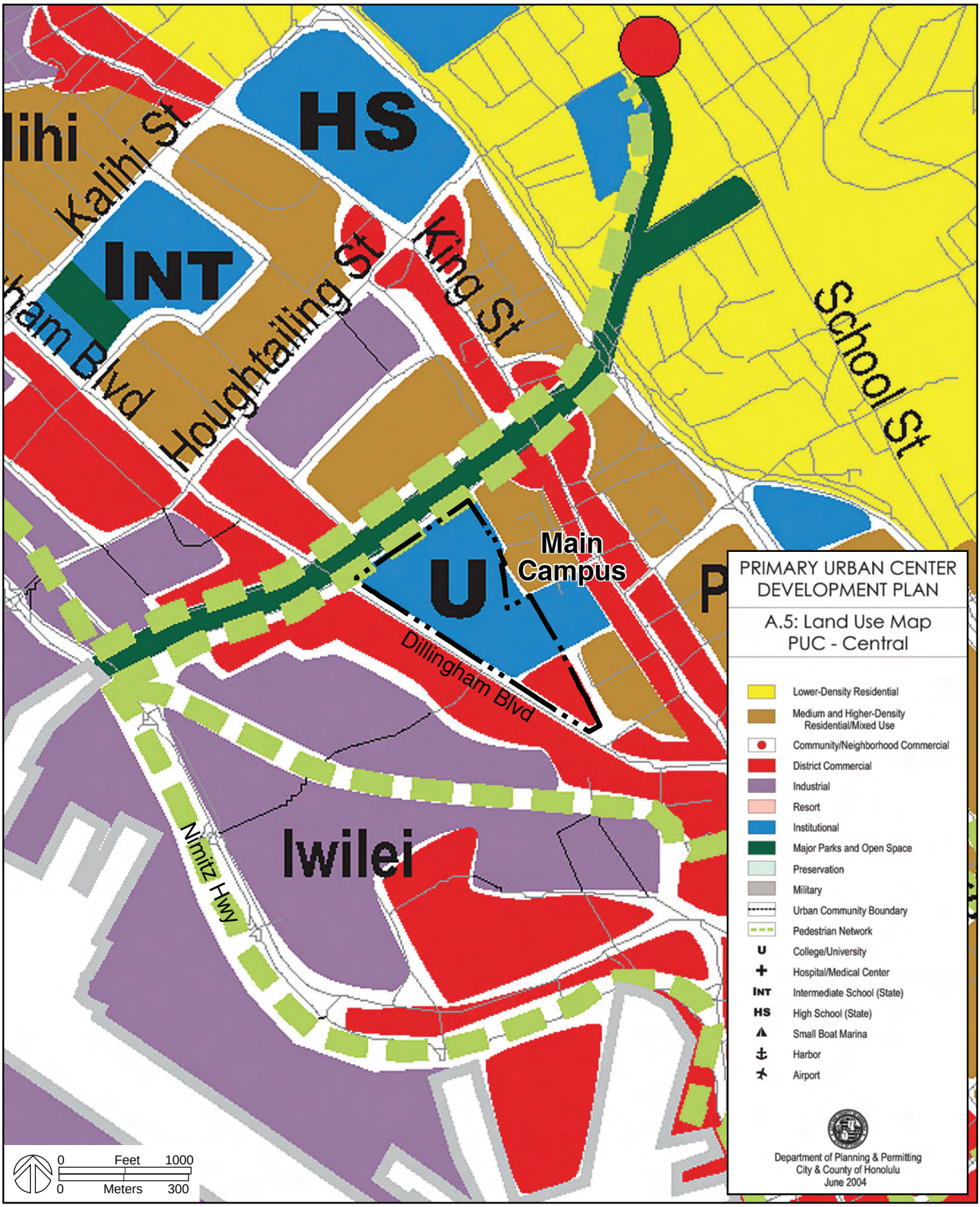
***Discussion:*** *The proposed action and action alternatives are consistent with the PUC DP's policies discussed above. The ATTC facility would support the development of high quality post-secondary education within the existing Main Campus which will increase the attractiveness of the PUC as a place to live and work.*

### 4.2.3 City and County Zoning

The purpose of the City's LUO is to regulate land use in a manner that will encourage orderly development in accordance with adopted land use policies, including the General Plan and other development plans. The LUO is intended to provide reasonable development and design standards. These standards are applicable to the location, height, bulk and size of the structures, yard areas, off-street parking facilities, and open spaces, and the use of structures and land for agriculture, industry, business, residences or other purposes (Revised Ordnance for the City and County of Honolulu, Chapter 21). The project area is located in an area zoned by the City as Industrial Mixed Use (IMX)-1 (see Figure 8 for Zoning Map).

Section §21-2.120-1 of the LUO requires that college and university land uses be regulated via a Plan Review Use (PRU) Permit.

***Discussion:*** *The proposed action would construct an ATTC facility. This type of facility (college/university) is permitted under IMX-1 zoning with a City Council approved PRU permit.*




Honolulu Community College Advanced Technology Training Center

Environmental Assessment

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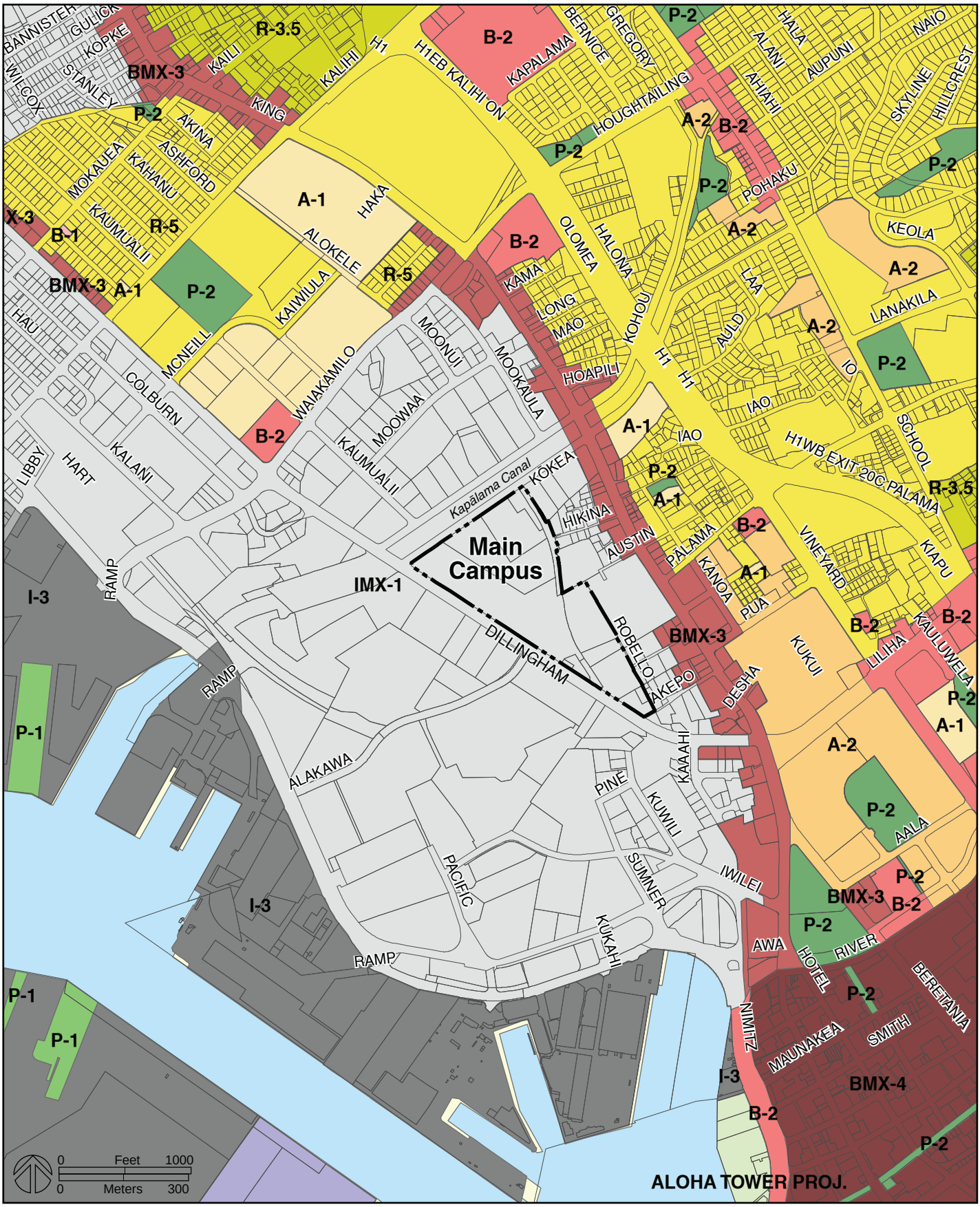
*Planners, Inc.*

**Figure 7**

**PUC Development Plan Land Use Map**




Honolulu Community College Advanced Technology Training Center

Environmental Assessment

**Figure 8**

**Zoning Map**

Helber Hastert & Fee
Planners, Inc.

*The project area is included in HCC's PRU permit application, which was under consideration by the City Council as of December 2010. It is anticipated that the City Council will issue the permit in early 2011. As shown in Figure 6, the project will comply with LUO street setbacks and building height envelopes.*

### 4.2.4 Plan Review Use

The purpose of the PRU is to establish a review and approval mechanism for uses of permanent and institutional nature which, because of the characteristics fundamental to the nature of the use, provide essential community services but which could also have a major adverse impact on surround land uses.

The intent is that the design and siting of structures and landscaping, screening and buffering for these uses can be master planned so as to minimize any objectionable aspects of the use or the potential incompatibility with other uses permitted in the zoning district.

The general provisions for a PRU are that a master plan, spanning at least five years, shall be submitted and shall be reviewed and commented upon by all applicable City, State, and Federal planning and development agencies. The proposed master plan shall encompass the entirety of all lots for which the PRU is applied. The master plan may consist of both existing and future development; future development in the plan shall indicate general height and bulk concepts, land expansion, landscaping, setbacks and buffering of adjacent parcels.

The master plan shall be approved by City Council Resolution. Only uses and structures in the approved master plan shall be permitted on subject lots. Density, height, and yards shall be determined by taking into consideration the surrounding land use, adopted land use policy, and applicable zoning regulations. Parking, loading, and sign requirements shall require council approval.

***Discussion:*** *The PRU application for the HCC LRDP was accepted for processing by DPP on July 15, 2010 (No. 2010/PRU-5). The PRU application included the proposed ATTC. DPP transmitted its report and recommendations to City Council in November 2010. Upon City Council's deliberation and approval, the design standards prescribed in the PRU permit will be applicable to the ATTC project. Coordination with DPP will continue through the PRU and EA process to ensure the proposed action is consistent with the approved PRU permit.*

### 4.2.5 Special Management Area

The proposed project is not located within the City's Special Management Area and will not require an SMA use permit.

# 5.0 ALTERNATIVES CONSIDERED

There were two alternatives to the proposed action considered: (1) no action and (2) construction at an alternate location. They are discussed below.

## 5.1 No Action

Under the "no action" alternative, the existing conditions on the subject property would continue—i.e., paved parking area with mature trees. Science and technology instruction would continue to take place in dispersed, undersized, outdated facilities and HCC would not be able to improve the quality of or access to science and technology education and training for the residents of Hawaii. For these reasons, the "no action" alternative was determined unacceptable.

## 5.2 Alternate Location

Under this alternative, the new science building would be constructed elsewhere within the Main Campus, such as an alternate site *mauka* of the Library (Building 7) on a portion of Lot 1C, previously identified in the 1996 LRDP. However, the HCC PRU application and HCC LRDP, which is currently undergoing revisions, identifies this area for future Human Services/Childcare facility. The currently proposed site is adjacent to the campus mall, and would enhance the gateway to the campus.

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# 6.0 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Resources that are committed irreversibly or irretrievably are those that cannot be recovered if the proposed project is implemented. The proposed action would involve two types of resources: (1) general industrial resources including capital, labor, fuels, energy, and construction equipment; and (2) project-specific resources such as natural resources and land use at the affected site. Construction of the new ATTC building will utilize fiscal resources, labor, construction equipment and materials.

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# 7.0 DETERMINATION AND SUPPORTING RATIONALE

As described in Section 1.5, it is anticipated that the direct, indirect, and cumulative effects of the proposed action will not have a significant adverse effect on the environment, and therefore, an EIS will not be required. In determining whether an action may have a significant impact on the environment, the applicant or agency must consider all phases of the project, its expected primary and secondary consequences, its cumulative impact with other projects, and its short and long-term effects. The negative determination was based on review and analysis of the significance criteria specified in Section 11-200-12, HAR. An action shall be determined to have a significant effect on the environment if it meets any of the following criteria cited below. Based on the analysis of the proposed action's impact on those criteria (provided below), the proposed action resulted in a FONSI.

***1. Involves an irrevocable commitment or loss of or destruction of natural or cultural resources;***

The project area does not support any known Federal or State-protected natural or cultural resource. There are no surface archaeological features are located in the project area. SHPD determined, by its letter dated November 1, 2010, that the project will not affect historic properties. However, construction activities have the potential to adversely affect subsurface historic resources if any are located within the project area. An archaeological monitoring program will be conducted, if required by SHPD. In accordance with Section 6E, HRS, if any significant cultural deposits or human skeletal remains are encountered during construction, SHPD will be contacted. The treatment of any remains or artifacts would be in accordance with procedures required by the O'ahu Burial Council and SHPD.

There are no Native Hawaiian (or other ethnic group's) cultural practices customarily and traditionally exercised for subsistence, cultural or religious purposes that are known to occur on the project area. Therefore, the proposed action would not impact traditional Hawaiian rights related to gathering, access, or other customary activities within the project area or its vicinity, or any cultural practices or beliefs. As recommended in the CIA, the proposed action will take measures to protect the water quality of the Kapālama Drainage Canal during project to avoid impacts on subsistence crabbing in the waterway, which is an ongoing practice despite the fish consumption advisory identified for urban streams in Honolulu. These measures are described in Section 3.4.5 Stormwater Drainage.

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

The proposed action implements part of HCC's LRDP, which describes the orderly development of its Main Campus to meet existing and future requirements. The construction of the new ATTC building will provide a beneficial use to the citizens of the State by increasing access to educational programs and improving educational services. Construction and operation of the new facility would be performed in accordance with Federal, State and County regulations, thereby minimizing potential impacts to the air and water quality and ambient noise levels.

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

The proposed action is consistent with the State's long-term environmental policies, and the policies and guidelines specified in Chapter 344, HRS, as demonstrated by the discussion in Section 4.1.2.

### *4. Substantially affects the economic welfare, social welfare, and cultural practices of the community or State;*

The proposed action would have direct and indirect economic benefits to the State and County through the flow of construction spending and employment incomes through the economy. The project would also improve post-secondary public educational services to Hawai'i's residents. As discussed in Section 3.3.2, the proposed action is not expected to adversely affect traditional Hawaiian rights related to gathering, access, or other customary activities within the project area or its vicinity or any cultural practices or beliefs. There are no Native Hawaiian (or other ethnic group's) cultural practices customarily and traditionally exercised for subsistence, cultural and religious purposes that are known to occur on the project area.

### *5. Substantially affects public health;*

The proposed action would not substantially affect public health. There would be some typical short-term construction-related impacts (e.g., noise and air quality) in the area, but these would be temporary and comply with State and County regulations. Standard BMPs would be used to minimize the temporary impacts. Though none are known, if project area soils are found to contain hazardous or regulated materials, the necessary abatement would be conducted prior to construction in accordance with applicable Federal and State regulations to minimize potential impacts to human health and the environment. The quantities and types of hazardous materials used, stored and disposed of will be generally the same under the proposed action as under existing conditions (i.e., with or without the new ATTC building). Therefore, no adverse impacts are anticipated, as handling, storage and disposal of these materials and wastes will comply with applicable County, State and Federal requirements.

### *6. Involves substantial secondary impact, such as population changes or effects on public facilities;*

The proposed action would not result in island-wide population growth. While HCC expects to experience enrollment increases over current levels in future years as it implements its LRDP, the proposed ATTC building in itself is not expected to result in significant increases in the HCC population. Since the project area is located in an existing urban area served by public utilities and infrastructure, no significant impacts to public facilities are expected.

***7. Involves a substantial degradation of environmental quality;***

The proposed action would not substantially degrade environmental quality. Long-term impacts to air and water quality, noise levels, and natural resources would be minimal. The use of standard construction and erosion control BMPs would minimize the anticipated construction-related short-term impacts. In the long-term, sustainable building design and practices will minimize impacts to the environment (e.g., high-efficiency plumbing fixtures, storm water quality treatment facilities, and site-adapted landscape materials).

***8. Is individually limited and cumulatively has considerable effect upon the environment or involves a commitment for larger actions;***

The proposed action, collectively with known future private and government actions planned in the vicinity, would not have a significant cumulative impact on the resource areas analyzed. Since the proposed action would occur on lands in urban use, it is expected to have minor incremental effects on topography, soils, surface and ground water, natural hazards, climate and air quality, noise, biological resources, archaeological and cultural resources, potable water, wastewater, storm drainage, electrical power, solid and hazardous waste, police and fire protection, socio-economic factors, traffic, parking, and visual resources, when considered collectively with the known foreseeable actions.

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

No threatened, endangered or candidate listed bird, mammal, or plant species protected by Federal and State regulations would be impacted by the proposed action. There are no significant biological resources, including habitat for protected species, in the project vicinity.

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

The proposed action would not substantially affect air or water quality or ambient noise levels. The use of BMPs would minimize construction-related impacts, and the project would comply with applicable Federal, State and County regulations and standards. The project area is currently almost completely covered with asphalt paving, and the new ATTC would not substantially increase impervious surfaces. Stormwater runoff from the project area will be directed to an underground retention system designed to reduce pollutants from entering receiving waters. Surface water quality and air quality would not be significantly impacted.

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

The proposed action is not located within an environmentally sensitive area. Treatment of construction period stormwater runoff will comply with NPDES permit requirements. During

the operational period, stormwater runoff generated at the project area would be detained and treated to remove pollutants prior to discharge into Kapālama Drainage Canal.

### *12. Substantially affects scenic vistas and viewplanes identified in County or State plans or studies;*

The proposed action would not obstruct or affect scenic vistas and viewplanes identified in County plans.

### *13. Requires substantial energy consumption.*

The proposed action will require additional energy consumption; however, the facility's total electrical power demand will be reduced from a comparable standard building by the implementation of sustainable design initiatives such as production of electrical power on-site through solar PV panels and other energy-saving technologies being designed within the building.

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# 9.0 PARTIES CONSULTED DURING PREPARATION OF THE EA

## 9.1 Parties Consulted During the Preparation of the Draft EA

An informational letter was sent on April 29, 2010 to 41 agencies, organizations, utilities, and elected officials (listed below) to solicit comments on the proposed action. Substantive comments received are to be addressed in the Draft EA. A total of 14 agencies and organizations responded in writing. The parties who responded in writing are identified by an asterisk (*) and their letters and the corresponding responses are included in Appendix D1.

In addition, a presentation on HCC's PRU process and the ATTC project was made to the Kalihi-Pālama Neighborhood Board No. 15 on February 17, 2010.

**Federal Agencies**
*U.S. Army Engineer District, Honolulu
U.S. Department of Agriculture, Natural Resources Conservation Service
U.S. Environmental Protection Agency Region 9
U.S. Fish and Wildlife Service

**State of Hawai'i Agencies**
Office of Environmental Quality Control
*Department of Accounting and General Services
Department of Business, Economic Development, Tourism (DBEDT), Office of Planning
DBEDT Energy Department (Strategic Industries Division)
*Department of Defense
Department of Hawaiian Home Lands
*Department of Health Office of Environmental Planning
Department of Human Services
Department of Labor and Industrial Relations
*Department of Land and Natural Resources (DLNR)
DLNR, Historic Preservation Division
*Department of Transportation
Office of Hawaiian Affairs
UH-Environmental Center

**City and County of Honolulu Agencies**
*Board of Water Supply
*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
*Fire Department

*Police Department

**Utility Companies**
Hawaiian Telcom
Hawaiian Electric Company
The Gas Company
Oceanic Time Warner Cable

**Citizens Groups / Organizations / Other**
Hawai'i Building & Construction Trades Council
Neighborhood Board No. 15 (Kalihi-Pālama)
Kalihi-Pālama Hawaiian Civic Club
The Sierra Club
The Nature Conservancy
The Outdoor Circle

**Elected Officials**
State Senator Brickwood Galuteria (12th Senatorial District)
State Representative Mr. Karl Rhoads (28th Representative District)
Mayor Mufi Hannemann
Councilmember Romy M. Cachola (District 7)

## 9.0 Parties Consulted During the Preparation of the Final EA

The Draft EA was distributed for review and comment on September 3, 2010 to 32 agencies, organizations, utilities, and elected officials (listed below). A total of 14 agencies and organizations responded in writing. The parties who responded in writing are identified by an asterisk (*) and their letters and the corresponding responses are included in Appendix D2.

A follow-on presentation on HCC's long-range plan, including the proposed ATTC building, was made to the Kalihi-Pālama Neighborhood Board No. 15 on October 20, 2010. At the meeting, the Board unanimously adopted a motion to support HCC's planning efforts.

**Federal Agencies**
U.S. Army Engineer District, Honolulu
U.S. Fish and Wildlife Service

**State of Hawai'i Agencies**
Office of Environmental Quality Control
*Department of Accounting and General Services
DBEDT Office of Planning
*Department of Health
*DLNR
*DLNR, State Historic Preservation Division

*Department of Transportation
Office of Hawaiian Affairs
*UH Environmental Center

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

**Utility Companies**
Hawaiian Telcom
Hawaiian Electric Company
The Gas Company
*Oceanic Time Warner Cable

**Citizens Groups / Organizations / Other**
Hawai'i Building & Construction Trades Council
Neighborhood Board No. 15 (Kalihi-Pālama)
Kalihi-Pālama Hawaiian Civic Club
The Sierra Club
The Nature Conservancy
The Outdoor Circle

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Councilmember Romy M. Cachola (District 7)

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# APPENDIX A

Archaeological Literature Review and Field Investigation Report
*Cultural Surveys Hawai‘i*

# An Archaeological Literature Review and Field Inspection Report for the Honolulu Community College Advanced Technology Training Center (ATTC) Project Kapālama Ahupuaʻa, Kona District, Oʻahu Island TMK: [1] 1-5-005:003, 039; 1-5-006:026, 027, 028; 1-5-017:001, 004, 005, 006, and 1-5-018:001, 002, 003, 004

**Prepared for**

**Design Partners Inc.**

**Prepared by**

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**David W. Shideler, M.A.,**

**and**

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**Kailua, Hawaiʻi**

**(Job Code: KAPALAMA 8)**

**July 2010**

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# Management Summary

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|---|---|
| **Reference** | An Archaeological Literature Review and Field Inspection Report for the Honolulu Community College Advanced Technology Training Center Project Kapālama Ahupua‘a, Kona District, O‘ahu Island : TMK [1] 1-5-005:003, 039; 1-5-006:026, 027, 028; 1-5-017:001, 004, 005, 006, and 1-5-018:001, 002, 003, 004. |
| **Date** | June 2010. |
| **Project Number (s)** | Cultural Surveys Hawai‘i, Inc. (CSH) Job Code: KAPALAMA 8. |
| **Investigation Permit Number** | The fieldwork component of the literature review and field inspection study was carried out under archaeological permit number 10-10 issued by the Hawai‘i State Historic Preservation Division/Department of Land and Natural Resources (SHPD/DLNR), per Hawai‘i Administrative Rules (HAR) Chapter 13-282. |
| **Project Location** | Honolulu Community College, corner of Kapālama Canal and Dillingham Blvd. |
| **Project Acreage** | The Campus is on approximately 26 acres on portions of 13 tax map parcels (on 4 Tax Map Key plat maps). |
| **Land Jurisdiction** | State of Hawai‘i, University of Hawai‘i |
| **Agencies** | This study was prepared to facilitate planning and possibly consultation with the State Historic Preservation Division/Dept. Land and Natural Resources (SHPD/DLNR). |
| **Project Description** | The general purpose of this project is to gather historical and archaeological information which will serve to guide land management on the campus and allow for informed consideration of appropriate cultural resources and allow perpetuation of the cultural knowledge associated with the project area in the larger context of the *ahupua‘a* of Kapālama. Specifically this study addresses two neighboring alternate proposed locations for an Advanced Technology Training Center (ATTC) Project in the northwest portion of the Campus to facilitate planning considerations for the ATTC Project. |
| **Historic Preservation Regulatory Context** | The proposed project is subject to Hawai‘i State environmental and historic preservation review legislation [Hawai‘i Revised Statutes (HRS) Chapter 343 and HRS 6E-8/Hawai‘i Administrative Rules (HAR) Chapter 13-275, respectively]. While this investigation does not fulfill the requirements of an archaeological inventory survey investigation (per HAR Chapter 13-276), it serves as a document to facilitate the proposed project’s planning and supports historic preservation review compliance by assessing if there are any major archaeological concerns within the study area and to develop data on the general nature, density and distribution of archaeological resources as can be gleaned from available sources. |

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| **Fieldwork Effort** | A field inspection was carried out by David W. Shideler M.A. under the overall supervision of Hallett H. Hammatt Ph.D. on April 28, 2010. No archaeological surface features were noted. |
| **Results Summary** | Although the study area has been extensively modified throughout the 20th century, and no surface archaeological features remain, background research suggest that intact pre-contact and early post-contact cultural deposits associated with traditional Hawaiian habitation, agriculture, and burials may lie undisturbed beneath fill layers within the Honolulu Community College Advanced Technology Training Center Project study area(s). Post-contact cultural deposits associated with western settlement and residential development from the 19th and 20th centuries are also possibly present. In conclusion, it is possible that subsurface historic properties, associated with both pre- and post-contact land use, are present within the study area in the form of cultural layers and/or structural remnants buried by modern and historic fill layers. Evidence of pre-contact land use could be in the form of human burials, midden deposits, and artifacts (i.e. stone tools). Evidence of post-contact land use could be in the form of human burials, trash pits, privies, and building foundations.<br><br>An archaeological monitoring program is recommended. Early consultation with the State Historic Preservation division regarding the possible need for an archaeological inventory survey is recommended. |

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# Section 1 Introduction

## 1.1 Project Background

### 1.1.1 Project Description

At the request of Design Partners Inc., Cultural Surveys Hawai‘i, Inc. (CSH) has conducted an Archaeological Literature Review and Field Inspection study of the Honolulu Community College (HCC) Campus, Kapālama Ahupua‘a, Kona District, O‘ahu Island, TMK [1] 1-5-005:003, 039; 1-5-006:026, 027, 028; 1-5-017:001, 004, 005, 006, and 1-5-018:001, 002, 003, 004. This study focuses on two neighboring alternate proposed locations for an Advanced Technology Training Center Project planned for the northeast side of the HCC campus near to Kokea Street (which runs parallel to the east side of the Kapālama Canal) in areas presently devoted to on-grade parking. Minimally the Advanced Technology Training Center Project would involve foundation work, excavation for utility lines, and landscaping. While most of the subsurface work would be anticipated within one of the alternate proposed locations shown on a 1998 U.S. Geological Survey map (Figure 1), tax maps (Figure 2 and Figure 3), and an aerial photograph (Figure 4) at least one telecom conduit may traverse much of the campus (see Figure 5). The campus is located adjacent and to the east of the junction of the Kapālama Canal and Dillingham Boulevard.

The purpose of this study is to gather historical and archaeological information which will serve to guide land management on the campus and allow for informed consideration of appropriate cultural resource management and allow perpetuation of the cultural knowledge associated with the project area in the larger context of the *ahupua‘a* of Kapālama. The area of interest for this study is the entire *ahupua‘a* of Kapālama, with a focus on the HCC campus and the two neighboring alternate proposed locations for an Advanced Technology Training Center Project.

### 1.1.2 Historic Preservation Regulatory Context

The proposed project is subject to Hawai‘i State environmental and historic preservation review legislation [Hawai‘i Revised Statutes (HRS) Chapter 343 and HRS 6E-8/Hawai‘i Administrative Rules (HAR) Chapter 13-275, respectively]. While this investigation does not fulfill the requirements of an archaeological inventory survey investigation (per HAR Chapter 13-276), it serves as a document to facilitate the proposed project’s planning and supports historic preservation review compliance by assessing if there are any major archaeological concerns within the study area and to develop data on the general nature, density and distribution of archaeological resources.

## 1.2 Scope of Work

The scope of work for this project resulted in the following information included in the current report:

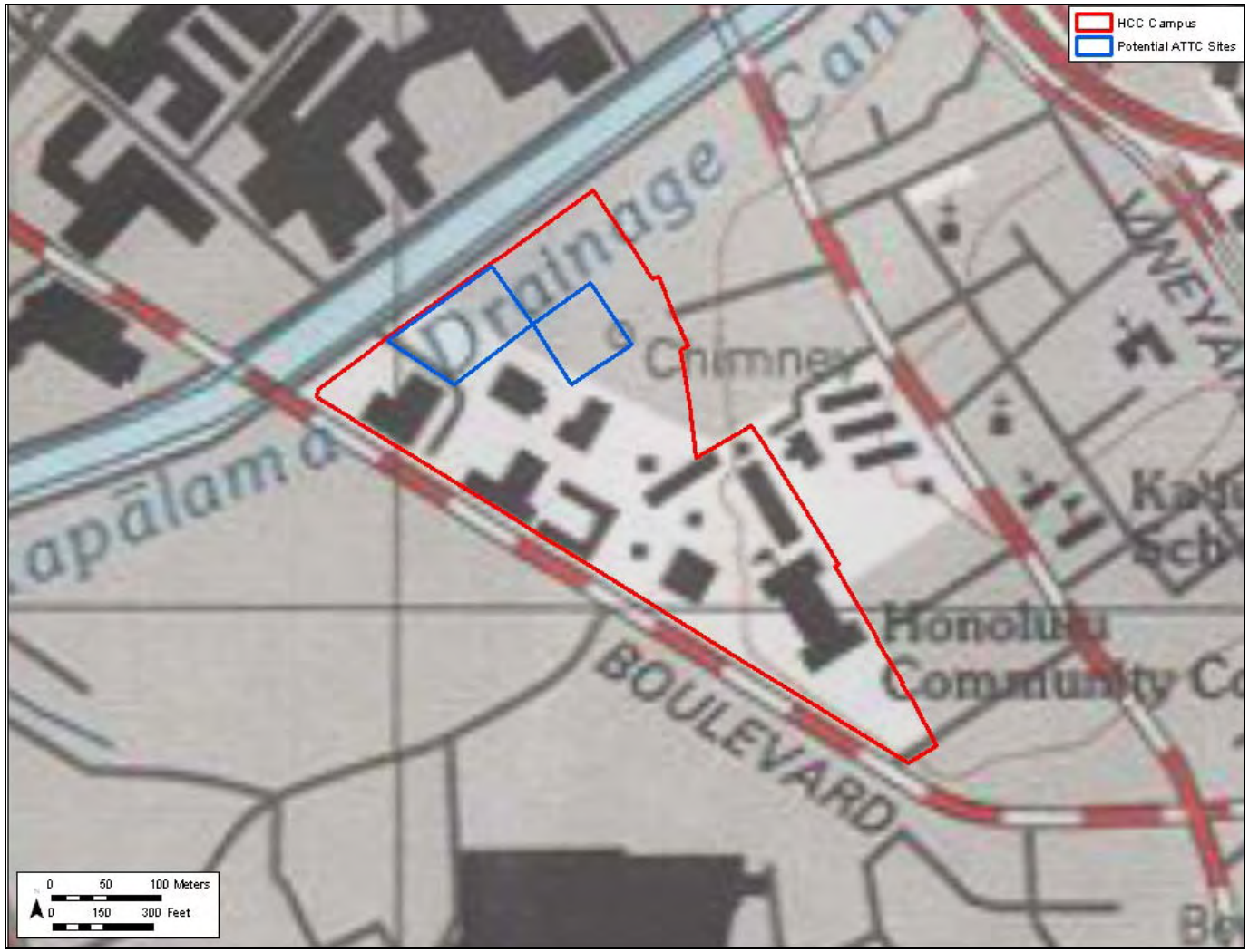


Figure 1. U.S. Geological Survey topographic map (1998 Honolulu Quad), showing the location of the Honolulu Community College campus and the presently proposed alternative sites for the Advanced Technology Training Center (outlined in blue)

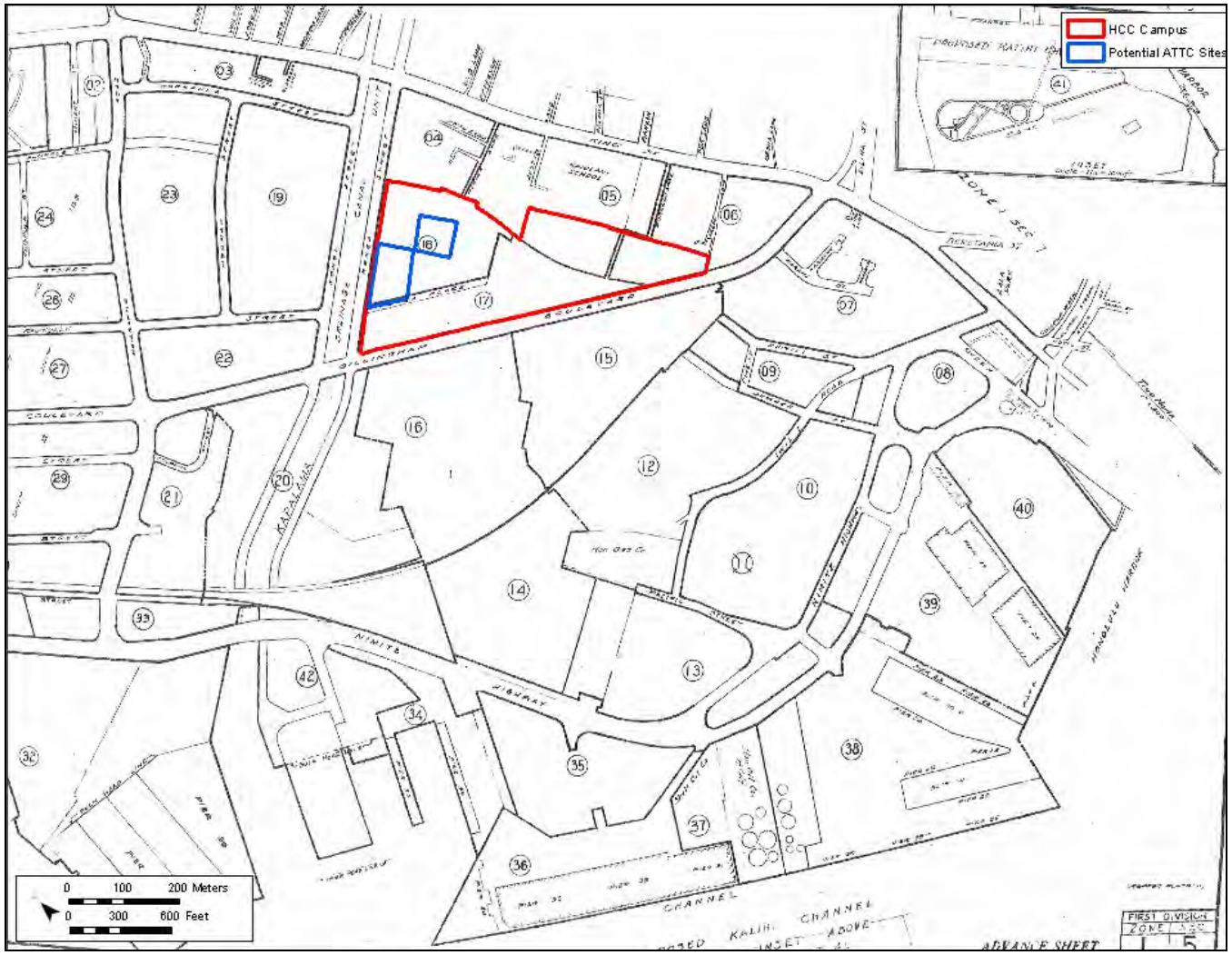


Figure 2. Tax Map Key Section map 1-5, showing the location of the Honolulu Community College campus and the presently proposed alternative sites for the Advanced Technology Training Center

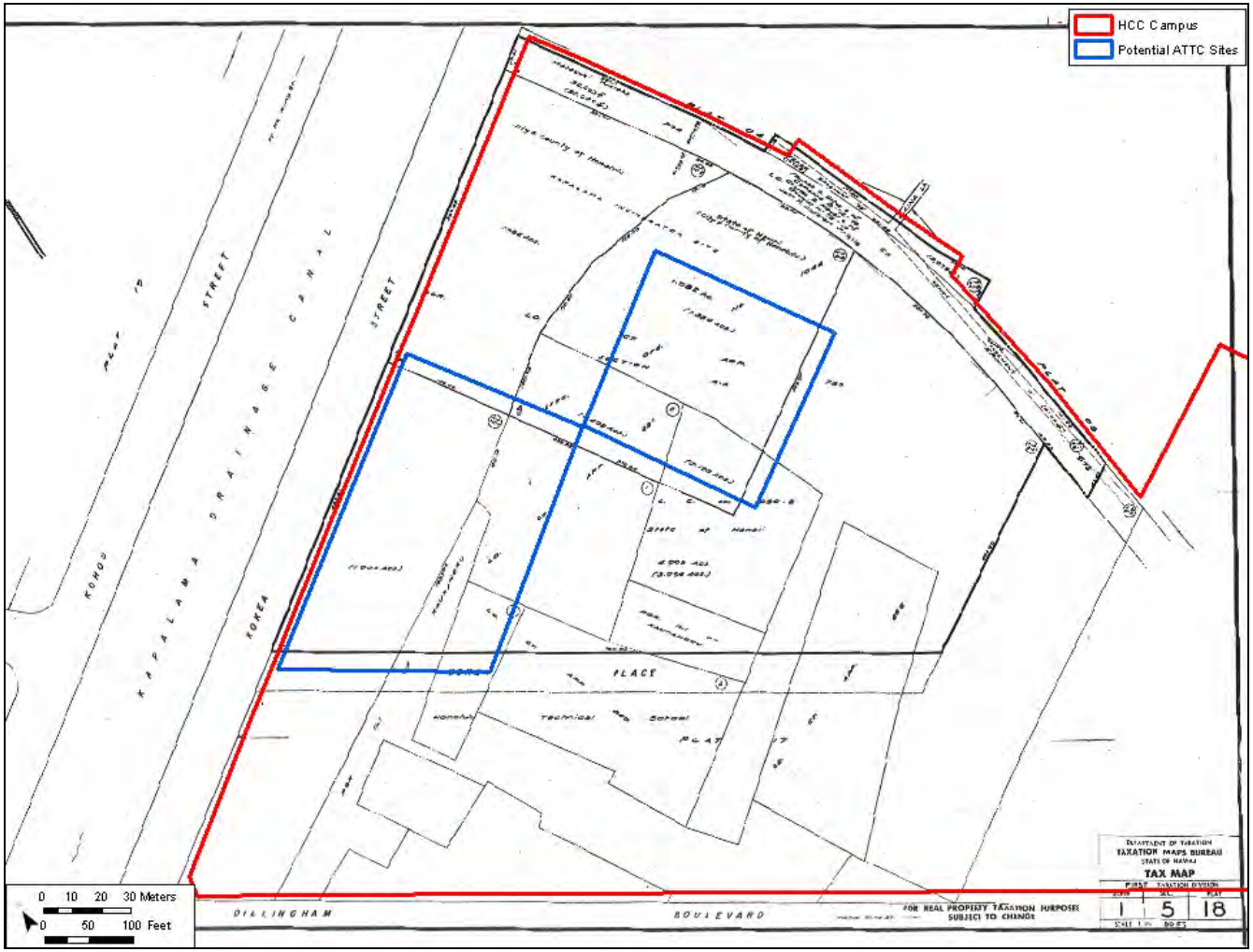


Figure 3. Tax Map Key Plat map 1-5-018, showing the west portion of the Honolulu Community College campus (adjacent to Kokea Street and the Kapālama Canal) and the two presently proposed alternative sites for the Advanced Technology Training Center


Figure 4. Aerial photograph of *makai* (coastal) Kapālama, showing the location of the Honolulu Community College campus and the presently proposed alternative sites for the Advanced Technology Training Center

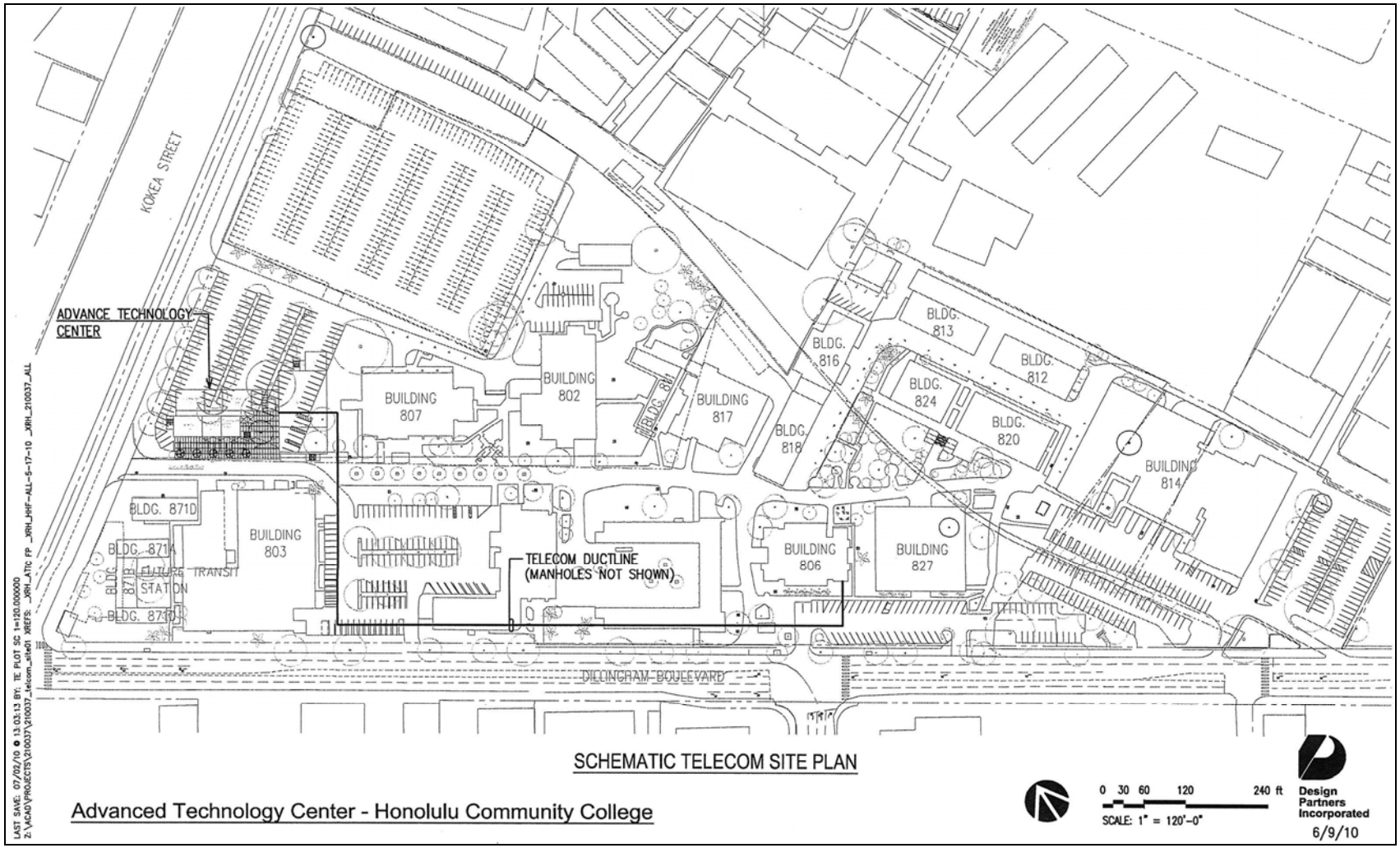


Figure 5. Schematic Telecom Site Plan for the HCC Advanced Technology Training Center Project (the exact alignment is unknown but it is likely to proceed from the building labeled “Building 806” to the Advanced Technology Training Center)

1. Historical research to include study of archival sources, historic maps, Land Commission Awards and previous archaeological reports to construct a history of land use and to determine if archaeological sites have been recorded on or near this property.
2. Limited field inspection of the project area to identify any surface archaeological features and to investigate and assess the potential for impact to such sites. This assessment will identify any sensitive areas that may require further investigation or mitigation before the project proceeds.
3. Preparation of a report to include the results of the historical research and the limited fieldwork with an assessment of archaeological potential based on that research, with recommendations for further archaeological work, if appropriate. It will also provide mitigation recommendations if there are archaeologically sensitive areas that need to be taken into consideration.
4. Consultation with the client and State Historic Preservation Division

## 1.3 Environmental Setting

### 1.3.1 Natural Environment

Kapālama is a small valley, which was once watered by two small streams, the Kapālama and the Niuhelewai Streams. The *ahupua‘a* of Kapālama is pie-shaped with its apex at approximately 2000 ft (feet) AMSL (above mean sea level) on the ridge that separates Nu‘uanu and Kalihi Valleys. The shore frontage (presently “Kapālama Basin”) is part of the Honolulu Harbor protected shoreline. In 1961, the Kapālama Canal, which follows the lower course of Niuhelewai Stream, channelized the lower streams between re-inforced banks. In the vicinity of the present study area the Niuhelewai Stream may have been channelized significantly earlier (circa 1930) but the banks of the canal remain largely un-reinforced to the present day.

The Honolulu Community College parcels are covered in two soil types, as described in Foote et al. (1972): Fill Land, mixed (FL) in the west and Ewa Silty Clay Loam, 0-2 percent slopes (EaA) on the east (Figure 6). Temperatures in the project areas range from 60-90° F, while rainfall varies from 20-50 inches per year (Juvik and Juvik 1998:62-64).

Fill Land, mixed (FL) consists of areas filled with material dredged from the ocean or hauled from nearby areas. This land type is used for urban development including airports, housing areas, and industrial facilities.

The Ewa series consists of well-drained soils in basins and on alluvial fans, which developed in alluvium derived from basic igneous rock. Ewa silty clay loam, 0 to 3 percent slopes (EaA) is used for sugarcane and home sites. The natural vegetation consists of fingergrass (*Chloris* spp.), *kiawe* (Algaroba tree, *Prosopis pallida*), *koa haole* (*Leucaena glauca*), *klu* (*Acacia farnesiana*), and ‘*uhaloa* (*Waltheria americana*).

### 1.3.2 Built Environment

Kapālama, especially the area south of King Street, was an area that was early developed into a part of the Honolulu suburbs. The current project area of the HCC campus is surrounded by

residential neighborhoods, business and commercial centers, schools, churches, parks, and other community structures.

## 1.4 Background Research Methods

Historical background research included a study of archival and published sources at the University of Hawai‘i at Mānoa Hamilton library, the Hawai‘i State Public Library, the Bernice P. Bishop Archives and Library, and the Cultural Surveys Hawai‘i’s library. Historic maps and photographs were collected from the Hawaii State Survey office, from published books, and from the Bishop Museum photographic collection. Archaeological reports concerning Kapālama were reviewed at the State Historic Preservation Division library at Kapolei. Land Commission Award testimony was downloaded from the waihona ‘āina online database (www.waihona.com) All of these sources were consulted in order to construct a history of land use and to assess the potential for the presence of subsurface cultural deposits and human burials within the project area.

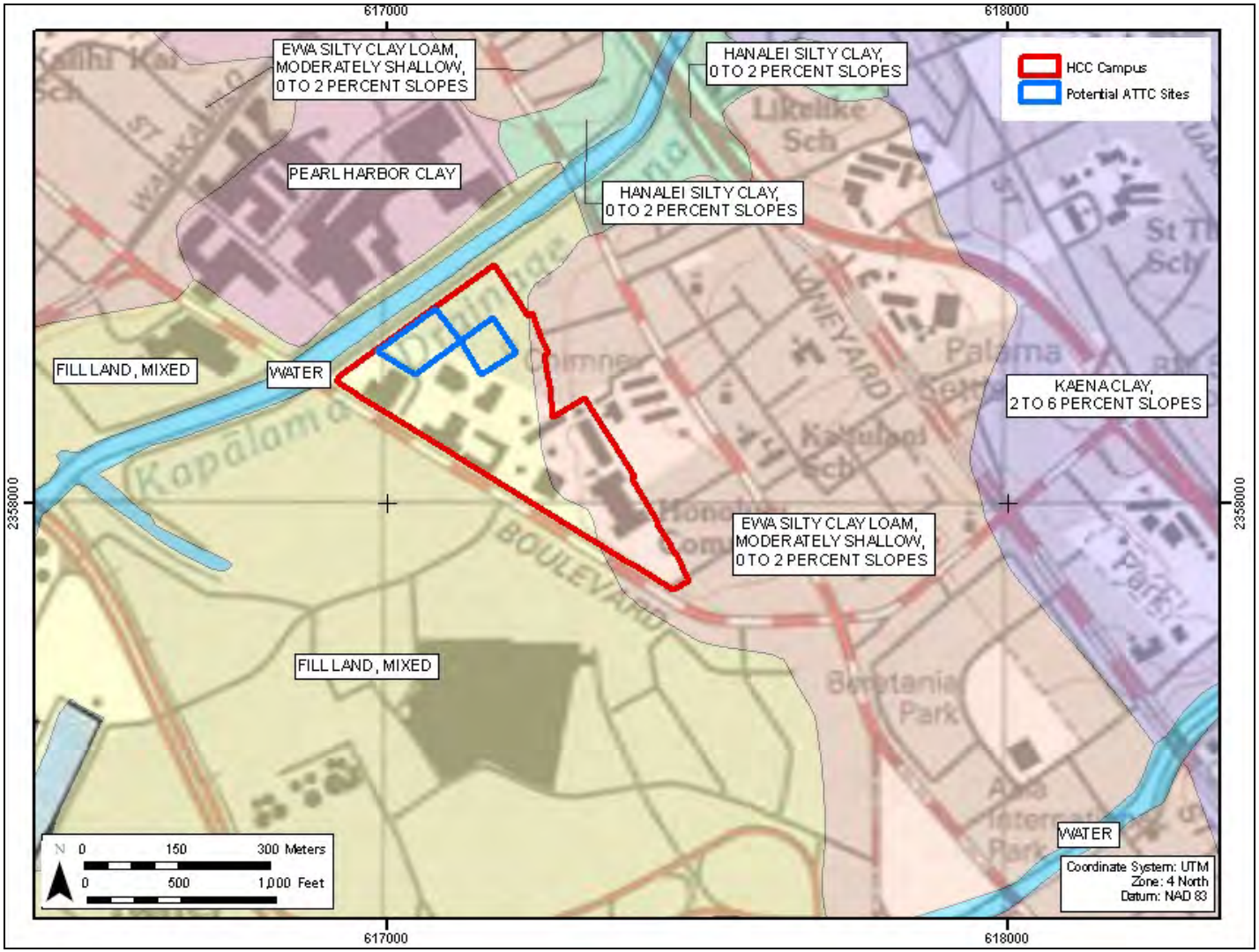


Figure 6. Soils map of *makai* Kapālama, showing location of project area

# Section 2 Legendary and Traditional Background Research

A detailed account of the place names, legends, traditional accounts of battles and *mele* (traditional songs) of Kapālama Ahupua‘a is presented in Appendix A for the reader’s possible reference. A synopsis is presented here focused on the vicinity of the Honolulu Community College campus. All place name meanings are from Pukui, Elbert, and Mo‘okini’s *Place Names of Hawai‘i* (Pukui et al 1974), unless otherwise noted. In the 1920/1930s, the lower section of Niuhelewai Stream was channelized to construct Kapālama Canal. As the HCC campus is adjacent to the eastern side of Kapālama Canal, the legendary summary in this section will focus on the area and stream called Niuhelewai.

Kapālama Ahupua‘a extends from the seacoast to the head of Kapālama Gulch at approximately 4 kilometers from the coast. Unlike most O‘ahu Kona District *ahupua‘a,* it does not extend all the way to the Ko‘olau Mountains; instead it is “cut off” by Kalihi Ahupua‘a on the western boundary and Nu‘uanu Ahupua‘a on the eastern boundary (Figure 7). The place name “Kapālama” is often understood to refer to an enclosure (*pā*) of *lama* wood that surrounded the place of residence of high ranking *ali‘i* (chiefs) (Pukui et al. 1974:87). McAllister (1933:88) relates: “Kapalama is said to have obtained its name from an establishment in which the young *ali‘i* were kept just before pairing off for offspring.”

The *ahupua‘a* has two streams, the “Kapālama” and the “Niuhelewai” (“coconut going [in] water”). They merge and extend through the central fertile former taro and rice fields, an area also called Niuhelewai. This area drained into a pond called Kūwili II.

A place named Niuhelewai, located *makai* of King Street (Fornander 1917, *Legend of Kaulu* Vol., IV, Part III:530-531; Fornander 1919, *Legend of Kaulu* Vol. V, Part II:368) was associated with the deity Haumea and the hero, Kaulu, who was known for his great strength. Haumea, the goddess of childbirth, had a home at Niuhelewai in Kapālama; she challenged anyone who passed by, often killing them. Kaulu challenged Haumea to a fight on the following day. That night he flew back up to the spirit land in the clouds and borrowed the magic nets of Makali‘i, and then threw them over Haumea’s house. When Haumea could not break through these nets, she fell asleep in exhaustion, tangled in the nets. While asleep, Kaulu burned down her house, killing her.

Niuhelewai Stream was the location for a famous battle between Kahahawa‘i, the war chief of Kahekili, king of Maui, and the O‘ahu ruling chief Kahāhana (circa A.D. 1780-1783). Fornander (1919, *Famous Men of Early Days*, Vol. V, Part II:498) states in a footnote to a story that Niuhelewai was the name of the locality of the Pālama cane field between the fire and pumping stations. Ross Cordy (2002:19) places Kahāhana’s reign of O‘ahu around the year 1780 to his death in 1783 after this battle.

> In this battle the people of Oahu were defeated and slaughtered at Niuhelewai, and the waters of the stream were turned back, the stream being dammed by the corpses of the men. (Fornander 1919, *Famous Men of Early Days*, Volume V, Part II:498-499)

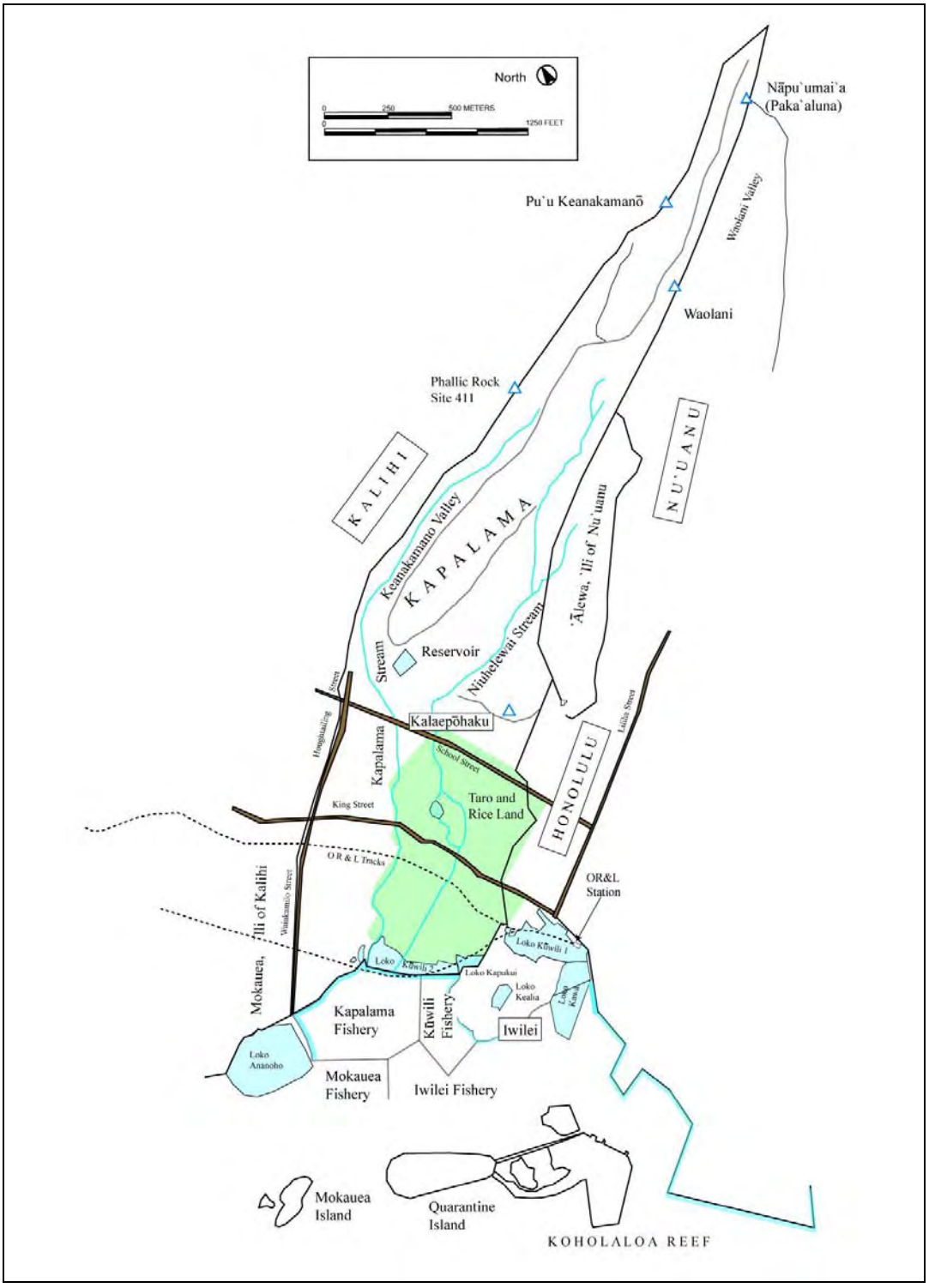


Figure 7. Place names of Kapālama; 1919 War Department quad used as background map; at the coast is the eastern edge of Ananoho Pond (possibly “dweller’s cave”; Thrum 1922:627) in Kalihi

After Kahāhana’s death, the chiefs of Maui took over O‘ahu. Some of the chiefs from the O‘ahu districts of ‘Ewa and Kona conceived a plot to murder their new overlords, but the Maui chiefs were warned and (circa 1790) retaliated:

> . . . the districts of Kona and ‘Ewa were attacked, and men, women, and children were massacred, until the streams of Makaho and Niuhelewai in Kona [in Kapālama] and of Kahoa‘ai‘ai in ‘Ewa were choked with the bodies of the dead, and their waters became bitter to the taste, as eyewitnesses say, from the brains that turned the water bitter. All the Oahu chiefs were killed and the chiefesses tortured. (Kamakau 1992:138)

Thus we have accounts of two separate massacres, seemingly of some magnitude, at “Niuhelewai” Kapālama (circa 1782 and 1790). We have no specific knowledge of the location of the battles or the nature of the disposal of the dead. It is not inconceivable that there are one or more areas in which the skeletal remains of these massacres are still extant.

# Section 3 Historic Background

## 3.1 Early Post-Contact Period

Kapālama Ahupua‘a offered desirable environmental conditions for traditional Hawaiian subsistence practices. The well-watered flood plain would have allowed for the development of an extensive *lo‘i* system, and the protected shoreline and fringing reef would have allowed for ease of ocean access to the productive near-shore fisheries. E. S. Craighill Handy, who gathered information on former planting areas from local informants in the 1930s and 1940s, reported:

> Kapalama had two streams watering its terrace area [for taro], which was almost continuous from Iwilei up to the foothills above School Street, an area measuring about three quarters of a mile both in depth inland and in breadth. (Handy 1940:79)

The lower lands were used for taro cultivation; the uplands also had considerable resources. In the early nineteenth century, sandalwood trees were still present in the forests. These trees were extensively harvested between 1810 and 1830 as the fragrant wood could be sold to ship captains sailing to China to trade for exotic Asian goods. In the 1970s, there was still an ancient sandalwood pit on the Kamehameha Schools campus *mauka* (inland) of the Girls' School dormitory. Such pits were dug the same size as a ship's cargo area to measure the amount of wood needed to fill an order (Kamehameha Schools 1969).

Otto von Kotzebue's journal and map of Honolulu provide one of our earliest accounts of the environs of seaward Kapālama circa 1817. The following account is of a trip towards Pearl Harbor commencing near the mouth of Nu‘uanu Stream:

> The way now lies to the west, through a beautifully cultivated valley, which is bounded towards the north by romantic scenery of woody mountains, and on the south by the sea. The artificial taro fields, which may justly be called taro lakes, excited my attention. Each of them forms a regular square of 160 feet, and is enclosed with stone all round like our basins. This field, or rather this pond . . . contains two feet of water. In the spaces between the fields, which are from three to six feet broad, there are very pleasant shady avenues, and on both sides bananas and sugar cane are planted. . . . [T]he fish which are caught in distant streams thrive admirable when put into them. In the same manner as they here keep river-fish, they manage in the sea with sea-fish, where they sometimes take advantage of the outward coral reefs, and draw from them to the shore a wall of coral stone. Such a reservoir costs much labor, but not so much skill as the taro fields, where both are united. I have seen whole mountains covered with such fields, through which the water gradually flowed; each sluice formed a small cascade, which ran through avenues of sugarcane, or banana into the next pond, and afforded an extremely picturesque prospect. Sugar plantations and taro fields alternately varied our way, with scattered habitations, and we had gone unawares five miles to the large village of Mouna Roa [Moanalua] . . . (Kotzebue 1967:339-341)

Kotzebue’s 1817 map of Honolulu (Figure 8), although undoubtedly somewhat schematic, shows large taro-fields (and trees) similar to his written description on both sides of the mouth of Kalihi and Nu‘uanu streams extending to the coast. The path shown was probably the main trail and the route traveled by Kotzebue himself. The 1817 map does not show any taro fields in Kapālama, but a later 1855 map by La Passe (Figure 9) does show extensive taro *lo‘i* (irrigated patches) in the *makai* section of Kapālama. La Passe’s map also shows two fishponds, Kūwili I and Kawa. These ponds are on the eastern side of Kapālama, but the land around it was considered part of Kūwili, an *‘ili* (land section, next in importance to an *ahupua‘a*) of Honolulu rather than Kapālama.

Kūwili [Kūwili I] Pond is classified as a Type II pond (Kikuchi 1973:227), a *loko pu‘one* or *loko hakuone,* an isolated shore fishpond usually formed by the development of a barrier beach building a single elongated sand ridge (*pu‘one* or *hakuone*) parallel to the coast. It was adjacent to Kawa Fishpond, a Type I pond, a *loko kuapā*, a fishpond of littoral water whose side or sides facing the sea consist of a stone or coral wall containing one or more sluice grates (Kikuchi 1973: 227-228).

> Fishponds of Types I and II had the largest variety of fish as food resources. The most common ones were the fish called *āholehole* (*Kuhlia taeniura*, *Kuhlia sandwichensis*, etc.); mullet; tenpounder; milkfish, *‘awa‘aua*; barracuda (*Sphryaena barracuda*), *kākū*, anchovy (*Anchoviella purpirea*), *nehu*, the fish identified by the Hawaiians as *‘o‘opu*; and the eel, *puhi*. The uncommon fish were: amber fish (*Caranx mate*), *kahala*; goatfish (*Upeneus prophyreus*), *kūmū*, three surgeonfish called *manini*, *palani*, and *puwalu*; bonefish; parrot fish, and crevally. (Kikuchi 1973:93)

In 1869, Samuel Kamakau described the *loko pu‘one:*

> The *pu‘one* ponds near the sea (*loko kai pu‘uone*) were much desired by farmers, and these ponds they stocked (*ho‘oholo*) with fish. *Pu‘uone* ponds were close to shore ponds, *loko kuapa*, or to the seashore, and next to the mouths (*nuku*) of streams. The farmers cleared away the *mokae* sedges, *‘aka‘akai* bulrushes, and the weeds, and deepened the pond, piling up the muck on the sides, until he had a clean pond. Then he stocked it with *awa* fish. After two or three years the fish from the first gourd would have grown to a *ha‘ilima* (18inches) in length. (Kamakau 1976:49)

Kamakau noted that there were often structures on or near the ponds, *hale kia‘i,* or guard houses, where the fishpond keepers would stay on certain nights to deter poachers.

> On the nights when the tide was high every *kia‘i* (keeper) slept by the *mākaha* (sluice gate) of which he had charge, and it was the *kia‘i loko* (keeper of the pond) custom to build small *hale kia‘i* from which to guard the fish from being stolen or from being killed by pigs and dogs. (Kamakau 1976:48)

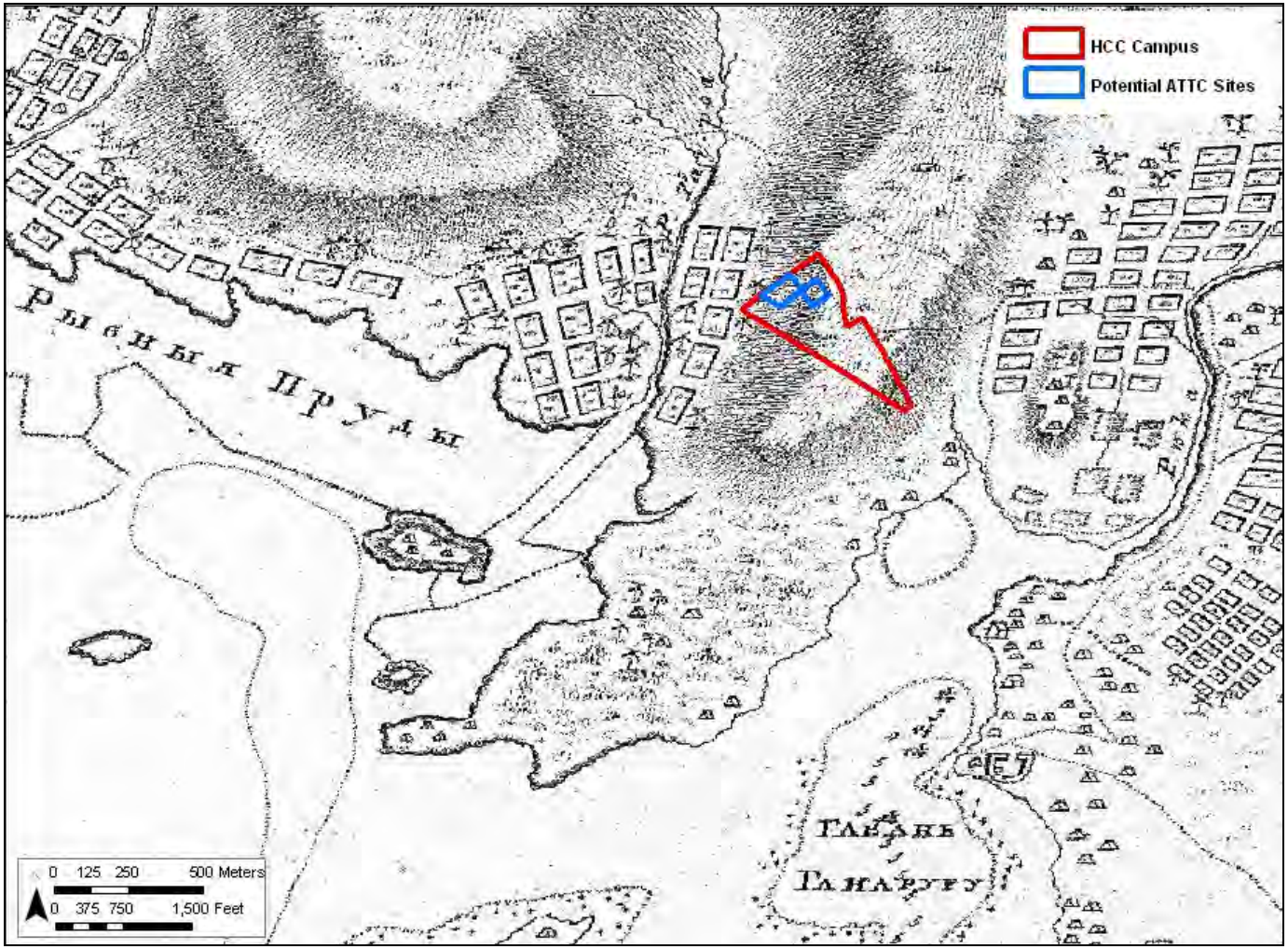


Figure 8. 1817 map of South O‘ahu, drawn by Otto von Kotzebue, commander of the Russian vessel, *Rurick* (reprinted in Fitzpatrick 1986:48-49) showing approximate location of the HCC campus relative to major landmarks; note while this map is inaccurate in detail it does serve to show the intensive Hawaiian land use in the vicinity

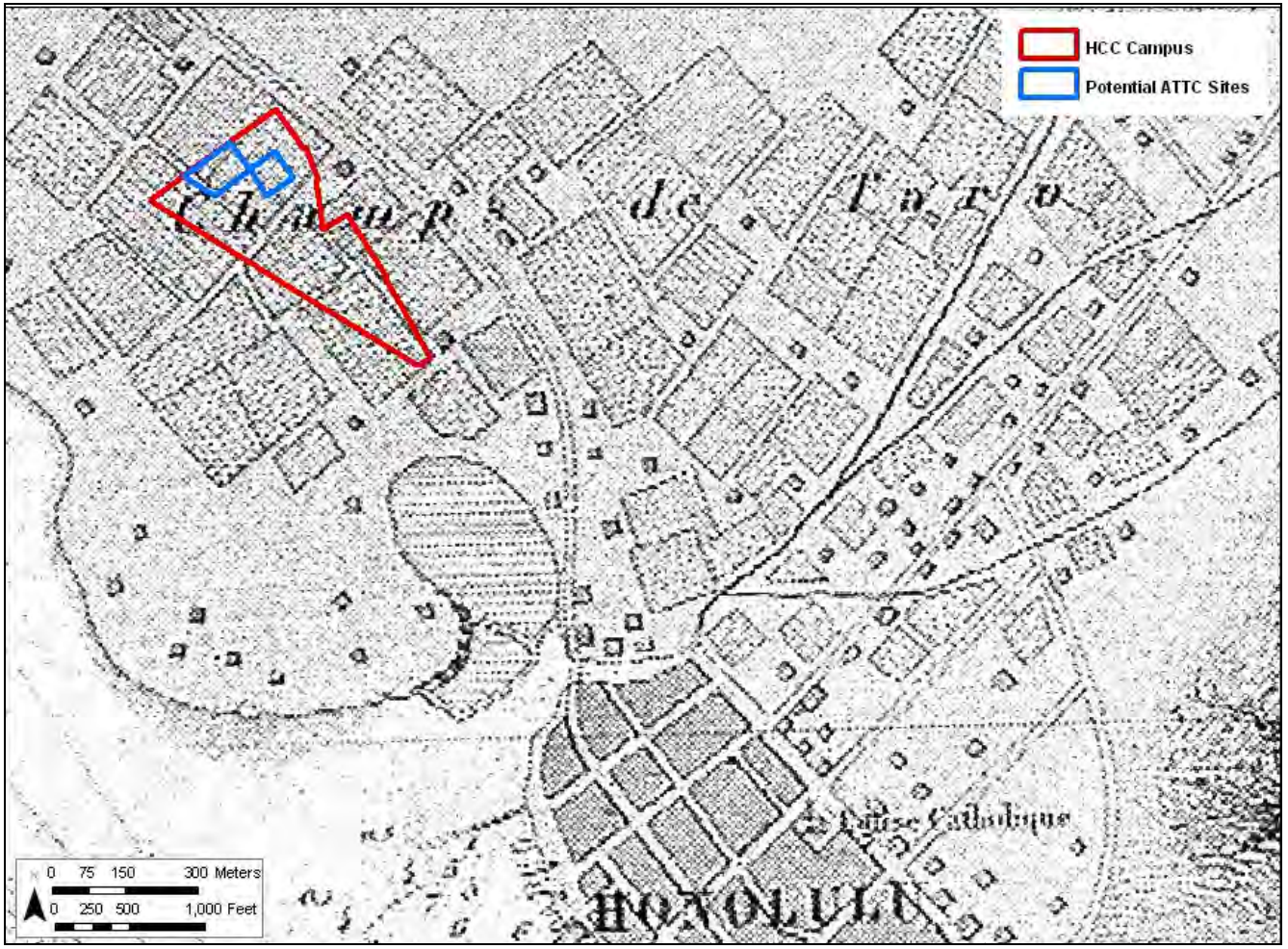


Figure 9. Map of Honolulu by Joseph de La Passe, a lieutenant aboard the French vessel, *L`Eurydice*, drawn in 1855 and published in 1858 (reprinted in Fitzpatrick 1986:82-83) showing approximate location of the HCC campus relative to major landmarks; note while this map is inaccurate in detail it does serve to show the intensive “Champs de Tarro” (*lo‘i kalo*) in the immediate vicinity of HCC

Robert Dampier’s c. 1825 wash drawing “Fishponds of Honoruru, Oahu” (Figure 10) documents a rather idyllic collection of grass huts scattered along the lower portions of Nu‘uanu Stream and along Honolulu Harbor. The fishponds depicted in the center foreground of the painting are in the right geographical position to be Kawa and Kūwili I Fishponds (which would place the HCC campus at the lower right on the Kapālama plain). In 1828, the fishponds were described by a Dutch merchant:

> . . . we arrived at the beach and came upon a small hamlet of several scattered fishermen’s huts. The whole arrangement of the place seemed pleasant and cozy. Now we had to wade through the water and our horses along the banks of the fish ponds of the king of these islands, situated north of the port of Honoruru. These ponds are irregularly shaped basins enclosed by walls of stone from the coral banks. These walls have openings through which the fish can enter the pond, but not, I was assured, leave it again to seek their freedom in the sea. When we approached this part of our trip, it happened to be at low tide so it was very easy to step through the water with the horse. (Broeze 1988:69)

In his history of Hawai‘i, written in the 1860s, John Papa ‘Ī‘ī described the appearance of the trail (around the year 1810) from Nu‘uanu to Moanalua through Kapālama:

> When the trail reached a certain bridge, it began going along the banks of taro patches, up to the other side of Kapalama, to the plain of Kaiwiula; on to the taro patches of Kalihi; down to the other stream and up the other side; turned right to the houses of the Portuguese people . . . (‘Ī‘ī 1959: 95)

While somewhat general, the ‘Ī‘ī account supports that of von Kotzebue in relating an abundance of *lo‘i* where the main trail crossed Nu‘uanu and Niuhelewai streams, and Kapālama Stream, a relatively uncultivated plain as the trail traversed the western section of Kapālama in the *‘ili* of Kaiwi‘ula (area now occupied by the Farrington High School), and then to more *lo‘i* on Kalihi Stream.

Kamehameha I, after the devastations to the population caused by the wars of conquest and a circa 1804 epidemic, encouraged people to replant the land and set aside several large tracts, including tracts in Kapālama, to grow crops for their own use and for trade with visiting ships. The Hawaiian historian, Samuel Kamakau, noted:

> After the pestilence had subsided the chiefs again took up farming, and Kamehameha cultivated land at Waikiki, Honolulu, and Kapalama, and fed the people. (Kamakau 1992:190)

John Papa ‘Ī‘ī, knew personally that:

> He [Kamehameha] also lived in Honolulu, where his farms at Kapālama, Keoneula, and other places became famous. These tasks Kamehameha tended to personally, and he participated in all the projects. (‘Ī‘ī 1959:69)

Rev. Hiram Bingham, arriving in Honolulu in 1820, described a predominantly native Hawaiian environment–still a “village”–on the brink of western-induced transformation:

> We can anchor in the roadstead abreast of Honolulu village, on the south side of the island, about 17 miles from the eastern extremity. . . . Passing through the

> irregular village of some thousands of inhabitants, whose grass thatched habitations were mostly small and mean, while some were more spacious, we walked about a mile northwardly to the opening of the valley of Pauoa, then turning south-easterly, ascending to the top of Punchbowl Hill, an extinguished crater, whose base bounds the north-east part of the village or town . . .
> Below us, on the south and west, spread the plain of Honolulu, having its fish-ponds and salt making pools along the sea-shore, the village and fort between us and the harbor, and the valley stretching a few miles north into the interior, which presented its scattered habitations and numerous beds of kalo (arum esculentum) in its various stages of growth, with its large green leaves, beautifully embossed on the silvery water, in which it flourishes (Bingham 1981:92-93)

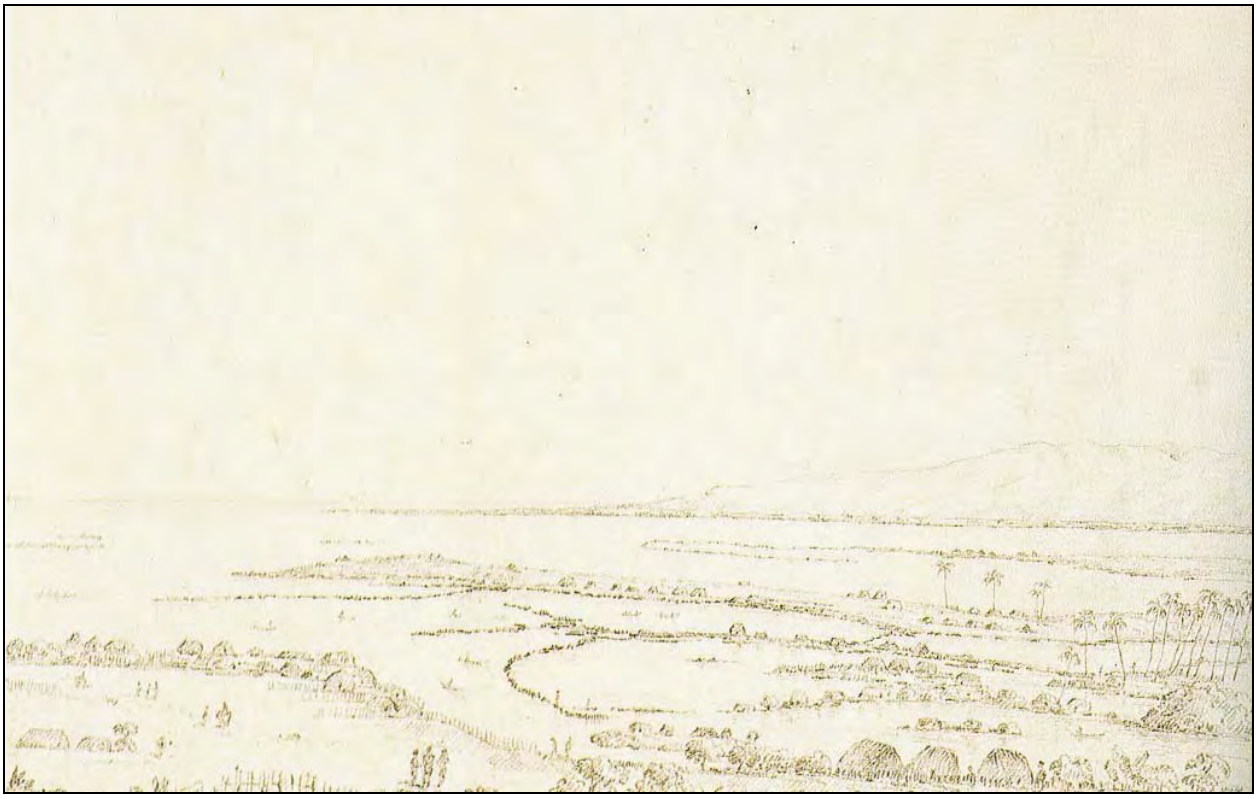

Figure 10. 1825 pencil sketch “View of Saltwater Fish Ponds Near Honoruru, Sandwich Islands,” by Robert Dampier, artist on the HMS *Blonde*; fishponds in foreground are probably Kawa and Kūwili I Ponds so the HCC campus would be at the lower right on the Kapālama plain (original at Bernice P. Bishop Museum; reprinted in Forbes 1992:76)

## 3.2 Mid-1800s and the Māhele

In the 1790s, after Kamehameha had conquered O‘ahu, Kapālama is specifically mentioned, along with Nu‘uanu, Mānoa, and Waikīkī, as having been “farmed” by Kamehameha. The desirability of Kapālama Ahupua‘a is evidenced in that Kamehameha “kept of himself” the *ahupua‘a* during the post-1795 division of O‘ahu lands (Kame‘eleihiwa 1992:59). Kapālama remained with the Kamehameha Dynasty through his grandchildren Moses Kekūāiwa, Victoria Kamāmalu and Lot Kamehameha, eventually becoming part of the Bernice Pauahi Bishop Estate.

### 3.2.1 Māhele Awards in Kapālama

At the Māhele or division of all lands between Kamehameha III and 251 other ranking members of the Kingdom of Hawai‘i in 1848, the *ahupua‘a* of Kapālama, along with many other lands in the islands, was awarded as part of Land Commission Award (LCA) 7714-B to Moses Kekūāiwa, son of Kekūanao‘a and Kīna‘u, who had earlier been married to Kamehameha I. The land passed down in turn to his sister Victoria Kamāmalu, to her brother Lot Kamehameha, to his half-sister Ruth Ke‘elikōlani, and then to her first cousin, Bernice Pauahi Bishop. The will of Mrs. Bishop set many of her lands aside as a trust to provide financial aid to educational and charitable institutions, including the founding of Kamehameha Schools to educate Hawaiian youth (Mitchell 1993:9).

Subsequent to the Māhele award for the bulk of the *ahupua‘a*, individual *kuleana* (commoner) lots were awarded pursuant to the 1850s Kuleana Act (that confirmed Native tenant rights to apply for lands they actively used). The first detailed map of Kapālama, made by J.F. Brown in 1885, shows a traditional Hawaiian landscape of small *kuleana* LCA parcels extending across the Kapālama plain (Figure 11). This area was clearly intensively utilized for both permanent habitation and agriculture. Mid-nineteenth century Māhele documents identify these *kuleana* parcels as comprising house sites and irrigated taro fields. The map also indicates large areas set aside for rice fields near the central *‘auwai* (irrigation ditch) in land managed by the *konohiki* (land agent for the *ali‘i*; in this case Moses Kekūāiwa). A 1928 HTS (Hawaii Territorial Survey) map does show two awards in Kapālama west of Waiakamilo Road, LCA 7714:B:7 to Moses Kekūāiwa, and LCA 11019:2 to J. Waolani (within Mokauea, according to waihona.com). This map also indicates that Libby Street is the boundary between Kapālama and Mokauea ‘Ili of Kalihi Ahupua‘a to the west. Southeast of these two LCA claims is the extent of the Kapālama Fishery, deeded to the Trustees of the B. P. Bishop Estate.

The *kuleana* to Hawaiian commoners were located on the flood plain to the east of Waiakamilo/Houghtailing Street and included house lots and *lo‘i* (pond fields) for the cultivation of *kalo* (taro). Roughly 100 *kuleana* lots were awarded in Kapālama. These are shown on an outline map (Figure 12) of the LCA parcels (traced from the 1885 Brown map) and listed in Table 1. *‘Ili* names were added to this map, based on information from the LCA testimony of individual claims, when these could be confirmed. Many claims had several *‘āpana* “parcels” for each claim, and each *‘āpana* could be located in a different *‘ili*. It is sometimes difficult to determine which *‘ili* is being referred to in the description of each *‘āpana*. For Figure 12 and Figure 13, *‘ili* names were only added if a block of contiguous parcels had the same *‘ili* name, or if some other type of confirmation of the *‘ili* name was available, such as later Land Court Application maps. Thus not all of the *‘ili* names mentioned in Table 1 in the Māhele testimony are labeled on this map, as they could not be definitely located.

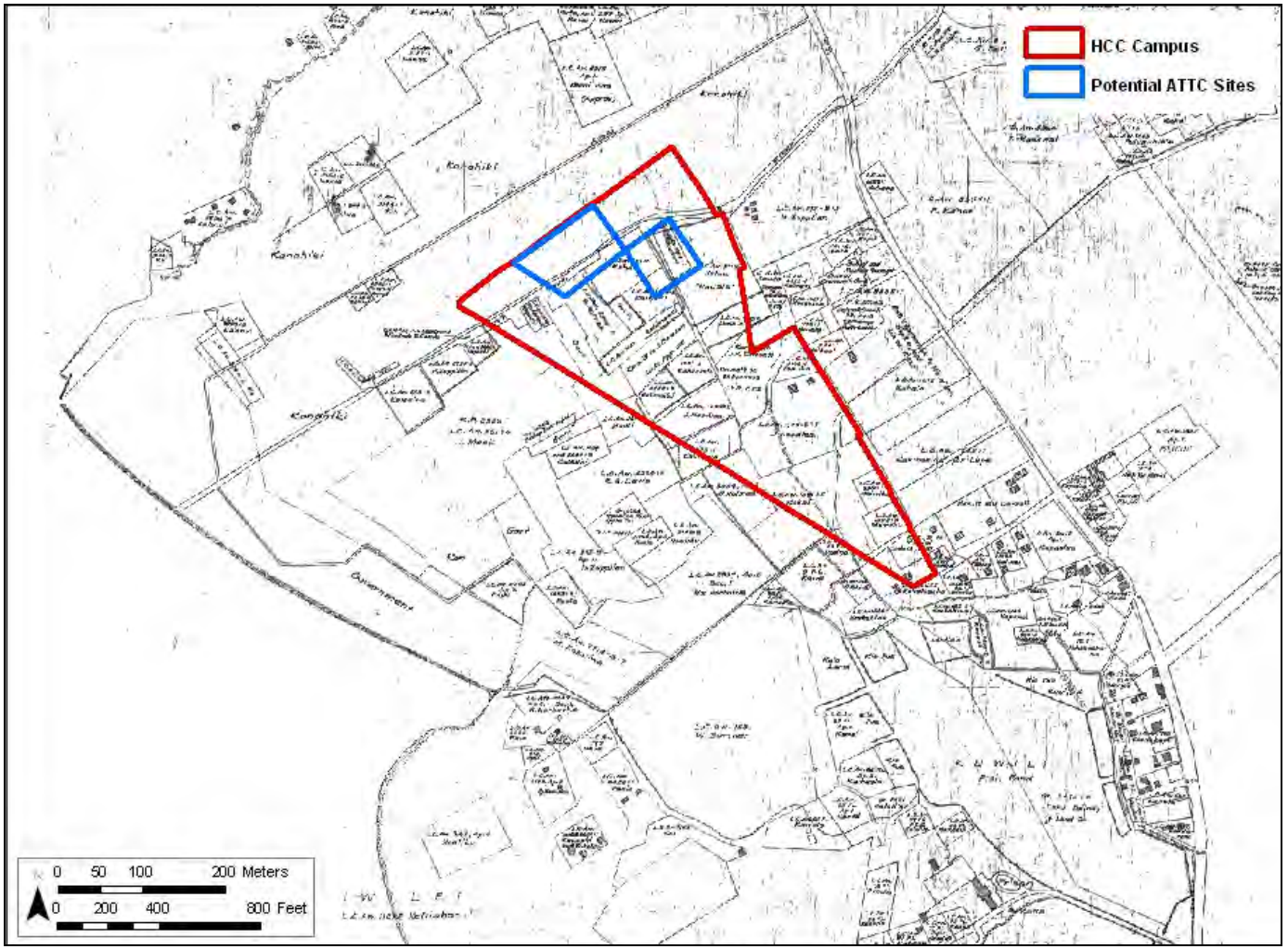


Figure 11. 1885 map (portion) by J. F. Brown of the *makai* sections of Kapālama and Iwilei, showing the distribution of Land Commission Award (LCA) parcels; approximate location of the HCC campus shown (Reg. Map 1039, Hawai‘i Land Survey Division)

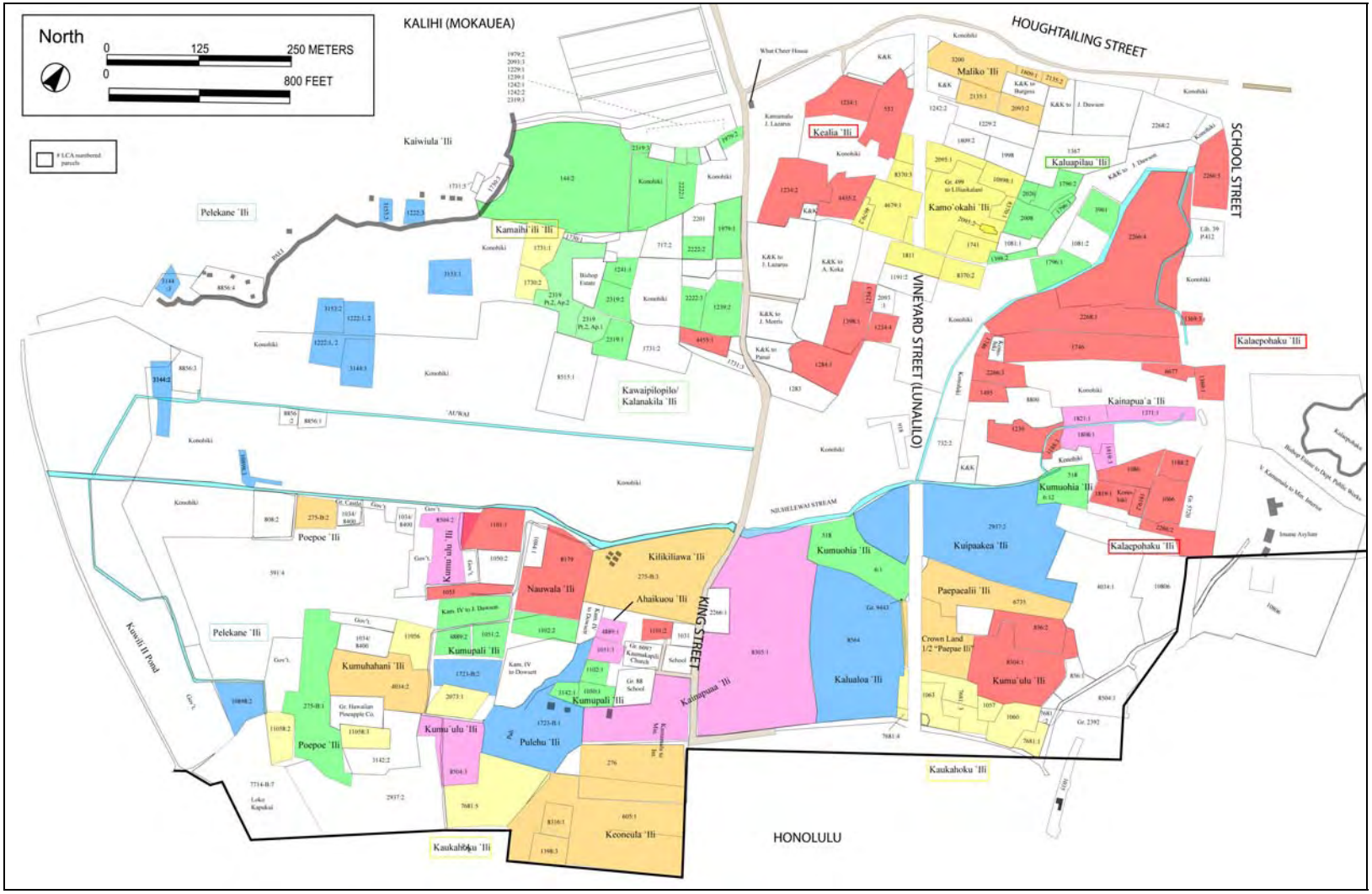


Figure 12. Outline of Kapālama portion of 1885 Brown map (Reg. Map. 1039, Hawai‘i Land Survey Division), showing LCA parcels; ‘*ili* locations from Māhele testimony

Table 1. Land Commission Awards (LCA) in Kapālama (does not include all Iwilei awards).

| LCAw | Claimant | *‘Ili* |
|---|---|---|
| 23 FL | Moeino | |
| 6 | Pelly, George | Kumuohia |
| 144 | Napalaoanui, wahine, Kapalaoanui | Hotel St. |
| 275-B | Zupplien, Henraij (Henry) | Kilikiliawa, Poepoe |
| 276 | Kaholo | Kainapuaa, Keoneula |
| 518 | Wilson, William Blossom | Kumuohia |
| 553 | Kuula | K[e]alia |
| 591 | Meek, John | Kuwili |
| 605 | Kalunaaina | Keoneula |
| 717 | Moanauli | Kaliu |
| 655 | Jon Kahaleaahu | |
| 732 | Kuinui | Leleo |
| 808 | Kalaeloa | |
| 856 | Ohule | Koaiki |
| 918 | Upai, wahine | Iwilei, Kumuulu |
| 1031 | Kapai | |
| 1034 | Kuhelelei | Kapalama |
| 1035 | Maa | Kapalama |
| 1050 | Kaikaai, wahine | Kainapuaa, Kumupali*, Mokauea |
| 1051 | Kanakaole | Kamapuaa, Kumupali |
| 1053 | Kahenawai | Nauwala |
| 1056 | Kama | Kumuulu |
| 1057 | Keaonui | Kaukahoku |
| 1060 | Umikahi | Kaukahoku |
| 1063 | Pulupuluole | Kaukahoku |
| 1066 | Hauna | Kalaepohaku |
| 1081 | Waiwaiole | |
| 1084 | Nuuanu | Kealia, Maliko*? |
| 1086 | Kaui | Kalaepohaku |
| 1101 | Kaha | Nauala |
| 1102 | Kawelo | Kainapuaa, Kumupali, Kaikuou* |
| 1188 | Kealiipueaina | Kalaepohaku, Nuhelewai |
| 1191 | Kuloa | Kaluaipilau, Kawaipilopilo |
| 1222 | Alua | Pelekane |
| 1229 | Keliinui | |
| 1230 | Kapeau, wahine | Kalaepohaku |
| 1234 | Palau | Kealia |
| 1239 | Pine | Kalanakila |
| 1241 | Kuaikahala | Kawaipilopilo, Kalanakila* |
| 1242 | Pi | Kahui |
| 1283 | Kahanaumua | |

| LCAw | Claimant | *‘Ili* |
|---|---|---|
| 1284 | Kawelo | Kealia |
| 1367 | Kaniniu, wahine | Kauamoa, Kaumakapili* |
| 1369 | Kaukini | Kalaepohaku |
| 1371 | Pahua | Kalaepohaku, Kainapuaa |
| 1398 | Mumuku | Keoneula, Kaluapilau, Kealia, Kalia* |
| 1495 | Kaililahilahi | Kalaepohaku, Kapakahi, Kumupali |
| 1723-B | Neddles, John | Pulehu |
| 1730 | Kilauea | Kamaihi, Kamahiili*, Kanana, Kawaa |
| 1731 | Kaaua | Kawaawa, Kamaihi, Kanahiili* |
| 1741 | Keawe | Kamookahi |
| 1746 | Nakaikuaana | Kalaepohaku |
| 1796 | Hikiau | Kaluapilau |
| 1808 | Peahi | Kalaepohaku, Kainapuaa* |
| 1809 | Palau | Maliko |
| 1811 | Kalauomano, Z. | Kamookea*, Kamookahi |
| 1819 | Keawemoku | Kalaepohaku, Kainapuaa* |
| 1821 | Keliikuli | Kalaepohaku, Kainapuaa |
| 1979 | Hihi | Kalanakila, Kawaipilopilo |
| 1998 | Napaupau | Kahui |
| 2008 | Malailua | Kaluapilau |
| 2020 | Pa | Kaluapilau, Nakookoo, Puliwa |
| 2073 | Kauhiwa | Kaukahoku, Keoneula |
| 2093 | Keliipaahana | Maliko |
| 2095 | Kaioe | Kamookahi |
| 2107 | Kahina | Kahawali |
| 2135 | Kio | Maliko |
| 2201 | Nakahuna | |
| 2222 | Kapalu | Kalanakila, Kawaipilopilo |
| 2266 | Kuhiena | Kalaepohaku, Kainapuaa |
| 2268 | Kapahu | Kalaepohaku |
| 2319 | Nawai | Kahooui, Kaaimano, Kawaipilopilo |
| 2937 | Harbottle, William | Kuipaakea |
| 3142 | Hooliku | Iwilei, Kalokoloa, Kumupali, Haikuoa |
| 3144 | Ku | |
| 3153 | Nakoa | Kahope |
| 3200 | John, Maliko | Maliko |
| 3961 | Nohunohu, wahine | Kaluapilau |
| 4034 | Davis, Robert G. | Kumuhahani |
| 4455 | Kaaloa | Kealia |
| 4679 | Paewahine | Kamookahi |
| 4889 | Kalimaiki | Ahaikuou, Niuhelewai, Kainapuaa |
| 6677 | Moo | Kalaepohaku |

| LCAw | Claimant | *‘Ili* |
|---|---|---|
| 6735 | Naopala | Paepaealii |
| 7681 | Kekai | Kaukahoku |
| 7713 | Kamāmalu, Victoria | |
| 7714-B | Kekūaāwa, Moses | Iwilei |
| 8179 | Halulu | Nauwala, Kainapuaa |
| 8305 | Kanoa, Paulo | Kainapuaa |
| 8316 | Kauwiki, wahine | Keoneula, Kuaiula |
| 8370 | Kahinu, wahine | Kamookahi |
| 8371 | Kaauwaepaa, I.L.W. | Kamookahi |
| 8400 | See Award 1034 | |
| 8504 | Holmes, George | Kumuulu |
| 8515 | Keohi ana | |
| 8564 | Kaauwai, Z. | Kalualoa |
| 8800 | Kuluiki, wahine | Paena |
| 8856 | Kalanui | |
| 10806 | Kauikeaouli, Kamehameha III | Kuwili |
| 10898 | Piipii | Kamookahi, Pelekane |
| 11056 | Mauli | Kaukahoku |

*information from waihona ‘āina at waihona.com

### 3.2.2 Māhele Awards in the Current Project Area

Eighteen LCA parcels (Table 2), including the Māhele award of Kapālama Ahupua‘a, LCA 7714-B to Moses Kekūāiwa, overlap with some portion of the HCC campus, as shown on a close-up of the traced 1885 map (Figure 13) and on an overlay aerial map of the project area (Figure 14). Three *kuleana* LCA parcels (LCA 1051, 1101, and 8504) overlap with the two proposed locations for the Advanced Technology Training Center. These claims had houselots, taro patches, and fishponds. The texts of all 18 LCA parcels are presented in full in Appendix A and summarized in Table 2.

### 3.2.3 Land Use in Kapālama in the Mid-Eighteenth Century

Many of the Kapālama Ahupua‘a claimants mention fishponds. The 1855 La Passe map (see Figure 9) and the 1885 Brown map (see Figure 11) show Kawa and Kūwili I Ponds. The two fishponds are shown in the Iwilei area, east of the traditional boundary of Kapālama. The 1851 Bishop map shows two ponds, Kūwili and Loko Kealia. The Kūwili fishpond pictured on this map is southwest of the Kūwili Pond on the earlier maps; on some historic maps this pond is labeled as “Kuwili II,” thus there are actually two ponds named Kūwili. Kealia Pond is within Iwilei, east of Kūwili II. An 1886 Bishop Estate map shows a pond called Kapukui between Kūwili II and Kealia. The boundary of this pond is the same as LCA 7714:-B7 to Moses Kekūāiwa, who seems to have not only been awarded the entire *ahupua‘a* of Kapālama, but also all of the fishponds and the rights to the off-shore Kapālama Fishery. In later maps, one or more ponds are also shown adjacent and west of Kūwili II Pond. These are probably later duck ponds made within swampy land; none of these ponds are labeled.

Table 2. Land Commission Awards within Honolulu Community College Campus Study Area

| LCAw | TMK | Claimant | Description |
|---|---|---|---|
| 23 FL | | Moeino | There are 5 taro *lo‘i*, 1 house lot, and at Kunawai, 1 *lo`i* at the land of Kuwili |
| 655 | | John Kahaleaahu | One ‘*āpana;* House lot, partially fenced, 1.34 Acs |
| 1034/ 8400 | 1-5-020 | Kapauhi | One ‘*āpana*; houselot with four houses |
| 1050 | | Kaikaai, | Two ‘*āpana* claim for four patches and also an irrigation ditch |
| ***1051** | **1-5-004** | **Kanakaole** | Two ‘*āpana*; houselot, one taro patch, and one taro patch and fishpond at Haikuou and Kainapuaa ‘Ili; *kula* |
| 1053 | | Kanahenawai | One ‘*āpana*; three patches and also an irrigation ditch 0.42 Ac |
| 1084 | | Nuuanu for Kanaina | One ‘*āpana*; seven patches and some *kula* and a house lot 0.38 Ac |
| **1101** | | **Kaha** | Two ‘*āpana*.; three small patches and one house lot 1.44 Acs |
| 1398 | | Mumuku | Three ‘*āpana*; three *lo‘i,* and two ditches |
| 1723 | 1-5-004 | Neddles, John | Two ‘*āpana*; 1 wood-frame house, 2 brick tombs, a ditch, and 3 taro patches in Pulehu ‘Ili. |
| 2073 | | Kauhiwa | One ‘*āpana* at Kapalama.7 Ac.; One ‘*āpana* at Keoneula Honolulu.35 Ac.incl. five taro *lo‘i* and also a half of a *lo‘i,* in the *‘ili* of Kaukahoku in the Ahupua‘a of Kapalama and also a house lot |
| 2107 | | Kahina | Three taro *lo‘i* and a section of irrigation ditch in the *‘ili* of Kahawali. Also -five taro *lo‘i* are in the *‘ili* of Hauhaukoi and a house lot |
| 4889 | 1-5-004 | Kalimiki | Four ‘*āpana*; housesite, two *lo‘i,* and fishpond at Ahaikuou ‘Ili |
| 7681 | | Kekai | Five ‘*āpana*; 4 Acs no land use specified |
| 7714-B | | Moses Kekūāiwa | Kapālama Ahupua‘a |
| 8400 | | Kuhelelei (Kauhelelei) | some taro *lo‘i* (Not awarded) |
| **8504** | | **George Holmes** | Three ‘*āpana*; 6.59 Acs: Part 1, *Mauka* piece - 10 or more *kalo* patches & a house lot having 1 house; Part 2 is 8 *kalo* patches; Part 3, *makai* lot - 1 *kalo* patch and a pond**.** |
| 11056 | | Mauli | One ‘*āpana;* some taro *lo`i*; 0.67 Ac. |

*Three awards in **Bold** overlap the two proposed locations for the Advanced Technology Training Center.

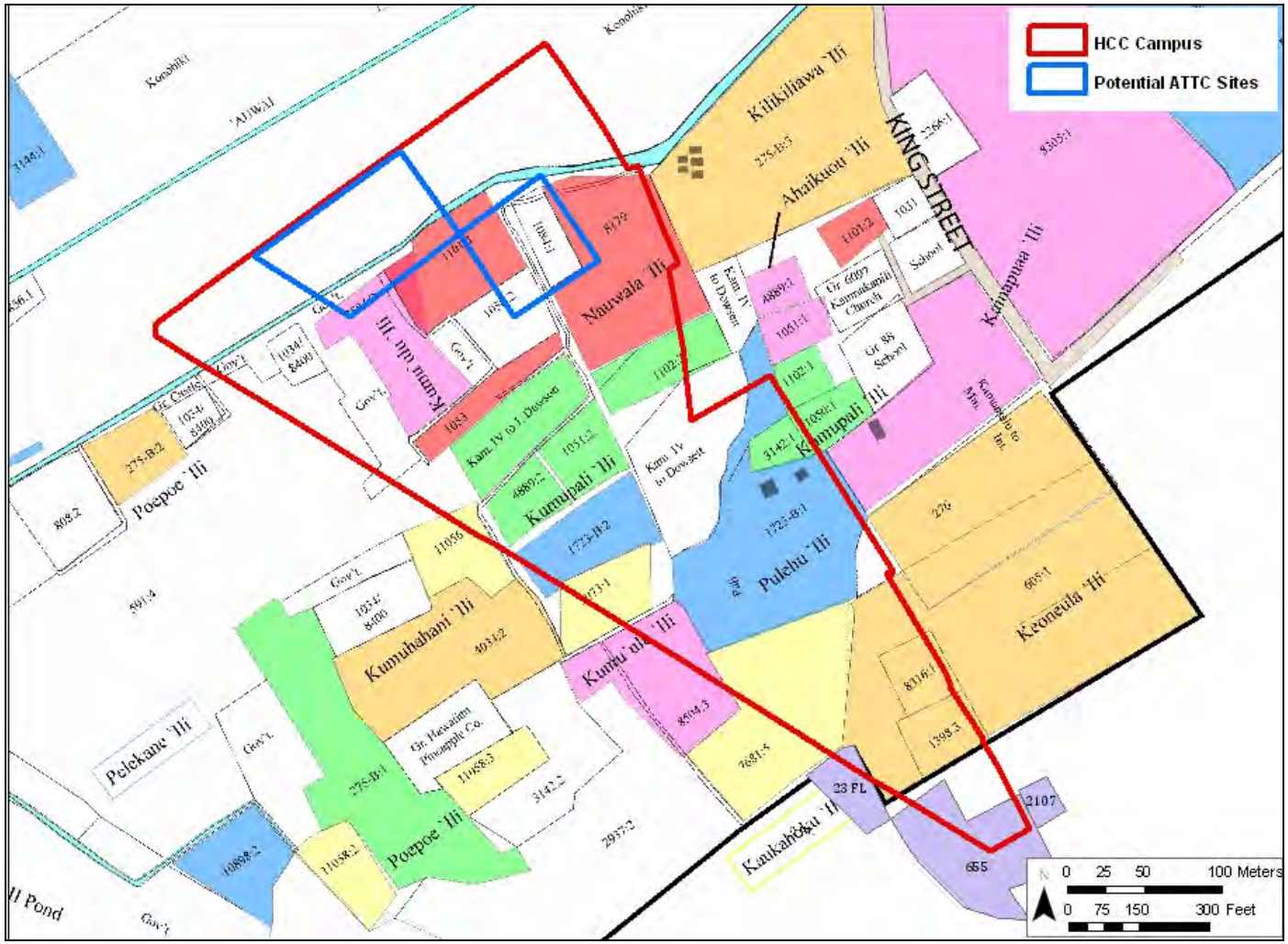


Figure 13. Outline of portion of 1885 Brown map (Reg. Map. 1039, Hawai‘i Land Survey Division), showing LCA parcels; *‘ili* locations from Māhele testimony, approximate location of the HCC campus shown

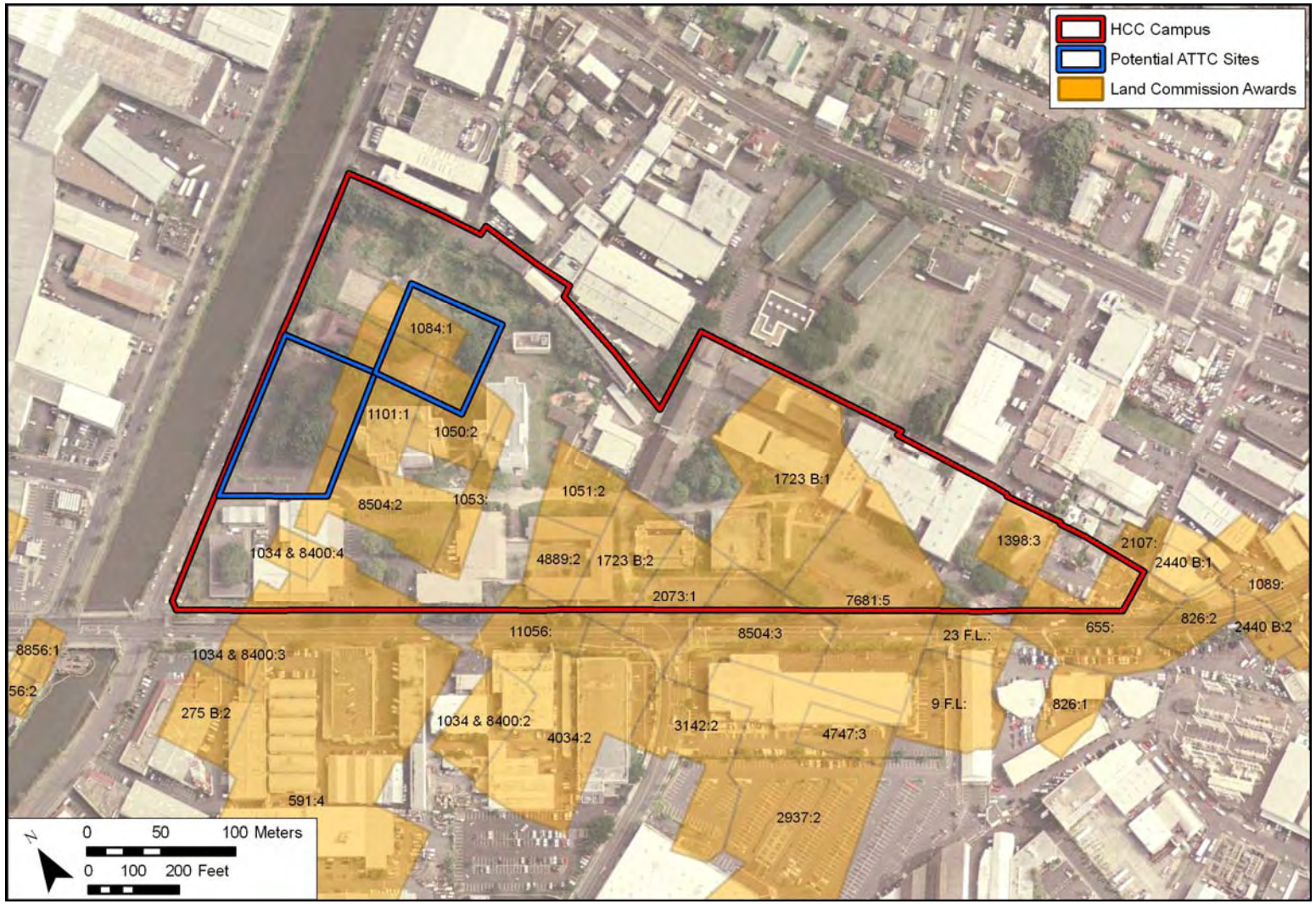


Figure 14. 2005 Aerial photograph (U.S. Geological Survey Orthoimage), with overlay of Land Commission Award parcels

The claimants were generally awarded one to six separate *‘āpana* (lots), sometimes contiguous or in the same *‘ili*, but also sometimes scattered through several *‘ili*. The testimony for the awards identifies the number of taro *lo‘i* (irrigated taro patches), *‘auwai* (irrigation ditches), fishponds, and fenced or unfenced houselots on each claim. Houselots are usually clustered with other claimants’ houses. One such cluster is on the top of a *pali* (cliff) at the southwestern corner of the Brown map (LCA 1222, 3153, 1730, 1731), and a second cluster surrounds the future site of Kaumakapili Church near the eastern border of the *ahupua‘a* (LCA 1051, 1101, and 4889), also at the top of a *pali*. Others have a main house in Honolulu, with retainers (family and servants) living at the Kapālama lots. The LCA testimony indicates that there was intensive irrigation cultivation of taro in the area, maintenance of fishponds, habitation, and some indication of the use of the *kula* (pasture or waste land), although most of the *kula* lands seem to have been awarded to the *ali‘i* (and managed by the *konohiki*). Some of the coastal ponds were probably used for salt collection (i.e. *keālia* is the Hawaiian word for salt bed and is also the name of one of the ponds in Iwilei). In one LCA, there is also the mention of the *konohiki* using some of his land to grow potatoes, but whether this is traditional sweet potatoes, or the introduced white potatoes grown to sell to visiting foreign ships, is not clear. The land directly adjacent to the Niuhelewai Stream and a parallel *‘auwai* also seems to have been managed by the *konohiki*; it is shown as “Rice Lands” on the 1885 Brown map, and was probably leased to Chinese entrepreneurs.

Table 3 is a list of all the *‘ili* names mentioned in the Māhele testimony. The definitive book on place names, *Place Names of Hawai‘i* (Pukui et al. 1974), does not usually give Hawaiian meanings or associations for *‘ili* names. This book is a compilation of place name meanings based on translations, but also backed up by documents and oral history. Thomas Thrum published a list of place name meanings, including *‘ili* names in the 1922 edition of Lorrin Andrews, *A Dictionary of the Hawaiian Language.* The meanings were based only on literal translations of the names and most of these translations are not confirmed by any other evidence. Of this place name collection, Mary Pukui (Pukui et al. 1974:236) cautioned that some of Thrum’s interpretations were “unreliable.”

One interesting *‘ili* name is “Pelekane,” meaning “British” or “Britannia,” which is located along the entire *makai* boundary of the *ahupua‘a.* Pukui et al. (1974:183) say that Pelekane was the nickname of Captain James Isaac Dowsett, who was a playmate of Kamehameha III, Kamehameha IV, and Lunalilo. He was the son of Samuel Dowsett, an English sea captain who came to the islands in 1822, when he helped deliver the vessel *King Regent* to Kamehameha I, which had been promised to the king by George Vancouver. As an adult, James Dowsett ran a fleet of whaling vessels based in Hawai‘i and also became involved in the lumber, steamer, and ranch businesses, eventually owning the large ‘Ulupalakua Ranch on Maui (Day 1984:37). Although Dowsett was not listed as a claimant in the LCA testimony, the Brown map shows that at least one parcel of land in the *‘ili* of Kumupali was transferred from Kamehameha IV to Dowsett. However, the Pelekane *‘ili* name may instead have been used to note that there were several other early residents of English/Scottish descent in Kapālama. These include William Harbottle, awarded LCA 2937 in Kapālama. William was the son of John Harbottle, a Scottish sea captain who came to Hawai‘i in 1794, married the Hawaiian chiefess Papapaupu, fathered 15 children, and worked as the Honolulu harbor pilot. Two of his daughters married Captain Alexander Adams, another Honolulu harbor pilot, who had extensive lands in Kalihi (McKinzie

Table 3. *‘Ili* of Kapālama: with place name meanings and sources when available

| **‘Ili of Kapālama** | **Meaning** | **Source** |
|---|---|---|
| Ahaikuou (Haikuoa) | - | - |
| Kaaimano | - | - |
| Kaanana | - | - |
| Kaawaawa | - | - |
| Kahui | - | - |
| Kainapuaa | - | - |
| Kalaepohaku | The stone promontory | Pukui et al. 1974:72-73 |
| Kalanakila | the victorious | Thrum 1922:640 |
| Kalualoa | - | - |
| Kaluapilau | the bad smelling pit | Thrum 1922:641 |
| Kamaihiili; Kamaihi | the small peeler/stripper | Thrum 1922:642 |
| Kapuuiki; Puuki | - | - |
| Kauamoa | - | - |
| Kaukahoku | The stars have arisen | Thrum 1922:640 |
| Kawaipilopilo | The impure water | Thrum 1922:648 |
| Kealia; Kalia | salt pan | Thrum 1922:649 |
| Keoneula | red sand | Thrum 1922:650; Pukui et al. 1974:108 |
| Kilikiliawa | fine, misty rain | Thrum 1922:651 |
| Koaiki | - | - |
| Koheoopa | - | - |
| Kuipaakea | pounding, coral stone | Thrum 1922:653 |
| Kolokoloa | - | - |
| Kumuhahani | cause of pursuit | Thrum 1922:655 |
| Kumuohia | mountain-apple tree | Thrum 1922:654 |
| Kumupali | cliff base | Thrum 1922:654 |
| Kumuulu | breadfruit tree | Thrum 1922:654 |
| Kuwili | stand swirling | Pukui et al. 1974:125 |
| Maliko | budding season | Thrum 1922:658 |
| Manua | - | - |
| Maulukikepa | - | - |
| Mookahi; Kamookahi | the first land division | Thrum 1922:643 |
| Nauwala; Nauala | nagging | Thrum 1922:661 |
| Olani | | |
| Paepaealii; Kapaepaealii | the royal support | Thrum 1922:664 |
| Paukuhekohi | - | - |
| Pelekane | Britannia/British | Thrum 1922:665 |
| Poepoe; Kapoepoe | circular | Thrum 1922:666 |
| Pulehu; Kapulehu | to roast on coals | Thrum 1922:668 |
| Ulu | - | - |

1986:61-62). George Pelly, awarded LCA 6 in Kapālama, was a cousin to the British governor of Canada and an early agent for the Hudson Bay Company, based in Hawai‘i at Honolulu Harbor.

Other part-*haole* (foreign ancestry) and part Hawaiian families were given land in Kapālama, including Robert G. Davis (LCA 4034), the son of William Heath Davis, a sea captain, and his wife, Hannah Holmes. Oliver Holmes (American), father of Hannah and George (LCA 8504), was one of the first foreign residents of Hawai‘i, provisioning ships at Honolulu Harbor. He married the Maui chiefess, Kalanihooulumokuikekai (Day 1984:53). John Meek (LCA 591), an American married to the Hawaiian chiefess Kepookalani, was yet another of the sea captains who settled in Hawai‘i and were awarded land in the Māhele for past services to the monarchy. Less is known about John Neddles (LCA 1723): he may be John Anthony Neddles Gilman, referred to on a genealogy web site (http://www.allthingscherokee.com/queries_ board56.html), as a native American who arrived in Hawai‘i in 1817 and married a Hawaiian woman named Harriet Kawahaea. Another *haole* claimant was Harry Zupplien (LCA 275-B), a Dutch resident who owned a hotel and bar in Honolulu. He had bought his land from Kamehameha I in 1813, and had the ownership of his parcels in Kapālama confirmed in the Māhele.

## 3.3 Late Nineteenth Century and Twentieth Century

### 3.3.1 1881 Hawaiian Government Survey map of O‘ahu

An 1881 map of O‘ahu (Figure 15) by the Hawaiian Government Survey shows the entire Kapālama Ahupua‘a. Only one road is mapped, the main road parallel to the coast that will become King Street. The only prominent structures noted are the O‘ahu Prison (Figure 16) built in Iwilei and the Insane Asylum (Figure 17) on the eastern boundary of Kapālama. No structures are shown in the current project area.

The O‘ahu Prison

The O‘ahu Prison was completed in 1857. It was built on a small island off the Iwilei mainland. Because the prison was built from cut coral blocks, it became known as “The Reef.” The central building was a dwelling for the overseer and guards and was flanked by two, two-story wings housing 32 cells in each wing. Also constructed was a new road–running between Kūwili I and Kawa fishponds–connecting the prison to North King Street. The new road, a causeway between the two fishponds, is first identified on other contemporary maps as simply, “Prison Road.” However, by the end of the nineteenth century, maps identified it as Iwilei Street. Mark Twain (1966:71-72) visited the prison in 1866 and wrote:

> . . . we presently arrived at a massive coral edifice which I took for a fortress at first, but found out directly that it was the government prison. A soldier at the great gate admitted us without further authority than my countenance, and I supposed he thought he was paying me a handsome compliment when he did so; and so did I until I reflected that the place was a penitentiary.

O‘ahu Insane Asylum

The O‘ahu Insane Asylum was established by the Hawai‘i Legislature in 1862, proposing “. . . a building is to be erected for the reception of insane persons. This facility will furnish restraint till the person becomes of sane mind or is discharged.” The hospital was completed in 1866, and

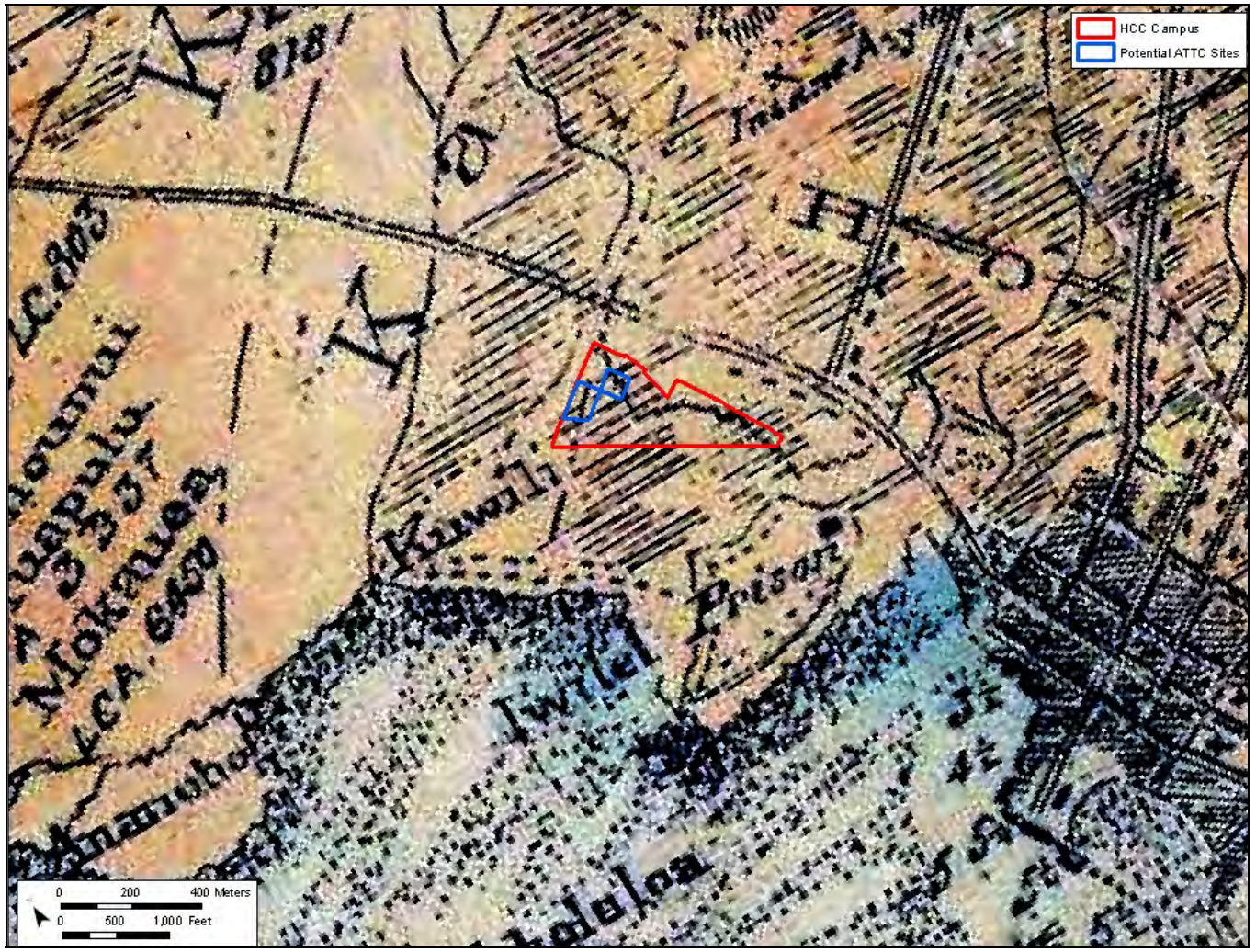


Figure 15. 1881 Hawaiian Government Survey map of O‘ahu by R. Covington (Reg. Map. No. 1381, Hawai‘i Land Survey Division); Kapālama Ahupua‘a in central section; also note location of O‘ahu Prison and the Insane Asylum

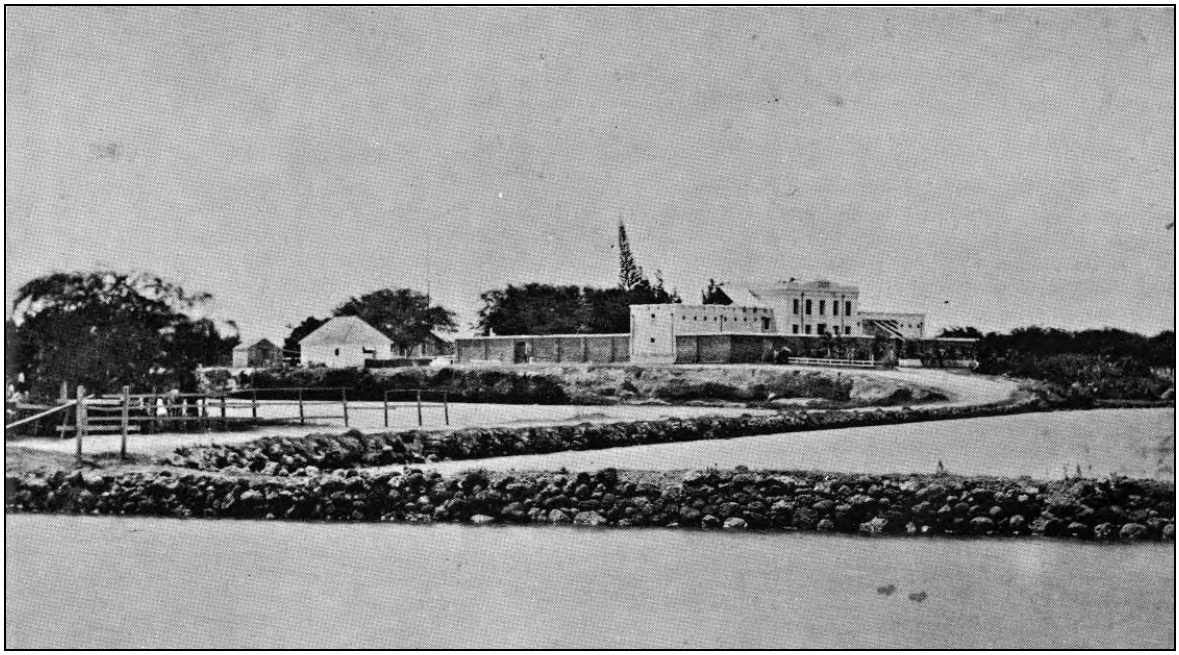

Figure 16. 1866 (ca.) photograph of O‘ahu Prison (Bishop Museum photograph; reprinted in Scott 1968:855)

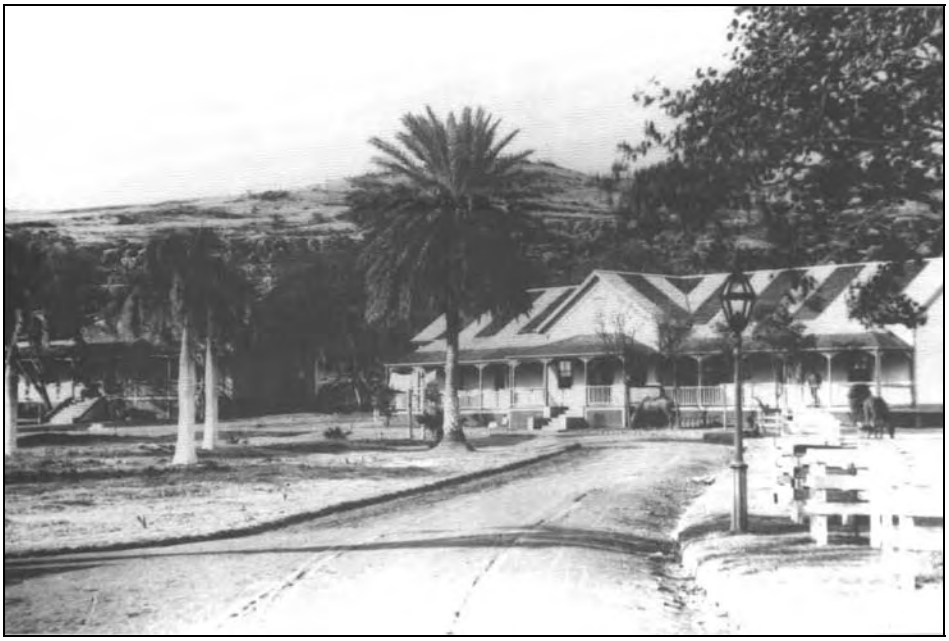

Figure 17. Undated photograph of the O‘ahu Insane Asylum (1866-1930) in Kapālama (photograph reprinted in Smith 2002:2)

the first six patients were transferred to the hospital from the jails at which the mentally ill had previously been kept. By 1867, there were 62 patients. A 1907 report of the Hawai‘i Board of Health (1907:19) stated:

> A visit to the Insane Asylum will show many improvements. Nothing is more conducive to the bodily health and mental condition of the physically able insane than employment to a moderate degree. During the past twelve months the inmates have quarried stone, made curbing and macadam, filled in ground where necessary and generally improved the Asylum grounds. . . . The percentage of recoveries is as great as on the mainland, which, considering the character and numerous nationalities, is remarkable.

In 1930, all 549 patients in the then-named Territorial Hospital were transferred to the new Territorial Hospital in Kāne‘ohe, O‘ahu (Cody 1974:208; Schmitt 1956:340).

### 3.3.2 1887 map of Honolulu

On an 1887 map of the Honolulu District (Figure 18), there are now several *mauka-makai* roads branching off King Street, however the current project area remains undeveloped. This map shows the relationship of Kūwili I Pond in Iwilei (eastern pond) and Kūwili II Pond (western pond) in Kapālama; both are still open. The site of the future Kalihi Reservoir is labeled as “Spring.” Besides the O‘ahu Prison and the Insane Asylum, this map also shows the first Kamehameha Schools campus and the new Boys’ Reform School. The home of Princess Ruth Ke‘elikōlani is shown east of Kapālama within Nu‘uanu Ahupua‘a. The building became a home for Charles and Bernice Pauahi Bishop, then later became the Honolulu High School (which later moved to Honolulu and became McKinley High School), and then the Central Grammar School. The building was torn down in 1926.

The Development of Kamehameha Schools and Bishop Museum

Large tracts of land in the Hawaiian Islands were inherited by Bernice Pauahi Bishop, great-granddaughter of Kamehameha I, from her first cousin Ruth Ke‘elikōlani, half-sister of Alexander Liholiho (Kamehameha IV) and Lot Kapuāiwa (Kamehameha V). In her will, Bishop directed that her lands, estimated at one-ninth of the lands of the Kingdom, be used to set up a trust to found and provide upkeep for the Kamehameha Schools for native Hawaiian Children (Rose 1980:7).

A site in Kapālama called Kaiwi‘ula, meaning “the red bone,” was chosen for the first Kamehameha School for Boys, which opened in 1887. Two stone buildings were first constructed for the school: Bishop Hall, the main administration building for the school, was completed in 1891 and the Bishop Memorial Chapel was completed in 1897 (Figure 19). A Main Hall for a Kamehameha School for Girls was completed in 1894.

Mr. Charles Bishop was interested in preserving the many artifacts in the possession of his late wife and those of the late Queen Emma. The trustees of Bishop Estate chose a site near the Kamehameha School of Boys Bishop Hall to build their newa museum which opened to the public in 1891. The official name of the institution was the Bernice Pauahi Bishop Museum, but it was also called *Hale Hō‘ike‘ike o Kamehameha,* or Museum of Kamehameha, the name Queen Emma preferred (Rose 1980:21).

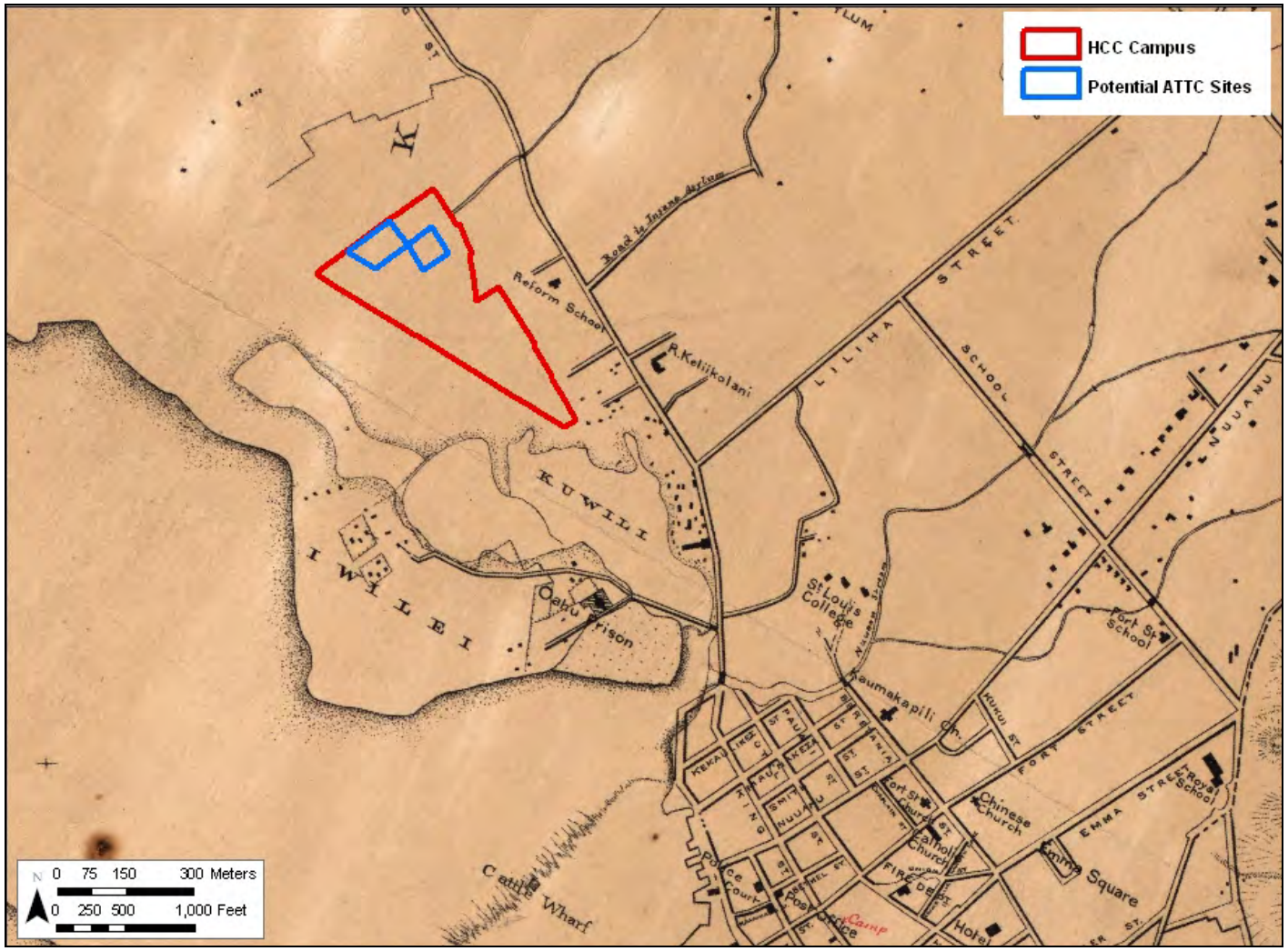


Figure 18. 1887 map of Honolulu by W. A. Wall (map filed at the U. S. Library of Congress), showing parcels in an area without graded streets; Kūwili Pond I and II have not been filled

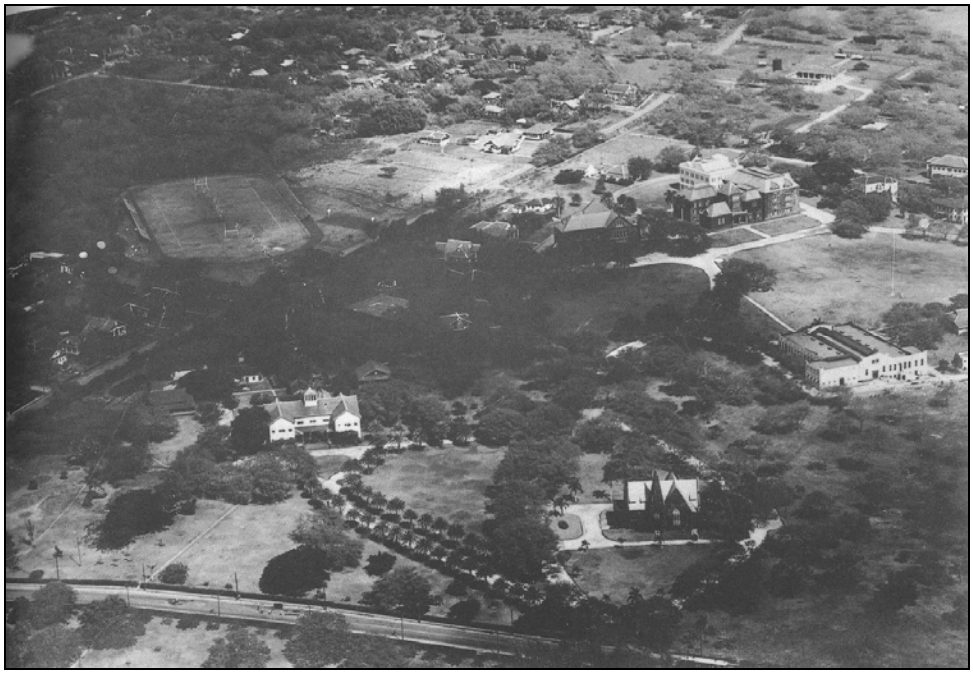

Figure 19. Aerial photograph, circa 1911, showing the Kamehameha School for Boys (photograph reprinted in Mitchell 1993:61)

Figure 20. Aerial photograph, 1938, showing grading of Kapālama Heights, and first buildings for the Kamehameha School for Girls (picture from Mitchell 1993:63)

Kamehameha Schools decided to relocate their campus to Kapālama Heights in 1931 due to the deterioration of many of the wood-frame buildings. The Girls School was moved first on the upper slopes of the new land (Figure 20). The original Main Hall for the Girls School was torn down in the 1930s, and the land was razed to build the low-rent housing project called Kamehameha Homes, completed in 1939. By the mid-1900s, 221 families lived in this housing project. The Boys School was moved to Kapālama Heights in 1938 (Mitchell 1993: 29-67). In 1938, the grounds, the chapel and the preparatory buildings were sold to the territorial government in order to build the Wallace R. Farrington High School (Mitchell 1993:1-42).

In 1938, the Kamehameha Schools moved the remaining portion of their campus to Kapālama Heights and the former school grounds were transferred to the Bishop Museum Trust. Bishop Hall was formally transferred to the Bishop Museum in 1980 (Rose 1980:18-62).

### 3.3.3 1897 map of Honolulu

An 1897 map of Honolulu by M. D. Monsarrat (Figure 21) indicates that the Kalihi-Pālama area was considered the western edge of the greater Honolulu urban area. School Street extended only to Houghtailing Street. There were still large tracts of agricultural land, including rice plantations between King and School streets, adjacent to an ‘*auwai*, near the farmstead and a pineapple plantation. Pineapples were grown as early as 1892 in Kalihi. A man named Antone Rose imported 1000 plants to grow on his land, and expressed a desire for a cannery nearby to process his plants (Brueggencate 2004:31). In the current project area, Niuhelewai Stream extends through the western boundary, and the “Chinese Hospital” has been built in the eastern section.

King Street is the main east-west thoroughfare, paralleled *makai* by the tracks of the Oahu Railway and Land Company. Kūwili I and II Pond are not pictured; they have been filled and the former inland pond areas have been replaced by the rice fields. In 1890, six acres of Kūwili I Pond were filled in to build the railway terminal of the Oahu Railway & Land Company’s new depot, which is labeled on the map just above Kawa Pond. At the intersection of the roads that would become Houghtailing and King streets is a box labeled “Tramway Co. stables,” indicating that there were other forms of transportation. The houses of two prominent families are labeled, the Houghtailing farmstead at the junction of Houghtailing and School streets and the Dowsett home, shown in a nineteenth century photograph (Figure 22) around Alaneo Street. Kamehameha Boys School campus had expanded with several outbuildings, and the Kamehameha’s Girls School south of King Street had been completed. Two other labeled structures are the “Chinese Hospital” and the “Reform School.”

Chinese Hospital - Pālama General Hospital

After an 1895 cholera epidemic, the leaders of the Christian Chinese community decided to open their own hospital. The legislature granted land in Pālama, and in 1897 the Chinese Hospital, also called Wai Wah Yee Yeun opened (Mohr 2005:33). Later this hospital, which serviced all Kapālama residents, was called the Pālama General Hospital. A late 1890s photograph shows the main building of this hospital (Figure 23). By 1918, they had outgrown the parcel and sold the land in Pālama to the Hawai‘i Territorial Government. They moved to a new larger area in Pālolo to establish the Pālolo Chinese Home.

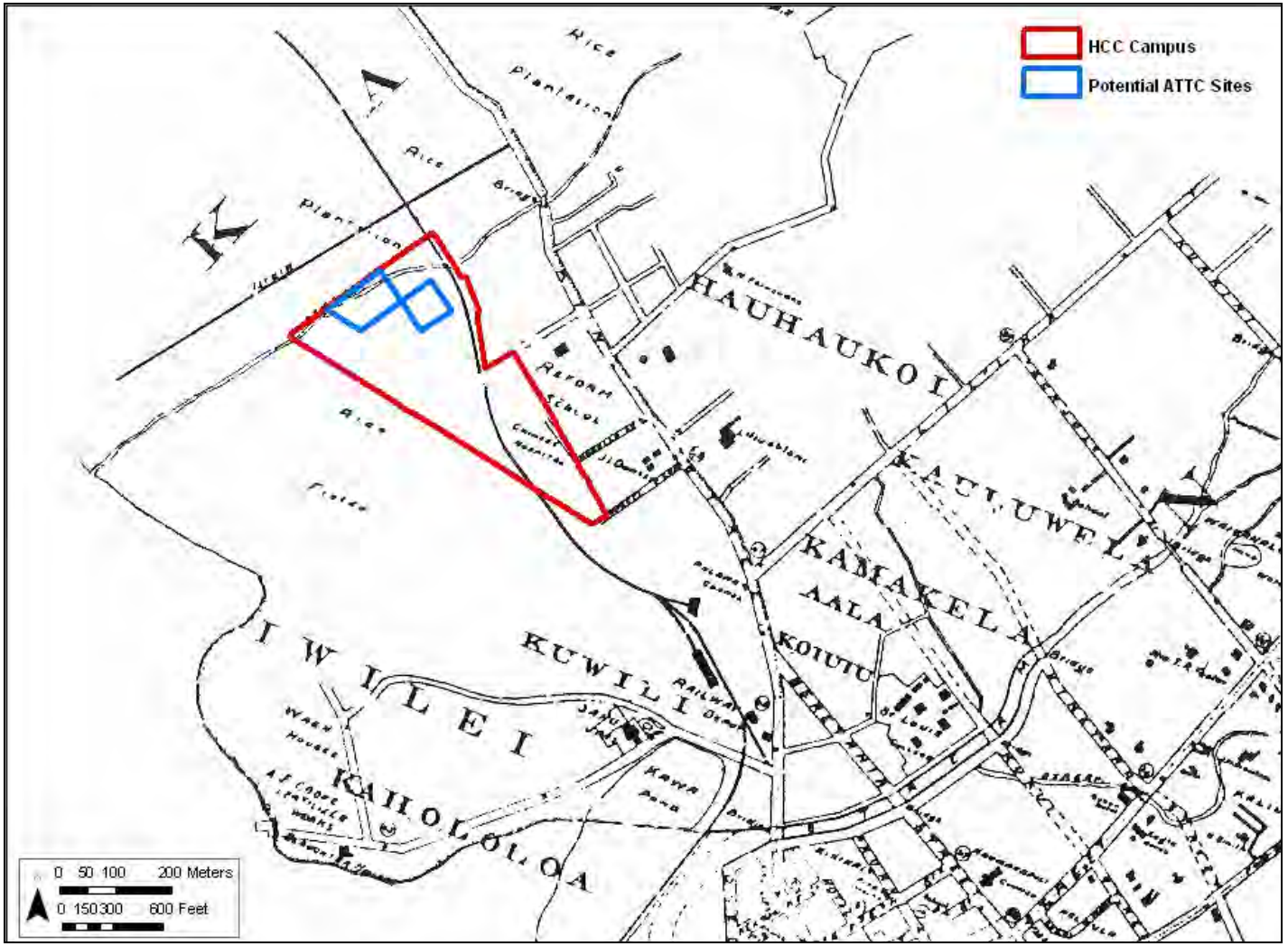


Figure 21. 1897 map of Honolulu by M. D. Monsarrat (Hawai‘i Land Survey Division, Reg. Map 1910), showing development of Kapālama; note the “Chinese Hospital” in the eastern portion of the project area

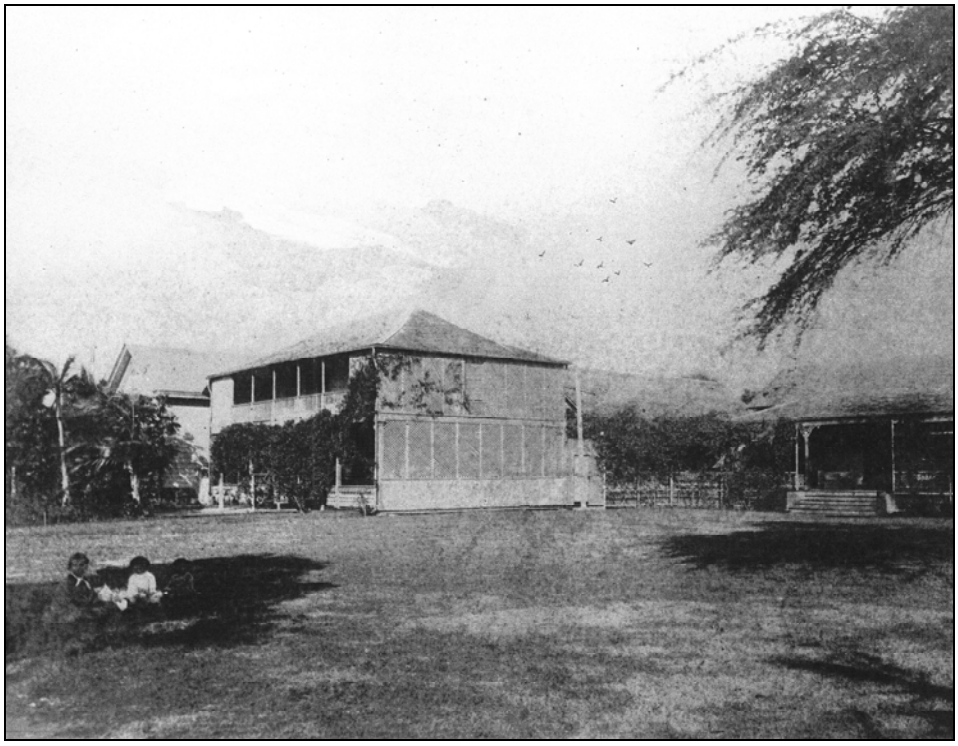

Figure 22. Undated photograph of Dowsett home in Kapālama, (Alaneo Street area (Hawai‘i State Archives)

Figure 23. Late 1890s photograph of Pālama Chinese Hospital (Bishop Museum photograph)

Development of the Oahu Railway and Land Company

By the 1890s, the area was being drastically altered by industrialization. A consortium of businessmen, led by Benjamin Dillingham, created the Oahu Railway and Land Company (OR&L) in February of 1889, and constructed the company's Honolulu depot on land between Kūwili I fishpond and North King Street, just *'ewa* (west towards 'Ewa) of the intersection of North King Street and Iwilei Road. An 1890 photograph (Figure 24) shows the new depot, built on pilings on top of a portion of the new filled pond. Rocks from ship ballast are piled at the site for additional filling. A portion of the pond can still be seen to the right of the photograph. The railroad officially opened on November 16, 1889; at that time the line extended only between 'Aiea and Honolulu. John Hungerford describes the railroad's Honolulu facilities:

> The first right-of-way from Honolulu station was only two feet above high tide. It, with the six acres of yards and station site, was mud filled taken from the salt marsh of Kuwili Pond or brought in from Moanalua. Discarded ship's ballast was also used as footing for the emerging ground. (Hungerford 1963: 13)

In 1899, through an agreement between the Hawaiian Government, the OR&L Co. exchanged land elsewhere in the vicinity of Honolulu Harbor for Kawa Pond, which had recently been filled, and a large portion of the adjacent Kūwili I Pond. Between 1899 and 1901, ongoing Honolulu Harbor improvements created 6,000,000 cubic yards of mud, sand, and loose coral through dredging. Additionally, several thousand cubic yards of hard coral were blasted. This material was used to fill the low areas of the former Kawa and Kūwili I Fishponds that were adjacent to the OR&L harbor facilities and terminal. In 1903, subsequent to the reclamation of Kawa Pond (1895-1897), and Kūwili I Pond (1895-1901), OR&L Co. announced that it had moved and greatly expanded its terminal (McGerty et al. 1997:21-23). The new passenger and cargo station was located on the former Kūwili I Fishpond, immediately north of Iwilei Road. The expansion of the OR&L Co.'s transportation and cargo routes, with the associated harbor traffic, was one of the primary factors behind the industrial development of the Iwilei area of Honolulu.

Figure 24. 1890 photograph of the Oahu Railway and Land Company Depot built on the filled in Kūwili I Pond (John Cotton Wright collection; photo reprinted in Scott 1968:858)

Boys and Girls Reform School

A reform school for boys was established by an 1865 act. In 1872 It had 65-70 “inmates” (Lyons 1873:570). The reform school was at first mismanaged and had a bad reputation. A visitor of the islands in 1894 reported:

> The Reform School for boys is not far from the center of the city and is now an admirably conducted institution. Boys are sent there for truancy, larceny, and other minor offences, and soon become bright scholars and happy little fellows. Twenty years ago the school had the reputation of being a place where mischief was systematically carried on. . . .
>
> They [the boys] were called the “Forty Thieves,” for they stole everything they could lay their hands on. Once they went into town and robbed a garden of every valuable shrub and plant which they duly transplanted into their own yard. They burglarized a music store and supplied each of the boys with instruments. If their ankles were chained together, they would break into a blacksmith’s shop and file off the fetters. . . . In the “good old Gibson [first school superintendent] times,” when any burglary or larceny was committed in Honolulu, the crime was laid at the door of the Reform School, and in nine cases out of ten it was a true bill. (Twombly 1900:276-277)

In 1899, the Hawai‘i Department of Public Instruction decided that the Boys Reform School needed to be moved to a more isolated location, and that the school buildings and gardens could be used for a girls’ reform school. The Boys Reform School was moved to Waiale‘e on the windward coast of O‘ahu. The Girl’s Reform School began with 17 girls, most of whom were committed for disobedience to parents (Hawai‘i. Governor of the Territory of Hawaii 1905:30).

> The causes which have prompted the Department of Public Instruction to take this subject under serious consideration have been: the close proximity of the present reform school to the Kauilani school and to the city, the inadequate size of the present reform school buildings to accommodate the increasing number of inmates; the lack of land for agricultural and industrial purposes; and the desirability of renovating the whole system of handling truant and delinquent children. . . .
>
> The present reform school buildings can be made to satisfy the growing needs of a reform school for the girls. For this purpose it will be suitable; girls are not of a nomadic nature, nor is it probable they would engage in agricultural pursuits. The grounds around the building are large enough for their recreation. (Hawai‘i. Minister. of Public Instruction 1900:11)

Ka‘iulani School for Girls

As noted above, one reason to move the Boy’s Reform School was to prevent any bad influence to spread to the nearby Ka‘iulani School for Girls, which was built in 1900 by the Hawaiian government. In 1904, the school operated:

> . . . as a home for girls employed in stores and offices, and also girls from the other islands attending school in Honolulu, it being a place where they can have a good home with adequate protection at reasonable rates. The home can accommodate about fifty girls. (Schnack 1915:108)

The girls were taught regular lessons, but also had lessons in “domestic science” such as sewing, mat making, and gardening, as seen in a ca. 1900 photograph (Figure 25).

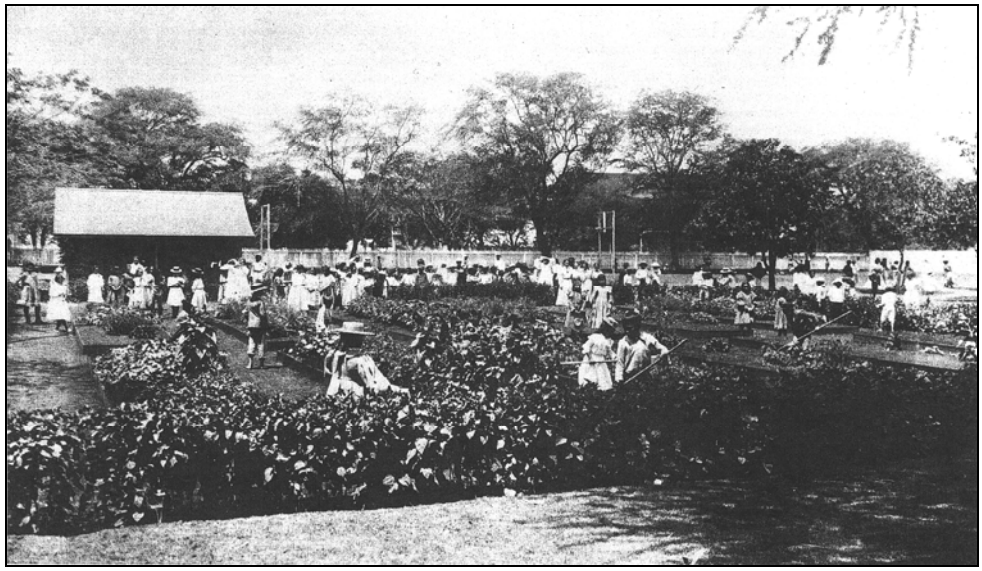

Figure 25. 1900 (ca.) photograph of the Ka‘iulani School for Girls garden (photograph reprinted in University of Hawai‘i, College of Education 1982:59)

### 3.3.4 1919 War Department Map

In the twentieth century, the coastal and central sections of Kalihi and Kapālama became a suburb of Honolulu. The lower areas of these two *ahupua‘a* were often grouped together as Kalihi-Kapālama or Kalihi-Pālama. Historic maps document the traditional Hawaiian landscape of Kalihi-Kapālama and the development of the major roads and residential developments during the second half of the nineteenth century and the first decades of the twentieth century.

Between 1897 and 1919, as shown on a 1919 War Department map (Figure 26), great changes have taken place in Kapālama. The main King Street thoroughfare is crossed by the *mauka-makai* graded Waiakamilo Street, with housing subdivisions branching from both streets. The ancient ‘*auwai* is not shown on this map, and it appears than Niuhelewai Stream has been straightened and now empties near a pond. Individual structures are not labeled on this map, but two important religious structures, Kaumakapili Church and the Pālama Chapel, were built around the turn of the century; the construction of these two buildings led to greater development of the Kalihi-Pālama community. No street development is shown in the current project area. The Chinese Association sold their hospital grounds to the Territory of Hawai‘i in 1917, and opened a new hospital/elderly housing in Pālolo. The old structures of the hospital were still standing, but not in very good shape.

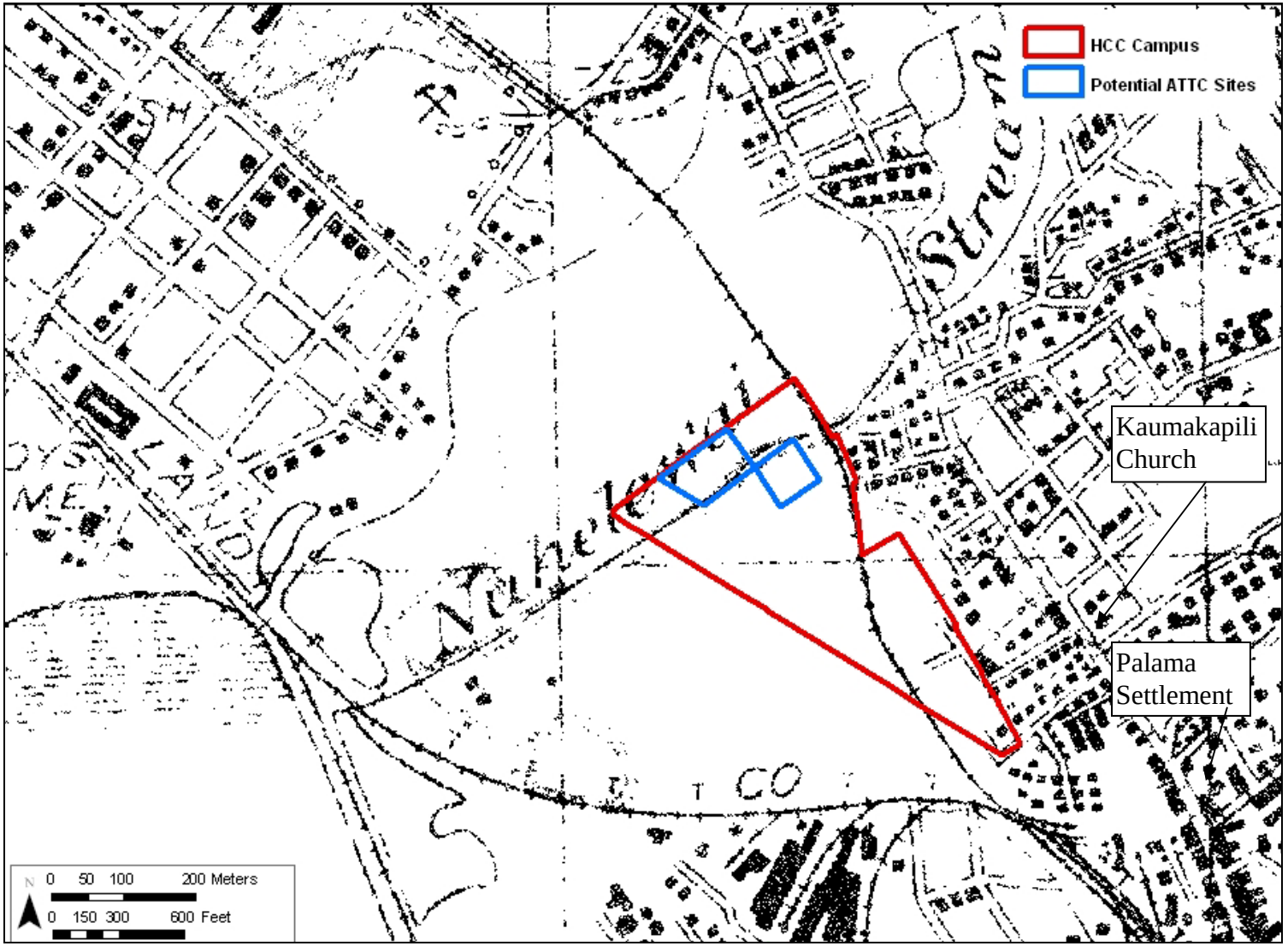


Figure 26. 1919 U. S. War Department map, showing project area location

Kaumakapili Church

Kawaiaha‘o Church, on the corner of King and Punchbowl Streets was the first church built by the American missionaries who arrived in 1820. By 1838, Hiram Bingham, head of the mission, realized that a second church would be necessary to provide service to their burgeoning congregation. Governor Kekūanaoa decided that the church would be in the village of Honolulu in the *‘ili* of Kaumakapili, where some 13,000 people already lived. An adobe building with a grass-thatched roof was built on the corner of Smith and Beretania Streets, *mauka* of the Chinatown District. In 1881, the adobe structure was replaced by a brick building with two soaring spires. In the Chinatown fire of 1900, the church burned down, leaving only the shell of the brick base of the building. Instead of rebuilding at the same location, in 1903 the church committee purchased a new lot at the corner of Simerson (now Pālama) and King streets on the eastern boundary of Kapālama. They built a small wooden chapel on a lot at King Street and Austin Lane, which served as a church for the next seven years. A cemetery was also established in this lot as early as 1902. In 1911, the present stone structure was completed and dedicated (Kaumakapili Church 2008).

Development of the Pālama Settlement

In 1896, P. C. Jones, a philanthropic businessman and president of C. Brewer and Co., built a small chapel at the corner of King and Liliha streets. He later turned over the land and chapel to the Central Union Church of Honolulu, which operated it as an outreach branch. Immediately after the 1900 burning of Chinatown, many of the refugees settled in temporary housing around the chapel; some decided to permanently settle there. In 1905, the chapel was transferred to the Hawai‘i Evangelical Association, which founded the Pālama Settlement and contracted James Rath as the superintendent. The philosophy of the Settlement Movement was that social workers could do better work if they lived among the people they were trying to help. The Rath family first set up facilities to take care of wayward children. The settlement quickly grew, and additional facilities were constructed, including low-rent cottages (Figure 27), a nursing station, a swimming pool and tennis courts. The Pālama Settlement moved to a new site at the corner of Vineyard Street and Palama Street in 1925 (UH 1998:xxx-xxvi; 90-109).

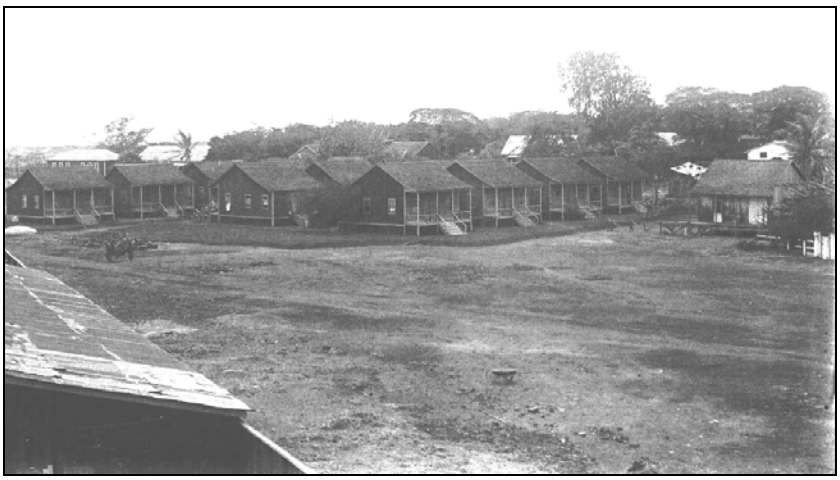

Figure 27. 1912 photograph of the Pālama Settlement Cottages (reprinted in UH 1998:xv)

### 3.3.5 1927 U. S. Geological Survey Map

On the 1927 U.S. Geological Survey map (Figure 28), the western portion of the project area is not fully developed, but the street grids have been laid out. Kapālama Basin has been partially dredged. The map shows the increasing development of residential areas, especially to the west of Waiakamilo Road, close to the Libby Pineapple Cannery (north of Hart Street) and the Honolulu Fruit Co. cannery (south of Hart Street). In the project area, street grids are shown as dotted lines, which indicates that they improved (paved) streets were still in the planning stage, although some unpaved streets may have already existed. In the eastern end, numerous buildings are shown; most are part of the Territorial Trade School, established in 1920 on the grounds of the old Pālama Chinese Hospital. Some of the original buildings of the hospital were used, but many additional buildings were constructed in the subsequent years.

McNeill & Libby Cannery and Pineapple Cultivation

McNeill & Libby built a large cannery between Kalani and Hart Streets in 1925 to can pineapple from their large fields in central and windward O‘ahu, shown on an early twentieth century photograph (Figure 29). The Honolulu Fruit Co. had been established in 1922 by local residents to process pineapples grown in their own small plots, probably in the areas shown on the 1897 map (see Figure 21). However, McNeill & Libby bought the assets of the company in 1932 and then proceeded to dismantle this smaller cannery (Brueggencate 2004:46-47; 74). In 1970, Dole Pineapple acquired all the Libby assets when they terminated their operations in the Hawaiian Islands; they closed the Kalihi Cannery in 1971.

The changes in the early decades of the twentieth century can be clearly seen on a 1936 aerial photograph (Figure 30) of Kapālama and Kalihi; the area west of Waiakamilo Road is fully developed, with the long white rooftop of the McNeill and Libby Cannery prominent in the foreground. In the photograph, the east side of Waiakamilo road is still undeveloped agricultural land and no buildings have yet been constructed for the new Kamehameha campus on Kapālama Heights.

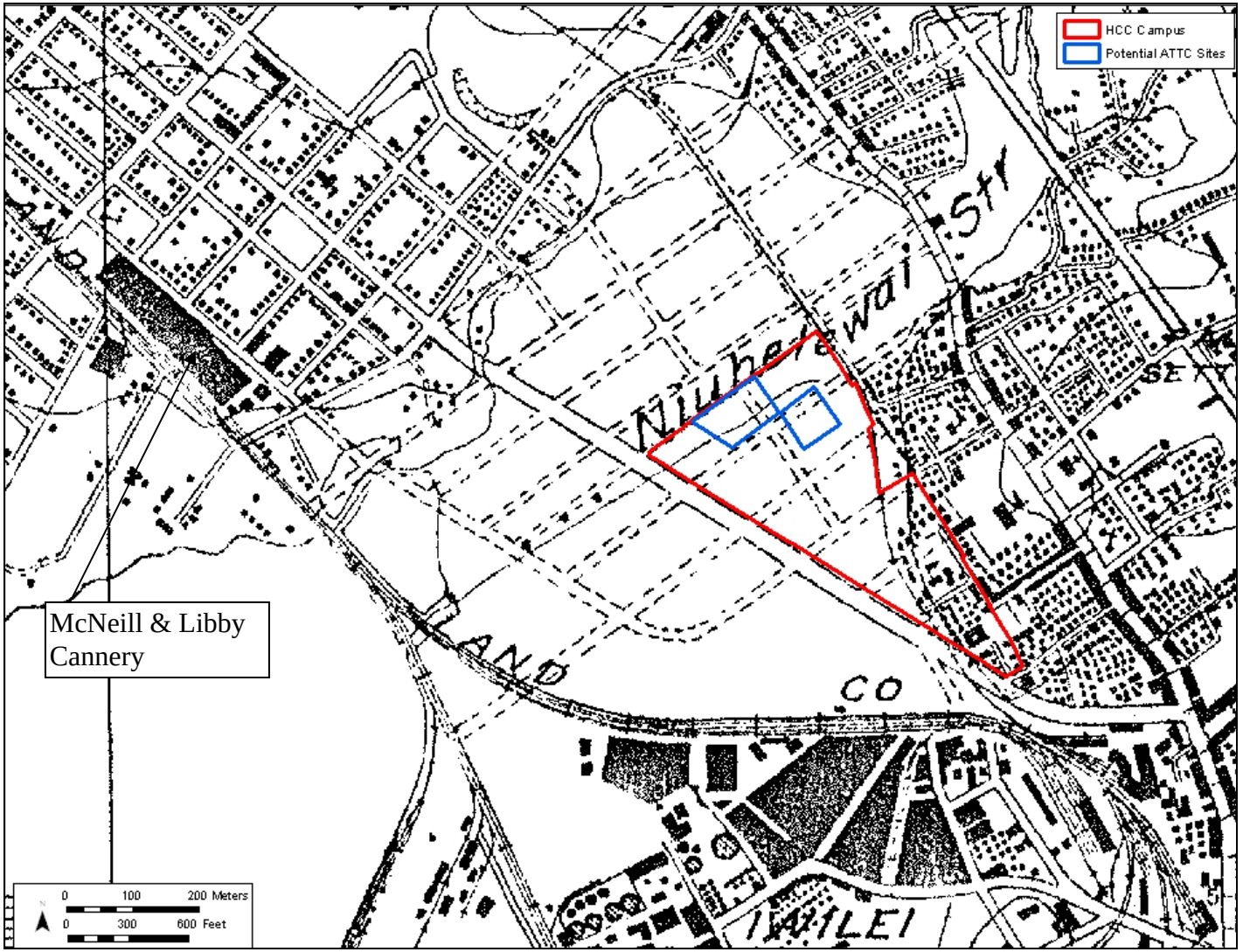


Figure 28. 1927 U.S. Geological Survey (Honolulu Quad) map, showing the project area

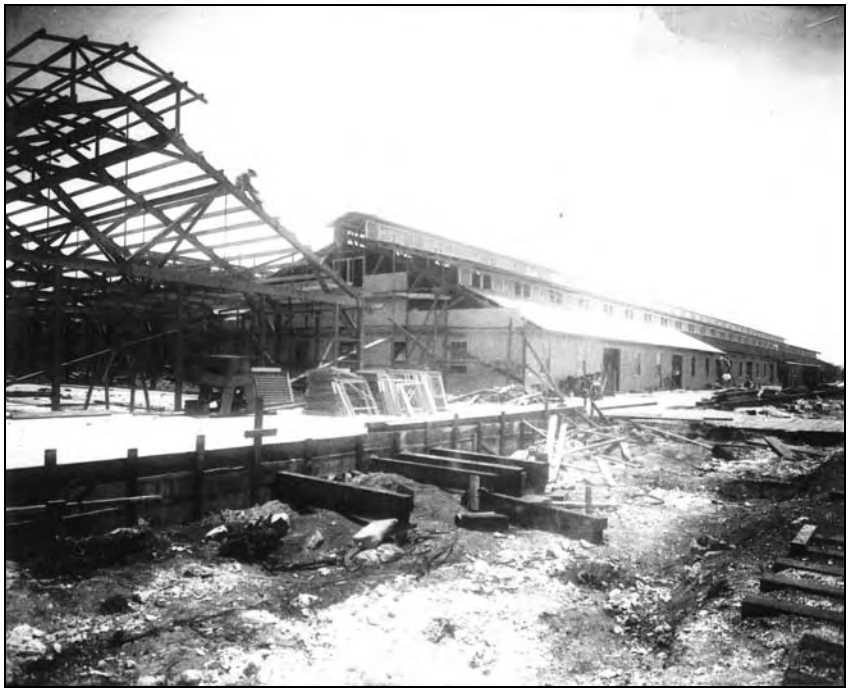

Figure 29. 1914 photograph of the construction of the McNeill & Libby Pineapple Cannery in Kapālama (Hawai‘i State Archives)

Figure 30. 1936 aerial photograph of Kapālama and Kalihi; long white roof of the McNeill and Libby Cannery in the center foreground; note the graded area on Kamehameha Heights for the new Kamehameha School (Hawai‘i State Archives)

### 3.3.6 1943 U.S. War Department Map and 1956 Army Mapping Service Map

On a 1943 U. S. War Department map (Figure 31), the *makai* buildings of the Kamehameha Schools have become part of Farrington High School, as the campus of the Kamehameha Schools has moved to Kamehameha Heights. The map also shows the channelization of Kapālama Stream, the completion of the Kapālama Basin, and the construction of docking facilities in the basin. The map also indicates that most of the old taro/rice lands in Kapālama were still in cultivation. The western portion of the current project area still has unimproved or planned improved roads.

On a 1956 Army Mapping Service map (Figure 32), the docking facilities at Kapālama Basin have been expanded. Kalākaua School, Kalihi Kai, and Kapālama Schools have been constructed in the residential portion of Kapālama. This map clearly shows the structures of the Honolulu Community College within the project area.

### 3.3.7 Changes in Honolulu Harbor

The historic maps series from 1881 to 1956 illustrate the major changes in Honolulu Harbor in the nineteenth and twentieth centuries. A sketch of the changes to the Honolulu and Kapālama shorefronts is illustrated in Figure 33, and statements on “views” at different time periods in this section is in reference to this sketch. The sketch was modified from a graphic in a paper on the “History of Oahu’s Harbors’ (Hawaii Dept. Transportation 2008). The following account of changes in the harbor is taken from the same paper, unless otherwise noted.

In 1794, the first Westerners saw Honolulu Harbor, when the water was in some places only three feet deep at low tide. Western ships were towed to shore by crews in oared whaleboats; the first wharf, used in 1825, was simply a sunken ship along the shore. The 1819 view (based on an 1819 harbor map by Louis Duperrey of the Freycinet French scientific expedition) of the shore shows the natural state of the coast, with its shallow reef flats (dry at low tide), the inland fishponds, such as Kūwili I, and the offshore fishponds, such as Kawa. The 1825 view (based on the Kotzebue map of 1825; see Figure 8) indicates the narrow channel between the tidal flats that led to the harbor.

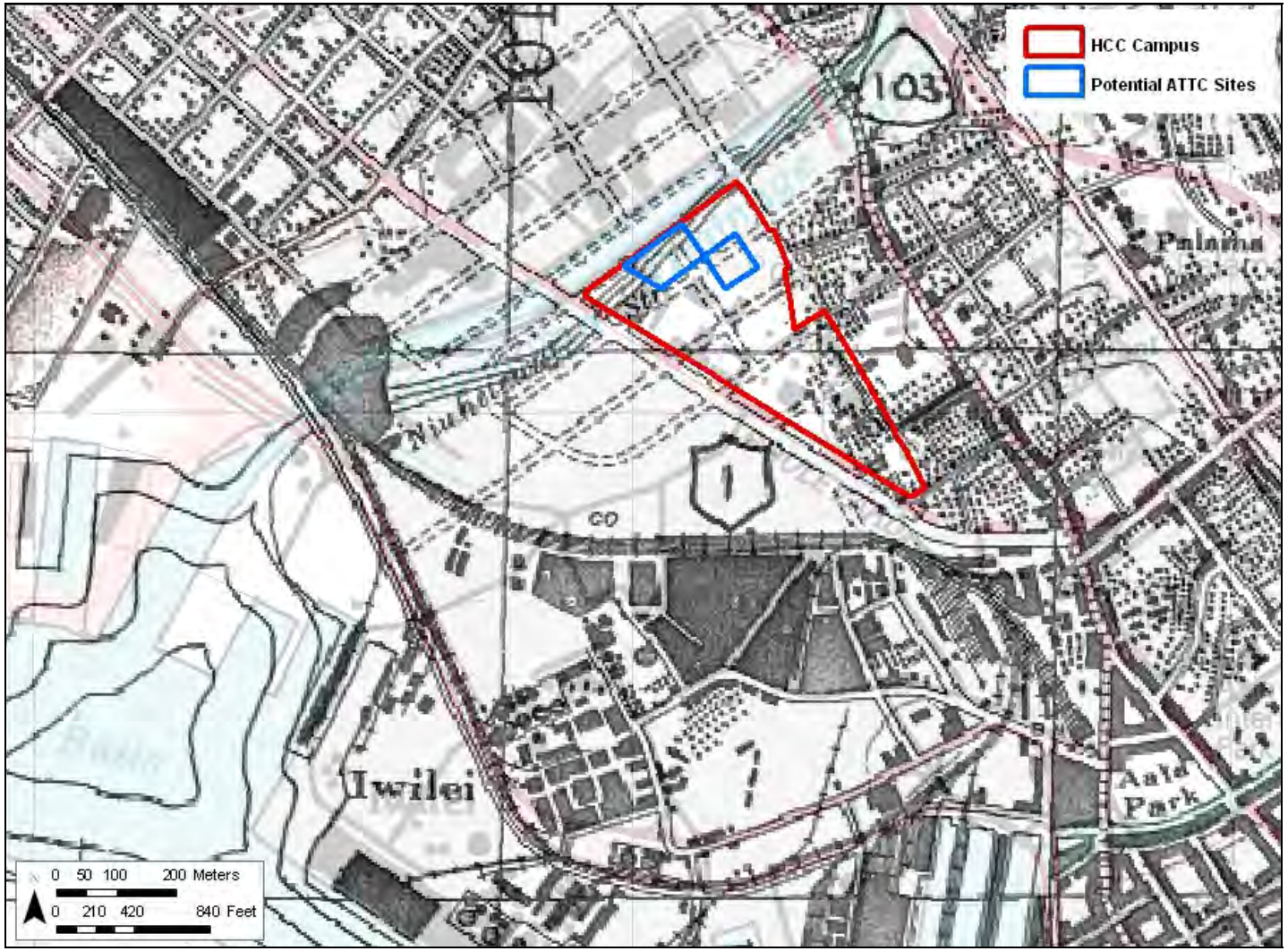


Figure 31. 1943 War Department map of O‘ahu, showing the current project area (outlined in red)

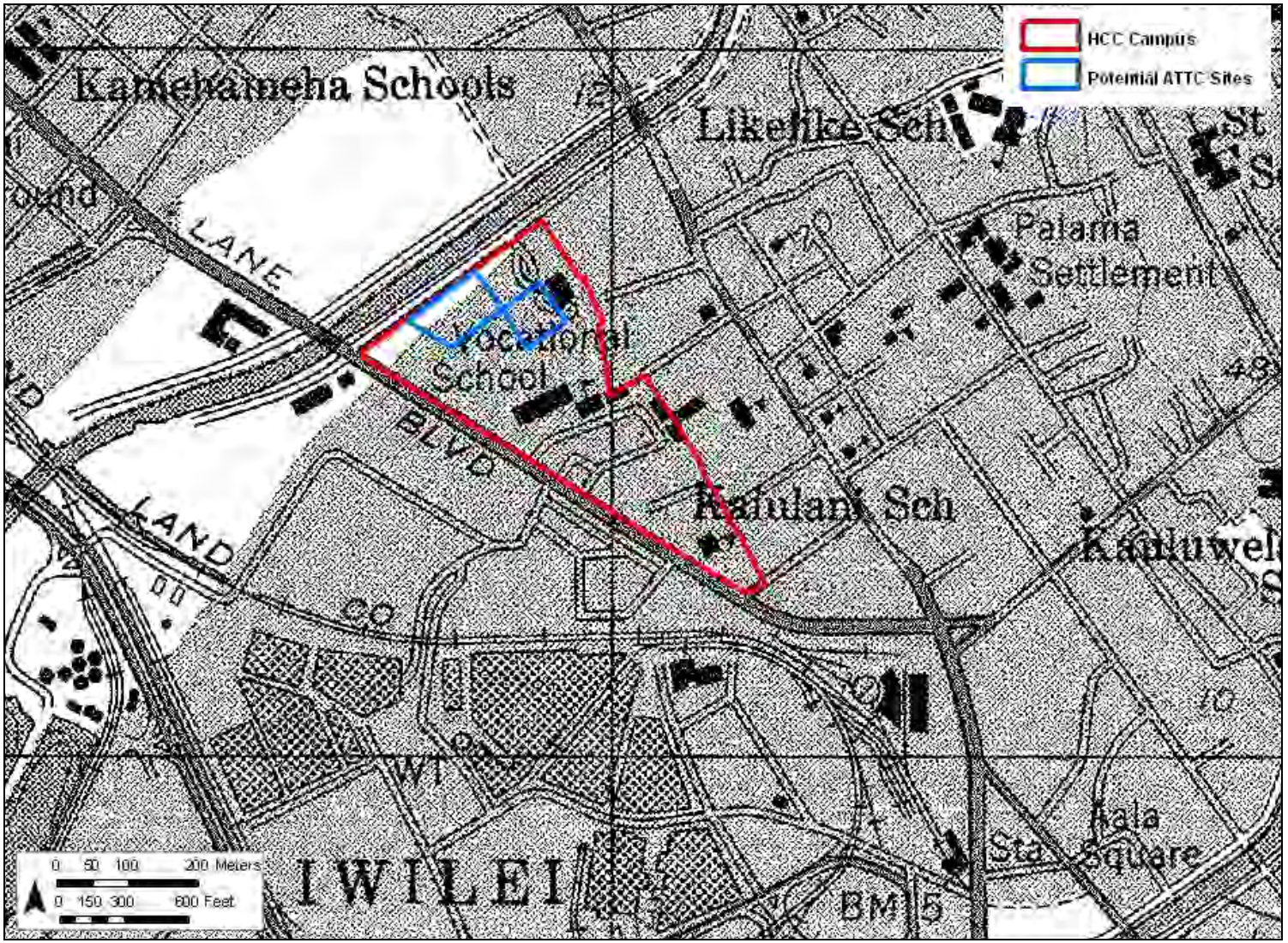


Figure 32. 1956 Army Mapping Service map of O‘ahu, showing project area

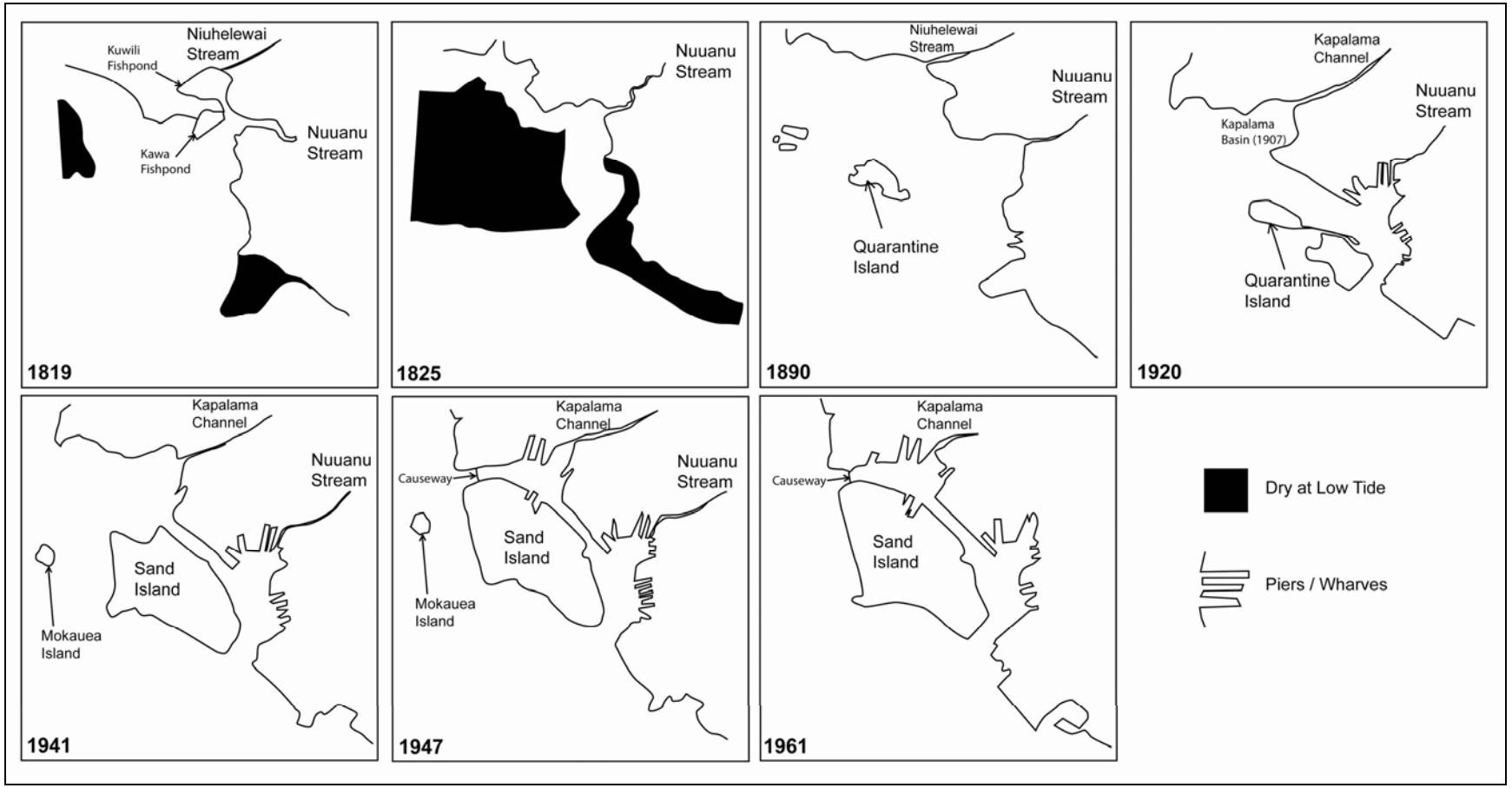


Figure 33. Outline sketches of Honolulu Harbor and Kapālama Basin from 1819 to 1961 (modified from Hawaii Dept. of Transportation 2008)

The first dredging of the harbor took place around 1840; the dredged material was used to fill the coastal tidelands. The 1890 view of the coast shows that after dredging the tidal flat areas, only a few offshore islands were visible at low tide. The eastern island on the 1890 view is called Quarantine Island, or Mauliola Island. This low-lying island can be seen in an 1890 photograph of the harbor (Figure 34). Quarantine and Mauliola are both post-Contact names that reflect the use of the island. Mauliola is the name for a Hawaiian god of health; it was used because the island was associated with a disease quarantine station and hospital. An older name of the island was Kamoku‘ākulikuli (the *‘ākulikuli* plant island) or Kahaka‘aulana (Pukui et al. 1974:210). The native *‘ākulikuli‘ae‘ae* (*Lycium sandwicense*) is a shrub with bright red berries found near salt marshes or on rocks near the ocean, but Neal (1965:339) states that the island was named for the introduced *‘ākulikuli-kai* (*Batis maritima*). This plant was first noted on the island by the botanist Hillebrand in 1859; the island soon became so covered with the plant that it was called Akulikuli Island. This suggests that this name may also have originated in the post-Contact period. Clark gives the meaning of Kahaka‘aulana as “the floating swimmers pass by” possibly in reference to fishermen and their floating fishing gear containers; however, Clark (2002:134) uses this name for one of the small Ke‘ehi Lagoon islands (shown to the left of Quarantine Islands in the 1890 sketch) west of Kapālama Ahupua‘a, not for Quarantine Island. The oldest name for the island may be simply Koholaloa, which is the name of the reef off the Kapālama coast. The name may also have been applied to any high areas that appeared at low tide.

Figure 34. 1890 photograph of Honolulu Harbor; note Quarantine Island in right background (original photograph at Hawai‘i State Archives; reprinted in Lum 1988:115)

In 1872, Mauliola Island became the site of a quarantine station to handle the influx of immigrant laborers drawn to the island's developing sugar plantations. The site is described as "little more than a raised platform of sand and pilings to house the station, with walkways leading to the harbor edge wharf, where a concrete sea wall had been constructed" (Beechert 1991:104). If ships arrived at the harbor after 15 days at sea and contagious victims were aboard, quarantine and disinfecting procedures were conducted at Quarantine Islands (Renard 1975:A3).

By the 1900s, Quarantine Island had become the largest United States quarantine station of the time period, accommodating 2,255 individuals (Renard 1975:A6). This space included two hospitals and a crematorium. Besides operating for quarantine, the station had other objectives, such as implementing plague preventive measures, immigration inspection, and as a marine-hospital relief.

Other developments in the second half of the nineteenth century include the construction of the first true wharves in 1857, the erection of a harbor light in 1869, and additional dredging of the harbor, with the dredged material used to create Sand Island on top of Koholaloa ("the long extension") Reef, shown east of Quarantine Island on the 1920 view and on a 1931 photograph (Figure 35).

Figure 35. 1931 photograph of Kapālama Basin and Honolulu Harbor; note two small islands in the center of the area that is being filled in to construct Sand Island (Hawai‘i State Archives)

In 1900, the eastern wharf section was complete, and by 1905 the harbor was 800 feet wide and 35 feet deep. The offshore area of Kapālama was dredged in 1907, creating Kapālama Basin and the Kapālama Channel to Honolulu Harbor; additional dredging took place in 1919. The Sand Island Military Reservation was built in 1916, and Sand Island was completely taken under the control of the War Department in 1920; quarantine measures continued on the island until 1927.

By 1941, piers were completed along Iwilei and Quarantine Island has been incorporated into the new Sand Island. Between 1940 and 1945, additional material dredged from Ke‘ehi Lagoon had been deposited to expand Sand Island, which also now has several piers. The causeway

between Sand Island and the Kapālama mainland, shown on the 1947 view, was built in 1943. Also in 1943, the outer portion of the Kapālama Basin was completed, including Piers 39 and 40.

During World War II, the Kapālama Basin and Channel were dredged to a depth of 35 feet. Dredgers are shown around Kapālama Basin in a 1950 aerial photograph (Figure 36). By 1961, piers had also been built along the Kalihi Coast, west of Kapālama. Before World War II, the military used Sand Island as a gun emplacement (Battery Sand Island) and for a small military camp (Camp Sand Island) (Bennett 2002:66-68). After the attack on Pearl Harbor in 1941, 400 Japanese were rounded up in the immediate aftermath and placed at the Honolulu Immigration Station.

By May 1942, an internment camp had been built at Sand Island, shown in a 1941-1943 photograph (Figure 37), but the military decided that this installation was too difficult to guard during a feared second attack, so the detainees were moved to an inland camp at Honouliuli on March 1, 1943 (Bernardo 2004). By the end of the war, over 1,500 people of Japanese ancestry in the Hawaiian Islands had been imprisoned in an internment camp in Hawai‘i. This group consisted of any who matched a loose set of criteria for suspicion of loyalty to Japan, such as Buddhist and Shinto priests, Japanese consular agents, language-school officials, leaders in the Japanese community, labor leaders, and even fishermen. As Allen (1999:144) noted “None of the internees was guilty of overt acts against American laws . . . In nearly every instance, the internees were judged on personalities and their utterances, criminal and credit records, and probable nationalistic sympathies.”

### 3.3.8 Honolulu Community College

The Honolulu Community College website offers the following history of the college:

> For nine decades, Honolulu Community College has met the education and workforce needs of its community by providing a broad range of career and technical programs and a comprehensive liberal arts program designed to prepare students for transfer to baccalaureate institutions. Honolulu Community College has a rich history tied closely to the community it serves and a history shaped by social and cultural changes of Hawai'i.
>
> Honolulu Community College began on February 2, 1920 when the Territorial Trade School opened its doors to 42 students in the buildings of the Old Chinese Hospital in Pālama. Subjects included auto mechanics, machine shop, and carpentry. By 1925, to take advantage of federal legislation the Territorial Trade School became the Smith-Hughes department of McKinley High School and two years later was renamed Honolulu Vocational School.
>
> Just before the start of the Great Depression in 1929, the Territorial Legislature appropriated $40,000 for improvements in the physical plant of the campus. The campus also looked forward to the 1931 opening of Dillingham Boulevard.
>
> During World War II, students of Honolulu Vocational School helped in making war-related items like machine gun mounts and land mines. In 1946, to meet post-war demands for services and housing, the Cosmetology, Refrigeration, Drafting and Radio programs were added. In 1948 the school developed a Baking program.

Figure 36. 1950 photograph of Kapālama Basin, showing dredging offshore (Hawai‘i State Archives)

Figure 37. 1942-1943 World War II Internment Camp on Sand Island (Photograph reprinted by Resource Center of The Japanese Cultural Center)

The Plumbing program was started in 1950, the Masonry program a year later and the Auto Body and Repair program the following year. The growth prompted students and faculty two years later to request a name change from Honolulu Vocational School to Honolulu Technical School.

The post-war growth in the student body resulted in new campus facilities. In 1958, the Foods building opened, housing the school's bake shop and cafeteria. The Automotive Building was completed in 1962 along with Electronics Building. The following year, Honolulu Technical School built a two-story science building. On July 1, 1965, Honolulu Technical School was transferred by statute from the Department of Education to the University of Hawai'i and became part of the Community College System. The Board of Regents approved the name change from Honolulu Technical School to Honolulu Community College a year later. The following year, the Associate of Arts degree was authorized.

During the 1970s, Honolulu Community College experienced a construction boom. The Fashion and Cosmetology building was constructed in 1972. The six-story Liberal Arts and Library and Administrative and Student Services buildings were built two years later. In 1977 the Trade Industry Complex was finished. The six-story classroom/Campus Center was erected two year after that.

In 1975 the apprentices of the Pearl Harbor Shipyard Apprentice School started classroom instruction at Honolulu Community College as part of a four-year program in ship repair and maintenance. During the last two decades of the 20th Century Honolulu Community College established a number of off-campus sites including Automotive Technology (1986) and Diesel Mechanics Facility (1988) on the makai end of Kokea Street, the Airport Training Center (1995) at Honolulu International Airport, the Marine Education & Training Center (1995) on Sand Island, and the Pacific Aerospace Training Center (1998) at Kalaeloa.

In March 2001 the Administrative headquarters of the Pacific Center for Advanced Technology Training, a consortium of the University of Hawai'i Community Colleges, opened at Honolulu Community College. Continuing to look for ways to meet demand for new workers in the construction industry, Honolulu Community College in 2005 established the Construction Academy in partnership with eight Hawai‘i high schools (now 35 statewide). Two years later, the Music & Entertainment Learning Experience (MELE) program was started.

Honolulu Community College continues to fulfill its mission to meet the educational needs of its community. From 42 students in 1920, the college's enrollment has grown to 4,585 credit students and another 2,991 apprentice students in Fall 2009.

A summary of the timeline for the history of the college is provided below:

1897 The Chinese Hospital opens in the Iwilei-Pālama section.

1917 The Chinese Association realizes that they need to move to a larger parcel and buy land in Pālolo for a new hospital and elderly-living home.

1918 The grounds of the Chinese Hospital are acquired by the Hawaiian territorial government.

1920 The Territorial Trade School opens its doors to 42 students. They initially use some of the old buildings of the Old Chinese Hospital, but begin to demolish the rest.

1925 The school becomes part of the Smith-Hughes department of McKinley High School.

1927 The school is renamed the Honolulu Vocational School.

1955 The school is renamed the Honolulu Technical School.

1965 The school becomes part of the University of Hawai‘i as a result of the Community College Act of 1964.

1966 The University of Hawai‘i Regents rename the school the Honolulu Community College.

### 3.3.9 University of Hawai‘i Oral History Study Kalihi-Kapālama

In 1984 the University of Hawai‘i, Center for Oral History (UH 1984) interviewed several long-time residents of the Kalihi-Kapālama area. These included native Hawaiians and later immigrants to the area, including those of Chinese, Japanese, American, Portuguese, Puerto Rican, and Filipino ancestry. In 1998, the University of Hawai‘i, Center for Oral History (UH 1998), interviewed former residents and teachers with some association with the Pālama Settlement. The following paragraphs are a summary of information in these two studies.

The different ethnic groups initially lived in different areas, specialized in different occupations, and moved in at different times. The native Hawaiians lived near the coast around Oahu Prison, and were mostly fishermen and dock workers. The first immigrants to move into the area were the Chinese, Japanese, and later the Filipinos and Samoans. Some Chinese and Japanese also lived near the coast, managing the fishponds and the salt beds. The Chinese had a slaughterhouse near the prison (UH 1984:31-133). Hawaiians and Chinese maintained taro patches in the back of Kalihi Waena School (UH 1984:136). The Chinese and Japanese leased Bishop Estate lands (in back of Kalākaua School) to raise flowers, fruits, and vegetables (UH 1984:131). The Portuguese worked on the railroad station or at the Honolulu Construction & Draying Company (UH 1984:130). The Portuguese dominated the upper valley of Kalihi. Filipinos began to move in prior to 1940, when the Catholic orphanage was founded and a Filipino community was built.

Entertainment in the first part of the twentieth century included going to the movie theaters, such as the Kalihi Theater on the corner of Pu‘uhale and King streets, the Victory Theater on King Street, and the Pālama Theater on King Street. There was a boxing arena, Houston Arena, *makai*

of King Street (now covered by Kapālama Canal). Children played baseball, football, basketball, and volleyball at the school playgrounds and athletic fields.

Mr. George Houghtailing, Hawaiian - American

Mr. George Houghtailing, born at the Kapi‘olani Maternity Home in 1905, told of his family’s long ties to Kapālama. His grandfather came to Hawai‘i around 1845, married a Hawaiian woman and had twelve children. He ran the Bay Horse Saloon on Bethel and Hotel Street in Honolulu. During the Māhele, he was given several *kuleana*, later consolidated into a 15-acre tract along a road later named after him, Houghtailing Road. The family home (Figure 38) was between School and Vineyard streets, now the location of Damien High School, as described by Mr. Houghtailing.

Figure 38. 1912-1913 photograph of the Houghtailing plantation house on the corner of Houghtailing and Kōhou streets, the present location of Damien High School (*Honolulu Advertiser* photograph; reprinted in Creamer 2000:C1)

> On the premises there was a large pond which had a natural spring and which also fed the lower land where we had taro patches and cultivated the other truck gardening on the land. The land was quite open. We had a couple of bay horses and raised chickens and pigs for family consumption. There was a large open area fronting Houghtailing Road which was used as a park for the neighborhood kids. (UH 1984:1099)

Mr. Houghtailing located the ponds, taro fields, and rice patches from School Street to Liliha Street; other taro patches were in the area “between Palama Street and Liliha Street, below School Street down to what in now Vineyard Street” (UH 1984:1100). These rice ponds and taro patches, usually operated by the Chinese, were cultivated up to the 1920s, when many were filled in for the development of residential subdivisions. The Japanese took over some of the land as

truck farms, and the Japanese also gradually took over the small stores once operated by the Chinese. Additionally, he recalled the development of one of the first subdivisions, the McInerny Tract, which was developed around 1918-1920. Before its development, Mr. Houghtailing recalled other crops grown in the area:

> The upper part of McInerny Tract used to be planted with pineapple. The other part was more grazing and open area where guavas and other natural types of fruits, like mangoes, grew.
>
> The sugarcane fields in the Palama area, ran all the way up to what would be now the Dole [cannery] parking lot and then also up to the rear boundary of the Houghtailing property. It extended above what is now Vineyard Street. . . . The management of that plantation at that time was the Honolulu Plantation, where the mill was located in Aiea. They cut the cane by hand and hauled it to the mill by train. Cane growing in the Kapalama area phased out about the late ‘20s. I think. The phasing out program took place because lands were being purchased by the federal government to expand military reservations, including Hickam Field
> In the midst of the cane field in the Kapalama area, in the early ‘30s, the first boxing area was built and called the “Houston Arena.” The arena was located midway between King Street and Dillingham Boulevard on the Diamond Head side of the Kapālama Drainage Canal. The arena was named Houston, after the then delegate to Congress from Hawaii. (UH 1984:1102)

Mr. Houghtailing said that some ethnic groups were associated with certain occupations, such as the Hawaiian waterfront stevedores, known as *hui poʻolā*, or the Portuguese masons who did a lot of the building work around Punchbowl, and the Japanese construction workers who came to the area in the 1930s. Along Waiakamilo Road, farmers raised pigs and chickens or had dairies. The more prominent families of the area, like the Deshas, the Hoopilis, the Aulds, the Longs, and the Alulis, were concentrated in the middle section of Kapālama. Electricity came to the area around 1914, and the roads were improved with macadam in the 1920s (UH 1984 1108-1108).

He remembered that the Pālama Settlement became the hub of the middle section of Kapālama. Community children went there to swim in the pool, or participate in sports, such as basketball, tennis, football, and track (UH 1984:1109).

After World War II, the Catholic Diocese of Honolulu decided that another Catholic secondary school was needed for Central Oʻahu. The property at the corner of Houghtailing and School Street was selected when the Houghtailing family offered the parcel to the diocese at a nominal price. Construction began in 1962, with the men of the Congregation of Christian Brothers and local community members pitched in to build the school. The lot was described as “uneven, overgrown swamp land that included four acres of taro patches.” In two years, the campus opened as the Damien Memorial High School (Damien Memorial High School 2008).

Arthur Akinika - Japanese

Arthur Akinika, born of Japanese immigrants in 1909, was a lifelong resident of Kapālama. He stated that the first new immigrants to Kalihi were former Chinese and Japanese sugar cane plantation workers who moved to the area as a direct result of the 1900 bubonic plague and the resulting Chinatown fire:

> Towards the end of the last century, Honolulu suffered an epidemic of bubonic plague. In order to keep the plague from spreading, a part of Chinatown was burned. But the fire got out of control, and so many people were left homeless. Many of them moved to Kapalama. Chinese migrants had already moved into Kapalama to cultivate taro. I recall from my earlier childhood that many Chinese farmers lived in the area Waikiki *makai* of where I grew up [on the corner of School and Houghtailing Streets]. (UH 1984:10-11)

During his boyhood, Mr. Akinika remembered that much of the Kapālama area owned by the Bishop Estate was planted in sugar cane " . . . as close to 500 feet from where we live (and) all the way over to almost Auld Lane, and including the area *makai* of King Street. (King Street passed through) in the middle . . . (UH 1984:13).

Mr. Akinika also noted that the development of Kalihi-Kapālama was greatest for the period from 1911 to 1920. Before 1911, ten subdivisions were built in the Kalihi-Kapālama area, from 1911 to1920, 40 subdivisions were added, but from 1921 to the time of his interview in 1984, only an additional 17 subdivisions had been built. Water mains, sewer, and electricity first came to the area when the McInerny Tract (in Pu‘unui ‘Ili, Nu‘uanu), was opened up in the late 1940s (UH 1984:11, 14).

Tokoi Okudara - Okinawan

Tokoi Okudara of Okinawan descent was a hog farmer, in the Kamehameha IV Road-Kalihi Mauka area. He said that there was less than 40 families hog farming in 1935. But in the 1940s "nearly every available space in the valley was occupied. At that time I think had close to ninety [families hog farming in mauka Kalihi Valley]" (UH 1984:424). Mr. Okudara explains how hog farms were set up in Kalihi Valley:

> Some [farms] had a little more [than an acre of land], some had about two acres. But on the average, been an acre, acre and a half. ‘Cause in order to do hog farming you have to have at least an acre because you have to have the acreage to wash down the pen and send the flow out. You send one section, that thing drains, get dried, and you cannot keep flowing the waste to a certain section alone because it cannot absorb that fast, you know. Whatever flows out they used to plant this *honohono* grass, cut that and feed that to the animals, see. So that’s how you recycle the waste; get the grass and feed them. That in turn controls the growth of weed and whatnot. Of course, it might have smelled there, but we were far away so it doesn’t bother those Downtown. (UH 1984:424-245)

Many of these hog farmers were evicted from their homes and farms after World War II, when there was a critical shortage of housing. Eviction notices were first sent out around 1948 by the Hawai‘i Housing Authority and the Kalihi Valley Homes were built (UH 1984:436).

Joe A. Joseph - Portuguese-Hawaiian

Mr. Joe A. Joseph, a Portuguese-Hawaiian life-long resident of Kalihi was born in 1913. His father operated the Joseph Dairy, located near the present site of the Kalihi Shopping Center. In the interview, he explains the operation of the dairy in the 1920s:

> You know, the cows come in, they put their head in, and you block ‘em in. We had eight. We milk two . . . eight at a time. I think there was eight stanchions. And all these cows go in one time. Then we’d feed the grain. Then you going to start milking the cow. Milk that cow, put the grain in the other one. They you ready to put grain here, this cow. They stay there and eat. When the whole eight of ‘em is finish milking, take ‘em out, then they bring another batch. That’s the milk for that day. Then we put the milk away in the cooler, see? And ready to deliver in the morning, next morning. (UH 1984:504)

Albert Nawahi Like - Hawaiian

Mr. Albert Nawahi Like was born in 1900 in Chinatown, Honolulu. His father operated a Hawaiian language newspaper, *Ke Aloha ‘Aina*. Mr. Like later became a teacher, at one time working at a school for leprosy patients in Kalihi Kai. Mr. Like remembered that the area *mauka* of the first Kamehameha Schools campus (now the Kapālama Elementary school location), was a dairy. At Kamehameha Shopping Center:

> Kam Shopping. Used to be an open kiawe field—pastures, you see. Then, on the Ewa mauka side was a big taro patch. Then, after that, they did away with the taro patch . . . just about 1920. . . . But then after that, it became an open pasture where *honohono* grass grew up. Then, the Kamehameha School dairy people would go there and get their grass to feed their cows.
>
> Then came that cutting out of School Street. . . . That was, I think, it was the late 20’s when they cut it. Then, that pasture land was still a pasture land until 1941 when the World War came. . . . But 1941, when the war came on, that whole area *mauka* of our property became a military reservation. As the war was on, we had all this training going on. In the meantime, the shopping center was not developed yet, see . . . Then, mauka came up—the [Kamehameha] Shopping Center . . . Yeah, was the late [50’s]… (UH 1984:688-692)

# Section 4 Previous Archaeological Research

Previous archaeological studies in coastal Kapālama and upland Kapālama are located in Figure 39 and are summarized in Table 4 and Table 5.

## 4.1 Coastal Kapālama

Earl Neller (1980) found a massive charcoal deposit in a trench during the renovation of the old Pālama Fire Station at North King Street and Austin Lane, but the significance of this deposit was not determined. The Pālama Fire Station, built in 1901, was assigned SIHP Site No. 50-80-14-1302.

An archaeological reconnaissance (Hammatt 1986; Chiogioji & Hammatt 1995) was completed on Sand Island by Cultural Surveys Hawai‘i. It was concluded that the land was coral fill and had been extensively altered for industrial and military purposes since World War II. Before the in-filling in the 1920s, this area had been marshland and fishponds. The report concluded that fill deposits cover all former tidal areas.

Excavation work at the new Pālama Chevron Station at the corner of Robello Lane and North King Street in Kapālama exposed two human burials in 1991, designated SIHP 50-80-14-3373 (Dunn et. al 1991). In addition, several historic artifacts were recovered, including glass, porcelain, metal, ceramics, plastic and concrete. Abundant faunal remains representing several taxa, such as dog, bird, rat, cattle and pig, were intermixed in the burial fill. Historical research suggests these burials may be associated with a small pox cemetery the nineteenth century in the area of Keone‘ula, however the authors indicate that there is insufficient evidence to substantiate this (Dunn et al. 1991:7).

A preliminary archaeological assessment of an approximately 100,000 sq ft parcel (Chiogioji and Hammatt 2002), bounded by King Street, Nimitz Highway, Iwilei Road and Nu‘uanu Stream was completed by CSH. The report concludes the study area had been extensively filled with imported landfill in the late 1800s. The report mentions the possible location of a portion of the wall of Kawa Fishpond on the northwestern section of their project area.

An archaeological assessment was conducted in 1994 (Nakamura et al. 1994) on the corner of North King and Houghtailing streets. The property was surveyed for archaeological resources and assessed for potential archaeological and historical resources. Though no archaeological resources were found, several historic properties were identified based on their age, including storefronts along King Street as well as several residences (Nakamura et al. 1994: 21-22). Historical research, as well as informal interviews of long-time residents, suggest the parcel had a long history of agricultural use, beginning with pre-Contact and historic wetland taro cultivation and most recently used by Chinese immigrants for truck farming. Nakamura et al. (1994) recommend this site for further study as an example of the changing nature of a traditional *ahupua‘a* in historic O‘ahu.

A human burial (SIHP -4929) was found during the digging of a trench for the Board of Water Supply on Austin Street (Jourdane 1994). Hammatt (1995) concluded that this historic coffin burial was possibly associated with the former Kaumakapili Church cemetery.

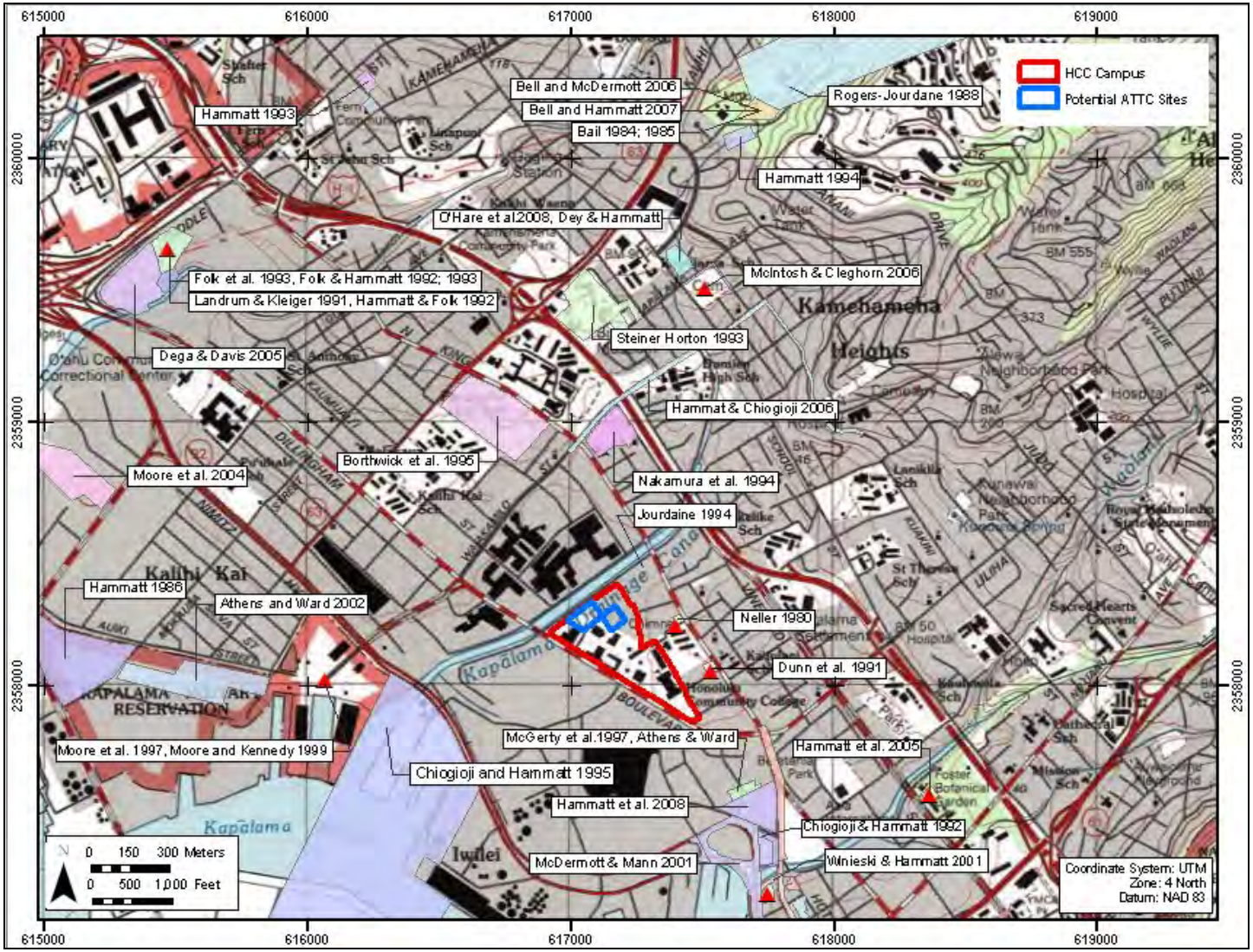


Figure 39. Previous Archaeological Work in Kapālama

Table 4. Previous archaeological research in Coastal Kapālama (*makai* of King Street)

| Author | Location | Comments and Historic Properties (SIHP # 50-80-14-) |
|---|---|---|
| Neller 1980 | Kapālama Fire Station, 1-5-005:014 | Field reconnaissance was conducted during a building renovation to the Pālama Fire Station (SIHP -1302). A massive charcoal deposit was observed in a trench, but its significance was not determined. |
| Hammatt 1986 Chiogioji & Hammatt 1995 | Iwilei, Sand Island, 1-5-020; -034; -041; -042 | No intact cultural deposits or sediments from marshlands or fishponds had been found, only fill material probably brought in during the 1920s to the World War II era. |
| Dunn et al. 1991 | Pālama Chevron Station, 1-5-008:017, 018, 023 | A monitoring project was completed on the Pālama Chevron Station. Nine test trenches for pipelines were excavated. Burials, human skeletal remains, and historic artifacts (SIHP -3373) were recorded. The burials were remains from smallpox epidemics in the 1800s. |
| Chiogioji & Hammatt 1992 | Nimitz Highway, TMK 1-5-008:001, 009 & 011 | A preliminary assessment was conducted at a property in Iwilei adjacent to Nimitz Highway. The report notes the location of a possible portion of the Kawa Pond wall. |
| Nakamura et al. 1994 | King & Houghtailing St., 1-6-003:042 to 046, 051 to 053, 079 to 081, 087, 089 | No historic properties. Some 50+ year old buildings. |
| Jourdane 1994 Hammatt 1995 | Austin Lane, 1-5-005: | Human burial (SIHP -4929) found during excavation on Austin Street, probably a historic burial associated with the Kaumakapili Church cemetery. |
| Borthwick et al 1995 | Kamehameha Homes 1-1-5-001:001 | No subsurface features were found during excavation of 16 trenches on a 14 acres site in Kapālama. |
| McGerty et al. 1997 | Liliha Civic Center, 1-5-007:001, 004, 015, 018, 057, 058, 060 to 078 | An archaeological inventory survey was conducted at the proposed Liliha Civic Center. Evidence for Kūwili I Fishpond (SIHP -5368), constructed as early as A.D. 1100, was found in cores and backhoe trenches. |
| Athens & Ward 1997 | Liliha Civic Center, 1-5-007:001, 004, 015, 018, 057, 058, 060 to 078 | An appendix to the McGerty et al. 1997 report, with detailed pollen analysis and radiocarbon dating at Kūwili I Fishpond. Radiocarbon analysis dated the original construction of the fishpond to the A.D. 1400s. |
| Moore 1997 | Pier 40, 1-5-032:005 | A post-Contact in situ burial (SIHP -5581) was disinterred. |
| McDermott & Mann 2001 | Nimitz Hwy, 1-5-008; 1-7-002; 003; 2-1-002; -013 to 016; -025 | Fishpond sediments of Kawa Fishpond (SIHP -5966) were found beneath deep layers of historic fill material. |
| Winieski et al. 2001 | Nimitiz Hwy Sewer, 1-7-002, 003; 2-1-002, 013 to 016, 025, 027, 029 to 032 | During monitoring, an historic brick wall, a brick-lined man-hole, and a remnant of a light gauge trolley rail (SIHP 50-80-14-5942) were recorded. |

| Author | Location | Comments and Historic Properties (SIHP # 50-80-14-) |
|---|---|---|
| Hammatt & Shideler 2005 | Foster Botanical Gardens, 1-7-007:002 | Several human bones were found inadvertently during trenchwork at the Gardens. Bone found in backdirt piles were reinterred on the garden grounds. |
| Hammatt & Chiogioji 2006 | Kalihi-Beretania Sewer; various streets | A survey confirmed that areas affected by proposed sewer work were along asphalt areas. Two early 20th century bridges were recommended for architectural evaluation. |
| Hammatt et al 2008 | Iwilei Senior Housing, 1-5-007:002 | Pollen and charcoal samples were collected from three sediment samples from Kūwili I Fishpond. Carbon dating indicated the initial construction of the pond was approximately A.D. 1100, which agrees with McGerty et al (1997), but does not agree with Athens and Ward's determination of an initial construction in the A.D. 1400s. |

Table 5. Archaeological research in Upland Kapālama (*mauka* of King Street)

| Author | Location | Comments and Historic Properties (SIHP # 50-80-14-) |
|---|---|---|
| Thrum 1909 | Unknown | List two *heiau* (ceremonial structures), Oomaunahele and Paepaenuileimoku, and one shrine, Puea, for Kapālama. |
| McAllister 1933 | Island-wide Survey | McAllister says that the Hawaiians had no knowledge of any sites in Kapālama in 1930. He mentions Kūwili I Pond (Cobb, 1903), which adjoined Kapālama. He did not locate the two *heiau* or one shrine mentioned by Thrum (1909). |
| Bishop Museum (Sterling & Summers 1978) | Once at *makai* end of Kapālama Street | *Hōlua* slide noted in 1898 and 1900, but Bishop Museum archaeologist Kenneth Emory noted that it had been bulldozed by 1952. |
| Bishop Museum (Sterling & Summers 1978) | Near Violet Street | Phallic stone (SIHP -411) opposite Violet Street on the west side of the ridge of Kapālama valley. |
| Neller 1984 | Upper Kapālama Valley, TMK 1-6-022:001 | A reconnaissance survey identified 6 historic properties in Kapālama Valley: 3727, a *heiau*; 3728 six terraces and an ‘*auwai* (ditch) remnant; 3729 and 3730, two rock-shelters; 3731 a house site with terraces; and, 3732 a small *heiau.* |
| Bail 1984, 1985 | Kamehameha Schools | Trenching was conducted at SIHP -3727 (wall and terraces). Bail concluded that the features were historic, most likely associated with a WWII detention camp. |
| Rogers-Jourdane 1988 | Upper Kapālama, Valley, TMK 1-6-022:001 | Archaeological testing and surface assessment in the Keanakamanō Valley Phase 2 development parcel identified 3 new sites - two overhang shelters (2043 and 2044) and a wall (2045). SIHP -3732, identified by Neller (1984) as a small *heiau* was reevaluated as a probable historic quarrying site. |
| Steiner-Horton 1993 | Bishop Museum, TMK 1-6-024:001 | No evidence of pre-Contact cultural deposits. Historic artifacts found in backfill. The Bishop Museum has been designated SIHP -1353. |

| Author | Location | Comments and Historic Properties (SIHP # 50-80-14-) |
|---|---|---|
| Guerriero & Spear 1994 | Upper Kapālama two well sites, TMK 1-1-006:022 | One historic property (SIHP -4937) recorded; an agricultural complex with two terraces and two alignments. |
| Hammatt 1994 | Upper Kapālama, well sites, TMK 1-6-022:007 | No historic properties found. A rock-shelter was tested, but no cultural material was found. |
| Sinoto 2002 | Section along Niuhelewai Stream, TMK 1-6-017:004 | A surface field assessment was conducted along both banks of a segment of Niuhelewai Stream in Kamehameha Heights. No traditional Hawaiian features were found, but several historic concrete bridges cross the stream. |
| Rieth et al. 2004 | Entire Kamehameha Schools campus | Eighteen previously identified historic properties and 138 new properties were identified during a reconnaissance survey of undeveloped and open areas of the Kamehameha Schools campus. |
| McIntosh & Cleghorn 2006 | Kamehameha Heights, TMK1-6-015:; -016: | Before sewer improvements, Pacific Legacy conducted testing and monitoring to determine if nearby historic graves from Ka‘ahumanu and Maluhia Cemeteries extended under Kapālama Avenue. Ten trenches were excavated, but no cultural material, deposits, or human bones were found. |
| Bell & McDermott 2006 | Kamehameha Schools campus | Mapping of SIHP -3727, a terrace and associated features. |
| Bell & Hammatt 2007 | Kamehameha Schools campus | Limited testing at SIHP -3727 indicated that the features were contemporaneous with recovered historic artifacts. |

In 1995, CSH excavated 16 trenches on at a 14-acre site for the Kamehameha Homes Project near Kalākaua Intermediate School. The subsurface survey produced no evidence that any significant subsurface historic sites or features exist within the project area. The subsurface survey did confirm that the development of the subject parcel has extensively modified the landscape (Borthwick et al. 1995).

In Iwilei, an archaeological inventory survey was conducted at the proposed Liliha Civic Center (McGerty et al. 1997). Six backhoe trenches, as well as soil cores, were utilized to search for evidence of Kūwili I Fishpond (SIHP -5368) and associated architectural features. The field research identified soil layers interpreted as being the remains of Kūwili I Fishpond. The research further indicated that the pond may have been constructed as early as A. D. 1100. Human skeletal remains were encountered in the pond-fill material.

Athens and Ward (1997) wrote an appendix to the Liliha Civic Center report, which focused on the investigation of Kūwili Fishpond. The results of detailed analysis of samples from five sedimentary cores, including $^{14}C$ dating, palynomorph identification, Bayesian calibration of radiocarbon dates, charcoal particle identification, and diatom analysis, were used to investigate when Kūwilu pond was constructed, and show the environment in the vicinity of the lagoonal basin that became Kūwili pond changed over time. Based on radiocarbon dating, Athens and Ward indicate the Kūwili Fishpond was constructed between A. D. 1400-1650. A detailed pollen

record, from approximately 8000 B.P. to 2000 B.P. document environmental conditions in the vicinity of in the Holocene prior to Polynesian colonization of Hawai‘i.

An inadvertent discovery of an in situ burial (SIHP -5581) was made during construction at Pier 40 (Moore 1997). It was determined that the skeleton was probably interred in the post-Contact period. The burial was disinterred.

The northern portion of an archaeological inventory survey for the proposed Nimitz Highway water system improvements was within the former Kawa Fishpond (SIHP -5966) (McDermott and Mann 2001). Historic artifacts were encountered within the fishpond sediments. The fishpond sediments were observed beneath massive historic fill.

During monitoring of the Nimitz Highway Sewer Project (Winieski et al. 2001), an historic-period soda bottle was encountered in a historic fill layer at the intersection of Pohukaina and South Streets. A historic brick alignment was observed at the intersection of Queen Street. A historic brick-lined manhole and a remnant of light gauge trolley rail (State Site 50-80-14-5942) were observed at the intersection of Queen Street and Nimitz Highway. No pre-contact or historic burials were encountered.

A human maxilla fragment was inadvertently disturbed during trenching activities at Foster Botanical Garden in 2004. CSH was contracted to screen backdirt piles; several other human bones were found. All of the human bones were reinterred on the garden grounds (Hammatt and Shideler 2005).

In 2006, CSH excavated stratigraphic profiled in three trenches at the former site of Kūwili I Pond (SIHP 50-80-14-5367) in Kapālama. Three columns of sediment samples were collected for pollen and charcoal identification, and seven charcoal samples were submitted for radiocarbon radiometric dating. Stratigraphic profiles exposed a layer of natural sediments associated with lagoonal and fishpond deposits. Radiocarbon analysis of four charcoal samples from this layer were date to approximately A.D. 1020 to 1160, which probably represents the initial pond construction by Hawaiians. This estimate is most consistent with the McGerty et al. (1997) interpretation of the initial construction of Kūwili Fishpond at circa A.D. 1120; the results did not support Athens and Ward’s (1997) estimate of initial pond construction in the A.D. 1400s (Hammatt et al. 2008).

## 4.2 Upland Kapālama

In *Sites of O‘ahu* (Sterling and Summers 1978:319-321), there are references to a presumed phallic rock (SIHP -411), a *hōlua* or sledding slide, and an agricultural *heiau*. Each historic property was at one time observed by an archaeologist.

A rock or *pōhaku* (Bishop Museum Site 411), 5’8” long and 5’ high, in the shape of a crouching animal when viewed from the west, was opposite Violet Street on the west side of the ridge of Kapālama valley.

> According to the informant, William J. Vierra of 1582 Wailele Street, age 49 years, it was venerated by the Hawaiians. He first saw it in 1911 when it was pointed out to him by an older brother and Hawaiians. He claims the Hawaiians laid their mats on top of the ridge between Kapālama Valley and Kamanaiki

> Valley by the ledge there, and spent all day worshipping the stone from a distance. They left sugar cane refuse which they had chewed for their lunch. In the opinion of Kenneth P. Emory, this is a phallic rock. The stone was visited on Jan.20, 1954. . . . Mr. Vierra also stated that this stone was visited by the ‘bell stone’ in Kalihi in the form of mist. (Catherine C. Summers, cited in Sterling and Summers 1978:321)

A *hōlua* slide was reported from “back of the Kamehameha School” by Nathaniel B. Emerson, in a note in his 1898 translation of David Malo’s *Ka Mo‘olelo Hawai‘i.*

> The course of an old-time holua slide is at the present writing clearly to be made out sloping down the foot-hills back of the Kamehameha School. The track is of such a width, about 18 feet, as to preclude the possibility of two sleds traveling abreast. It is substantially paved with flat stones, which must have held their position for many generations. The earth that once covered them as been mostly washed away. (Malo 1951:224; note by N. B. Emerson)

A photograph of the *hōlua* was published by Dr. Eduard Arning in his ethnographic notes made between 1883 and 1886. A recent search for this photograph in the index to the Bishop Museum Archives was conducted last year by CSH, but no record of the photograph could be found.

The outline of the slide, by then indistinct, was pointed out to the archaeologist, J. F. G. Stokes, in 1900 by William Brigham, first director of the Bishop Museum; however, when in 1953, the ethnologist Kenneth P. Emory searched for it, he could not relocate it. In a letter, Emory states:

> On Wednesday afternoon, December 24, 1952, I, with two of my students, walked over the face of the slope where the slide must have existed. We found that the entire slope had been plowed or bull-dozed at one time or another and not a trace of what could be interpreted as a remnant of the slide. From the photograph it would seem to have emerged about the vicinity of Kapalama Street. (cited in Sterling and Summers 1978:321)

As discussed in Section 2.1.5 (Legend of the Kihapū) of this report, there was a *heiau* called Pāka‘aluna (or Pāka‘alanaluna) on the ridge separating Kapālama and Waolani Valley in Nu‘uanu Ahupua‘a. Samuel Kamakau places this *heiau* on the west ridge of Waolani Valley, which is the east ridge of Keanakamanō, the upper valley of Kapālama. A peak labeled Pāka‘aluna is shown on a 1851 map (see Figure 7) of Kapālama Ahupua‘a, and based on Kamakau‘s location information, this is probably also the location of the *heiau*. On modern maps, this peak is called Nāpu‘umai‘a.

Thrum mentions three *heiau* in his list of temples of Kapālama on the island of O‘ahu. “Oomaunahele and Paepaenuileimoku are names of Kapalama heiaus known only in tradition.” The third is Puea, which is “a noted place to which offerings were taken; probably only a sacred shrine. Long since removed” (Thrum 1909:41). Again the locations of these temples are not known. There is an ‘*ili* in Kapālama named Kapaepaeali‘i or Paepaeali‘i (labeled “Crown Land ½ Paepae Ili and LCA 6735 on the 1885 Brown map (see Figure 11).

Heiau often share the same name as the *‘ili* in which they are located, so this is one possible location of the *heiau*. However, on the 1851 map of Kapālama Ahupua‘a (see Figure 7), an area between Kūwili II and Keālia Ponds is also labeled as “Paepaealiii;” this is not contiguous with the Kapaepae *‘ili* parcels shown on the 1851 map. Paepae has a variety of meanings; it can mean a house platform, a built-up pool for keeping *‘o‘opu* fish, a taro embankment, or a supporter. The end term *ali‘i* suggests that the area was owned by a high chief or the king. Thus the *heiau* name may not refer to an *‘ili* location, but instead be associated with a pond, a house site, or even a person (“a supporter” of the *ali‘i*).

A *heiau* was found on the Kapālama Heights campus of the Kamehameha Schools in 1961 during bulldozing work near the preparatory school gymnasium. Whether this is a fourth *heiau* for Kapālama, or is one of the three *heiau* listed above, is unknown.

> Dr. Kenneth Emory, staff anthropologist for the Bishop Museum, said that the heiau, measuring about 40 feet by 30 feet, was used 150 to 200 years ago by Hawaiians to pray for rain and good crops.
>
> “We call it an agricultural heiau,” he said. “It’s not one of human sacrifice. . . .
>
> Next to the main platform of the heiau are two stone burial mounds. One is round, about 1 feet in diameter. The other is oblong, 15 feet long and four feet wide. (*Honolulu Advertiser* May 21, 1961)

The first post-1950 surveys of the uplands of Kapālama were carried out in the upper valleys of Kapālama and Keanakamanō (see Table 6). Earl Neller (1984), along with students of Kamehameha Schools, conducted a reconnaissance survey in a project area on the Kamehameha Schools campus at approximately 200-300 ft (60-90 m) along Kapālama Stream. They recorded six new historic properties: a wall, which he interpreted as part of a *heiau*, SIHP (State Inventory of Historic Places) 50-80-14-3727; a complex of platforms and walls, which he interpreted as a second *heiau* (SIHP -3732) and which had several unusual features, such as a stone basin and a rock with cut slits; a house platform (SIHP -3731); one habitation cave (SIHP -3729) and a cave with human bones (SIHP -3730); six agricultural terraces (SIHP -3728), probably used to grow taro; some walls, probably historic; an *‘ulu maika* (game piece) stone, and a stone adze. He also revisited SIHP -411, the phallic stone, first recorded by McAllister (1933). Because of the presence of the unusual small *heiau*, Neller speculated that his survey area may have been the ceremonial place used as a *lama* enclosure for the *ali‘i*, which gave rise to the name Kapālama for the *ahupua‘a* (Neller 1984:5).

Later in 1984, Kamehameha School students, led by Virginia Bail (1984), went back to the lower portion of Neller’s survey area. They excavated trenches at the wall (Neller’s SIHP -3727) and the terraces (Neller’s SIHP -3728), which were interpreted by Neller as a *heiau* and six taro terraces. In this and subsequent reports, the two historic properties seem to be merged into one number, SIHP -3727. Excavation revealed that the wall was poorly constructed and had fencing material and mortar incorporated into the structure. Bail (1984:10) concluded that the wall was not part of a *heiau*, and was probably constructed in the historic period. The terraces were also determined to be probably historic, as fence-posts were found in the terrace floors. The students also found historic artifacts associated with the terraces, including a shoe heel embossed “U.S. Army,” a metal button with 13 stars, and a 1944 penny. Maps indicate that a World War II

prisoner-of war camp was in this area, and it possible that this feature complex is related to the detention camp.

Bail (1985) and the students returned to SIHP -3727 (wall and terraces) in 1985 and excavated additional trenches. They found numerous other World War II artifacts at one historic dump site, including metal buttons, coins dating to 1937-1945, military-type eating utensils, first-aid kits, and most important, a portion of a weather-resistant jacket marked “PW” for Prisoner-of-War. The students conducted research at the Bishop Museum and discovered information on the prisoner-of-war camp, called Camp Kalihi. A lease from the Bishop Museum indicated that the camp was for 1000 prisoners and was located in the general area of SIHP -3727. Over 5000 Italian prisoners-of-war were shipped to O‘ahu after 1944 and were placed in camps at Schofield Barracks, Sand Island, Kāne‘ohe and Kalihi Valley. The prisoners did some work such as laundry, landscaping, and carpentry at the prisons or work details around O‘ahu. The camp could be seen from the Kamehameha Schools dining hall. A former principal remembered that “the prisoners spent much of their time playing soccer in their barbed-wire enclosure” (Kakesako 1993).

In 1988, Rogers-Jourdane of the Bishop Museum surveyed an area in the Keanakamanō Valley, which included Neller’s project area in the lower section but extended the survey area up to about 700 ft (215 m). She identified three historic properties, two overhang shelters (SIHP -2043 and -2044) and a wall (SIHP -2045), and revisited the six properties first identified by Neller (1984). Rogers-Jourdane disagreed with the functional interpretation of SIHP -3732, the “small *heiau*.” She believed that the slits in the stone at the site were made with metal tools and that there were also other indications at the site of modern quarrying with metal tools. Excavations in the vicinity of the low alignments or terraces believed by Neller (1984) to be taro terraces at SIHP -3727, largely showed fill over dense boulders or bedrock. The report concluded that there was overwhelming evidence for use of the features at this property as a World War II prisoner-of-war camp, including documentation of the lease of the land to the United States Government (included in an appendix to their report). There was no documented evidence for pre-Contact use.

During grading at the central courtyard of the Bishop Museum, Steiner-Horton (1993) found no evidence of pre-Contact deposits; some historic artifacts were found.

Scientific Consultant Services (Guerriero and Spear 1994) surveyed the proposed site for two new wells in Upper Kapālama above Kamehameha Heights. One historic property, consisting of two terraces, two alignments, and a lithic scatter, was recorded. The property was interpreted as an agricultural feature and was designated SIHP 50-80-14-4937. Basaltic and volcanic glass flakes were found on the ground surface.

At a lower elevation (about 160 ft or 50 m) for the Exploratory Well Site, Hammatt (1994) found no formal historic properties; one rock shelter was tested, but it did not contain any cultural material.

Aki Sinoto (2002) surveyed a land segment along Niuhelewai Stream in the Kamehameha Heights area. No archaeological features were found, but Sinoto noted that several of the bridges crossing the stream were more than 50 years old and thus of historical significance.

A reconnaissance survey of all undeveloped portions of the Kamehameha Schools campus was conducted by IARII (International Archaeological Research Institute, Inc.) in 2002 and 2003 (Rieth et al. 2004). Eleven previously identified historic properties and 138 new properties were recorded. These included terraces, enclosures, mounds, rock shelters and caves (some with burials), petroglyphs (made by students of the class of 1927), historic wooden structures, the remains of a 1940s World War II Italian prisoner-of-war camp, and modern construction and landscape features.

In 2006, Pacific Legacy (McIntosh and Cleghorn 2006) conducted pre-construction testing along the Puea and Ka‘ahumanu cemeteries before improvements were made to the Kamehameha Heights water system, due to concerns that unmarked graves could lie outside the modern boundary of the cemeteries. No cultural deposits or human remains were found in the ten test trenches along the north and east streets bounding the cemeteries. The testing was conducted on Alani Street (adjacent to the north boundary of Ka‘ahumanu Puea II Cemetery), and on Kapālama Street (adjacent to Puea Cemetery).

An inventory survey for the proposed Board of Water Supply Kalihi Beretania 24-Inch Water Main Project was completed by Cultural Surveys Hawai‘i in 2006 (Hammatt and Chiogioji 2006). The inventory survey consisted of a ground survey of the streets affected by the installation of the new water main. In Kapālama Ahupua‘a, the water main will extend along Waiakamilo, Houghtailing, Hala, and Kuakini streets. The pedestrian survey confirmed that the entire corridor was comprised of asphalt roadway, but two early twentieth century masonry arch bridges, one over Judd Street and one over Nu‘uanu Avenue, were recommended for an architectural evaluation of their historic significance.

Cultural Surveys Hawai‘i (Bell and McDermott 2006) was contracted by Kamehameha Schools to map SIHP 50-80-14-3727, a terrace and associated features located just *mauka* of the school’s main gate, first identified by Neller (1984) and subsequently tested by Bail (1984, 1985). Cultural Surveys Hawai‘i used a Trimble GPS Unit to map the property, which consists of a large terrace retaining wall, eight alignments, a cobble pavement, and three mounds. Limited excavations were later carried out at the property (Bell and Hammatt 2007), indicating that the surface structures were contemporaneous with the historic artifacts recovered from the test trenches.

# Section 5 Results of Field Inspection

A field inspection was carried out by David W. Shideler M.A. under the overall supervision of Hallett H. Hammatt Ph.D. on April 28, 2010. The project area was approached from the west via the Dillingham Boulevard Bridge. It was noted that the northwest abutment bears the inscription “1930” and that the northeast abutment bears the inscription “Kapalama Canal”. This is consistent with the 1927 U.S. Geological Survey map (Figure 28) which indicates a more or less natural Niuhelewai Stream and the 1943 War Department quad map (Figure 31) which indicates Niuhelewai Stream had been channelized by that time. This it appears likely the straightening and channelization occurred in 1929/1930.

The Kapālama Canal was noted to have many tilapia (the rippling in mid-stream in Figure 41) is due to a commotion of fish). A large porcupine fish (*Diodon* sp.) was observed. These casual observations underscored what an amenity the former Niuhelewai Stream must have been undoubtedly attracting marine fishes then as now. In the first centuries of Hawaiian occupation of the south shore of O‘ahu relatively little effort at spanning the stream with a net and driving fish through the shallows may have supplied fish in plenty. The presence of invasive, exotic mangrove also spoke to the connection with the sea and underscored how the stream would have supplied a riparian environment conducive to relatively lush growth of a different flora than generally might be expected on the Kapālama Plain.

It was noted that both banks of the Kapālama Canal are un-reinforced (Figure 40 to Figure 43). The exposed lower courses of strata above the water table consist of a parent material of a marl of fragmented branch coral. Notable was the prevalence of edible bivalve mollusk species including *Ostrea sandvicensis, Brachidontes crebistriatus* and *Tellina palatam* (Figure 42). The abundance of these species in the east Kapālama Channel bank suggests a pattern of deliberate human predation (i.e. these shells appear to represent archaeological midden). Minimally their presence underscores the abundance of shellfish resources in the immediate vicinity that would have made the project area particularly inviting. Also observed in the east Kapālama Channel bank were water rounded basalt cobbles, that in some places appeared to be grouped, possibly constituting archaeological features (Figure 43). Minimally the stream transport of basalt cobbles onto the raised reef Kapālama Plain would have provided a ready supply of building material that would endure in the archaeological record.

Inspection of the western and eastern proposed alternative sites for the Advanced Technology Training Center (Figure 43 to Figure 47) revealed the areas as landscaped parking lots built on fill and no archaeological features were observed at either proposed alternative building site. No particular insights were gained from the alternative site areas per se other than re-emphasizing their proximity to the former Niuhelewai Stream and what a good environment this would have been for early Hawaiian settlement and fairly intensive traditional Hawaiian habitation and agriculture.

Figure 40. View of from 1930 Dillingham Boulevard Kapalama Canal Bridge (“1930” date inscription visible on abutment), view to ENE towards presently proposed alternative sites for the Advanced Technology Training Center

Figure 41. View from across Kapālama Canal towards presently proposed alternative sites for the Advanced Technology Training Center, view to southeast

Figure 42. View of edible bivalve species (*Ostrea sandvicensis*, *Brachidontes crebistriatus* and *Tellina palatam*; lower left of center*)* observable in the east bank of Kapālama Canal adjacent to the project area

Figure 43. View of water rounded basalt cobbles (lower left of center) – possibly an archaeological feature exposed in the east bank of Kapālama Canal

Figure 44. General view of western proposed alternative site for the Advanced Technology Training Center, view to northeast

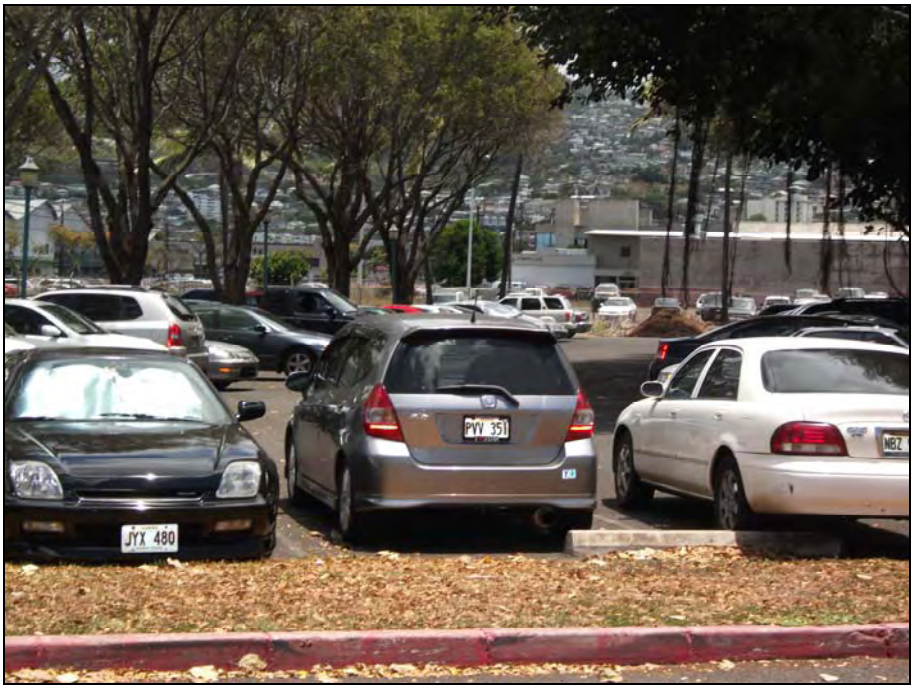


Figure 45. General view of western proposed alternative site for the Advanced Technology Training Center, view to north

Figure 46. General view of eastern proposed alternative site for the Advanced Technology Training Center, view to northwest

Figure 47. General view of eastern proposed alternative site for the Advanced Technology Training Center, view to west

# Section 6 Summary

At the request of Design Partners Inc., Cultural Surveys Hawai‘i, Inc. (CSH) conducted an Archaeological Literature Review and Field Inspection Report for the Honolulu Community College Advanced Technology Training Center Project Kapālama Ahupua‘a, Kona District, O‘ahu Island The purpose of this project was to gather historical, ethnographic, and cultural information as may inform development of the proposed Advanced Technology Training Center Project as well as future projects on the Honolulu Community College campus. The area of interest for the study is the entire *ahupua‘a* of Kapālama, with focus on the Honolulu Community College campus and the proposed alternative sites for the Advanced Technology Training Center in particular.

The lands of Kapālama are also mentioned in historical accounts of Hawai‘i’s battles and conquests. Kū‘ali‘i’s defeat of the rebelling Ko‘olaupoko *ali‘i* in A.D. 1720-1740; Kahahawai‘a defeat of Kahāhana in A.D. 1780-1783; the rebellions of the ‘Ewa and Kona Chiefs post 1783; and Kamehameha’s invasion and conquest of O‘ahu in A.D. 1795.

Reference of Kapālama in Hawaiian *mele* also reflects the significance of the area. *Pu‘uhonua Nani* by Malia Craver speaks of Mu‘olaulani, Queen Liliu‘okalani’s home in Kapālama. *Moanalua*, arranged by David Nape and collected by Samuel H. Elbert and Noehani Mahoe, references Kapālama’s rice paddies. *Pua Hē‘ī*, copyrighted by Johnny Noble, speaks of the winds of the islands and the greatness of Kapālama.

Background research has indicated that Kapālama was a locus for habitation and agriculture in the pre-Contact and post-Contact periods, although not as densely inhabited as Nu‘uanu Valley to the east and Kalihi Valley to the west. Stretching out from the base of the ridge towards Honolulu Harbor was the well-watered taro area of Kapālama described by Handy and Handy (1972:475) as “almost continuous from Iwilei up to the foothills of above School Street, an area measuring about three quarters of a mile both in depth inland and in breadth.” Historic information indicates that traditionally, habitation was focused within the same well-watered plain, which extended to the shoreline. John Papa ‘Ī‘ī (1959:58) noted “innumerable people all over the farming area.”

Fishponds were also an important natural and cultural resource for the people of Kapālama. Kūwili I and Kawa fishponds were both documented in numerous historical accounts and maps until they were dredged out and covered over for the establishment of O‘ahu Railway and Land Company Depot.

During and after the Māhele, the importance of Kapālama is evident in the fact that Kamehameha kept these lands for himself and then passed them on to his family through his grandchildren Moses Kekūāiwa, Victoria Kamāmalu and Lot Kamehameha, and eventually to Bernice Pauahi Bishop where they became part of her estate. Roughly 100 *kuleana* lots were awarded to Hawaiian commoners in Kapālama. These *kuleana* lands were located on the flood plains to the east of Waiakamilo/Houghtailing Street and included house and *lo‘i* for the cultivation of *kalo*.

The first detailed map of Kapālama, made by J. F. Brown in 1885, shows a traditional Hawaiian landscape of small *kuleana* LCA parcels extending across the Kapālama plain (see

Figure 11). LCA documents indicate that this area was intensively utilized for both permanent habitation and agriculture.

The former taro land *makai* of School Street, which in part has been converted to rice fields between the 1870s and 1910, were becoming housing and industrial subdivisions in the early twentieth century. This land use change was facilitated by the construction of Kapālama Canal. The canal channelized Kapālama and Niuhelewai streams and allowed for sub-street storm drain runoff collection. During the last half of the twentieth century, the Kapālama area continued to undergo changes associated with the urban expansion of Honolulu. Increased housing, industrial and commercial activities continue to occur today.

As is evident from the historical documentary and archaeological research, Kapālama has a rich history with traditions that are still remembered and esteemed by those with whom we spoke. There is great potential for the preservation of this history through the increased awareness and perpetuation of the cultural resources and practices once common and still part of living memory in the area.

Background study emphasizes that the Honolulu Community Colledge campus lies within a former locus of dense Hawaiian Land Commission Awards indicating a pattern of both permanent habitations and pond field cultivation of taro irrigated off of Niuhelewai Stream. This pattern of circa 1850 may have been in place for centuries drawing upon the abundant natural resources made possible by Niuhelewai Stream. Evidence of pre-contact Hawaiian occupation would be expected. Burials have been reported from the vicinity (Dunn et al. 1991, Jourdane 1994 & Hammatt 1995) and more burial finds might be expected.

An archaeological monitoring program is recommended as appropriate mitigation to attend the subsurface work associated with the proposed Advanced Technology Training Center Project and associated work (such as a proposed telecom ductline). Early consultation with the State Historic Preservation Division is also recommended to obtain its concurrence with this recommendation or its recommendations for follow on archaeological work.

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# Appendix A Legendary and Traditional Background Research

## 7.1 Place Names

Place names can refer to natural geographic locations, such as streams, peaks, rock formations, ridges, and offshore islands and reefs, or they can refer to Hawaiian divisions, such as the *ahupua‘a* (large land division), the *‘ili* (smaller land divisions within an *ahupua‘a*), a garden, or a fishpond. Hawaiian place names are often descriptive, matching their literal translation, but sometimes they refer to historical or legendary figures. The definitive source for Hawaiian place name meanings is the book, *Place Names of Hawaii* by Mary Kawena Pukui, Samuel Ebert, and Esther Mo‘okini (Pukui et al 1974). All place name meanings listed in this report are from this source, unless otherwise noted. The main geographical points and land divisions in and surrounding Kapālama are shown on Figure 7. Many of these place names are associated with *mo‘olelo* (stories), *mele* (chants), and *‘ōlelo* (proverbs), which are discussed in the next section (Section 7.2, Legends of Kapālama).

Kapālama Ahupua‘a extends from the seacoast to the head of **Kapālama** (“the *lama* wood enclosure”) Gulch at approximately 4 kilometers from the coast. In the upper section of Kapālama, the high point of the ridge surrounding Kapālama Gulch defines the eastern and western boundary. Unlike most O‘ahu leeward *ahupua‘a*, it does not extend all the way to the Ko‘olau Mountains; instead it is “cut off” by **Kalihi** (“the edge”) Ahupua‘a on the western boundary and **Nu‘uanu** (“cool height”) Ahupua‘a on the eastern boundary (Figure 48).

The highest peak in Kapālama is **Nāpu‘umai‘a** (“the banana hills”), 1870 feet AMSL (above mean sea level) at the head of **Waolani** (“heavenly mountain area”) Valley, the western section of Nu‘uanu. An alternate name for this high peak may be **Pāka‘aluna** (meaning unknown). **Waolani** is also the name of a peak (1414 feet AMSL) on the ridge separating Kapālama from Nu‘uanu’s Waolani Valley. The boundary with Nu‘uanu then extends along the western boundary of **‘Ālewa** (“suspended on a height”) Heights and then down to the coast on the east side of a high, rocky area called **Kalaepōhaku** (“the stone promontory”). The lower eastern boundary of Kapālama is ambiguous, as the early development of Honolulu town obscured boundary lines in the Honolulu coastal plain. On one early map, the eastern boundary of the *ahupua‘a* extends all the way to Nu‘uanu Stream, and includes within the *ahupua‘a* the large *‘ili* of **Kūwili** (“stand swirling”) and **Iwilei** (“collarbone *or* a unit of measurement”), and the ponds (*loko*) **Kūwili I** and **Kawa** (possibly “precipice or leaping place”; Pukui and Elbert 1986:139). During the Māhele, Iwilei was considered an *‘ili* of Honolulu, rather than Kapālama, and thus the eastern boundary of Kapālama extended only to the western point of Kūwili I Pond, generally following the modern alignment of Pālama and Alaneo streets, west of Liliha Street.

**Keanakamanō** (“the cave of the shark”) is the name of a peak (approximately 1500 feet AMSL) at the head of a narrow valley, also called Keanakamanō, on the western side of Kapālama. Tradition also talks of a cave called Keanakamanō, but its exact location is unknown. At the level coastal flats, the western boundary extends from the mouth of Keanakamanō Valley

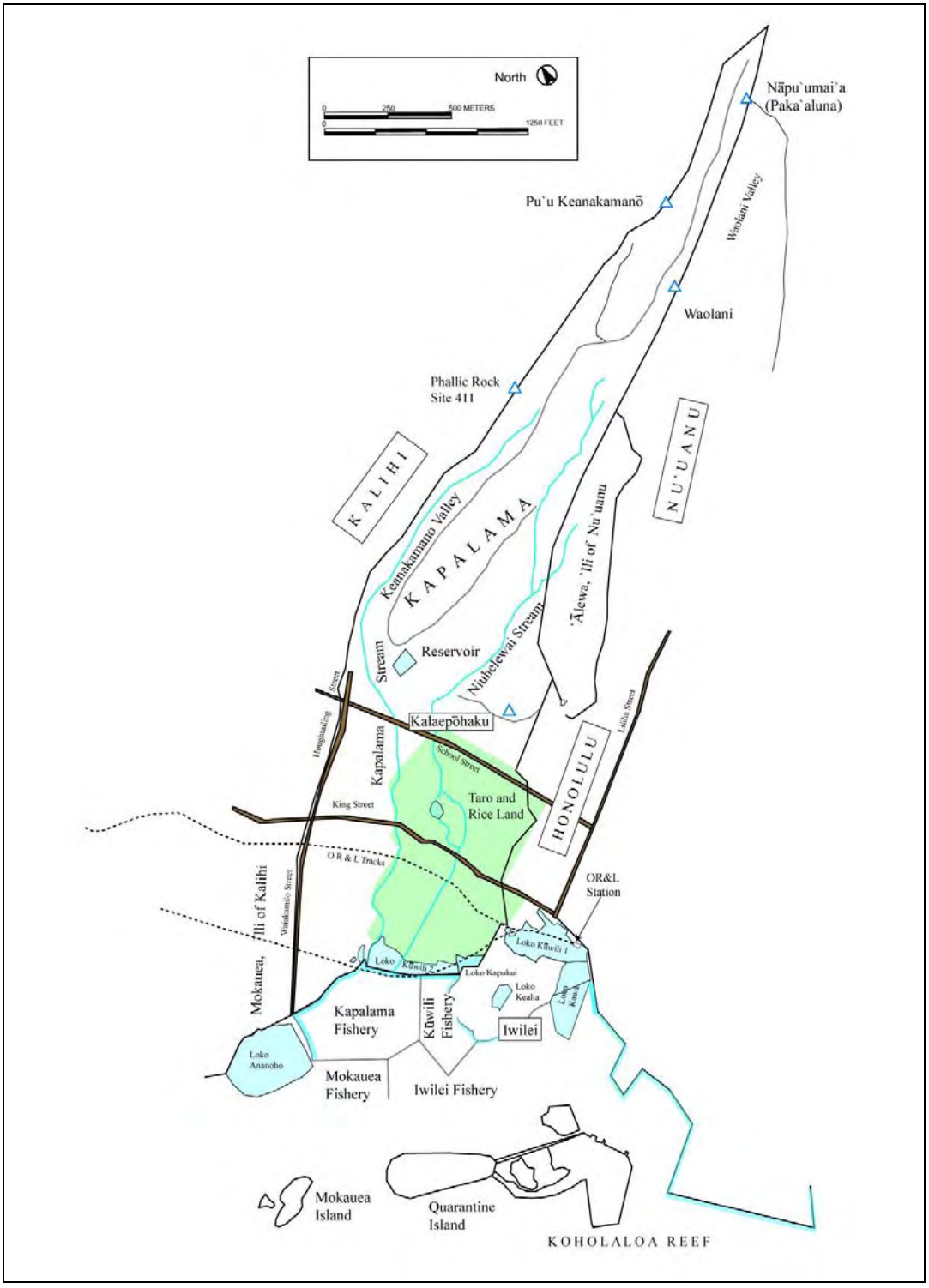


Figure 48. Place names of Kapālama; 1919 War Department quad used as background map; at the coast is the eastern edge of **Ananoho Pond** (possibly “dweller’s cave”; Thrum 1922:627) in Kalihi.

along a low *pali* (cliff) that separates Kapālama from the *‘ili* of **Mokauea** (possibly “broken turtle place”; Thrum 1922:660) in Kalihi. This division line is generally the same as the present alignment of Waiakamilo Street and Houghtailing Street. The boundary point at the coast is the eastern edge of **Ananoho Pond** (possibly “dweller’s cave”; Thrum 1922:627) in Kalihi.

The *ahupua‘a* has two streams, the **Kapālama** and the **Niuhelewai** (“coconut going [in] water”). They merge and extend through the central fertile former taro and rice fields, an area also called Niuhelewai. This area drains into a pond called **Kūwili II.** There were two other named ponds, **Kealia** (possibly, “salt bed”) and **Kapukui** (meaning unknown), to the east of Kūwili II, shown as part of Kapālama or as part of Iwilei, depending on the map. The offshore waters were divided into the Iwilei, Kūwili, Kapālama, and Mokauea Fisheries, between the shore and a high reef called **Koholaloa** (“long reef”; Pukui et al. 1974:115)**.** At low tide, several islands were clearly visible above this reef, Mokauea Island off Kalihi, and Koholaloa off Kapālama. In the early historic period, the island off Kapālama had several other names, including **Mauliola** (named for “a god of health”), **Kamoku‘ākulikuli,** (‘Ākulikuli plant island) and **Akulikuli** Island. Beginning in the 1840s, the reef area was dredged and the resulting material was used to connect and expand some of the small islands off the coast, to form **Quarantine Island** and ultimately **Sand Island**. The evolution of these names is discussed in greater detail in Section 3.3.8 on “Changes in Honolulu Harbor.”

Early historians have reported that there were at least four ceremonial structures in Kapālama, a shrine called **Puea,** and three *heiau* called **Pāka‘aluna** (or **Pāka‘alanaluna**), **Oomaunahele** and **Paepaenuileimoku**. Pāka‘aluna Heiau may have been located on or near Pāka‘aluna Peak, but the locations of the other three features are unknown. The meanings for these *heiau* names are also unknown.

# 7.2 Legends of Kapālama

### 7.2.1 Kapālama and Lepeamoa, the Bird Maiden of Pālama

The place name **Kapālama** is often understood to refer to an enclosure (*pā*) of *lama* wood that surrounded the place of residence of high ranking *ali‘i* (chiefs) (Pukui et al. 1974:87). McAllister (1933:88) relates: “Kapalama is said to have obtained its name from an establishment in which the young *ali‘i* were kept just before pairing off for offspring.” This information probably came from Nathaniel Emerson, who translated David Malo’s “*Ka Mo‘olelo Hawai‘i*.” Emerson added many notes to his English translation, including the following:

> *Hoonoho ia* means put in an establishment, placed under the care of a guardian or duenna [chaperone]. Such an establishment was surrounded by an enclosure, *pa*, made of the sacred *lama* . . . Hence this special care or guardianship was called *palama*. It is said that an establishment of this kind was anciently placed at that suburb of Honolulu which to this day bears the name of *Ka-pa-lama*. (Malo 1951:139; note by N. B. Emerson)

Westervelt (1923:165) attributes the O‘ahu place name to a chiefess of O‘ahu who lived in that area. This chiefess was Kapālama, the grandmother of Lepeamoa (Hawaiian for “cockscomb”). There are several retellings of this story (Knudsen 1946:63-69; Pukui and Curtis 1994:118-126; Westervelt 1963a:204-245), but all seem to use Westervelt (1923) as their source.

A chief of Kaua‘i, named Keāhua, traveled to O‘ahu to take Kauhao, the daughter of Kapālama, as his wife. He angered the *kupua* (supernatural being that can change form) called Akuapehuale (god of swollen billows), who forced the couple to hide in the uplands of the Wailua River valley of Kaua‘i.

Keāhua’s daughter was born as an egg, and was adopted by the chiefess Kapālama to raise on O‘ahu at her home, also named Kapālama. When the egg hatched, Lepeamoa was a bird with feathers all the colors of the rainbow. She became able to turn herself into a beautiful young woman wearing a feather *lei*. The girl was so beautiful that a rainbow was always present above her. The girl was guarded by her ancestress, Keaolewa (“the moving cloud”), who could also change forms between human and bird. The lower ridge separating Kapālama and Nu‘uanu (‘Ālewa Heights) may have been named for this ancestress.

The parents of Lepeamoa had another child, a son called Kau‘ilani, who was so strong that he was able to defeat the *kupua* who had threatened his parents. On Kaua‘i, there are several place names associated with this story. Kauhao (meaning “the scooping”), is the name of a deep valley in the *ahupua‘a* of Miloli‘i in the Waimea District. Lepeamoa is a point at the mouth of Ka‘auhau Valley in the same *ahupua‘a*. The valley in Wailua Ahupua‘a in the Puna District where Kau‘ilani defeated Akuapehuale was named Keāhua (meaning “hillock”) after the chief, his father (Wichman 1998:81, 158).

After Kau‘ilani’s victory over the *kupua*, he went to O‘ahu to find his sister, searching for the rainbow sign of her presence. In her compound, he found Kapālama, who advised him to hide in Lepeamoa’s house, wait until she was asleep in her bird form, and catch and hold her until she acknowledged him as her brother. Her advice worked, and Lepeamoa lived with her brother thereafter (Westervelt 1923:164-184).

Additional stories are told of Kau‘ilani and his magical sister Lepeamoa. In one story, the Maui chief, Mauinui, had a fighting rooster. This rooster was also a *kupua* that could change forms; by the use of its magic it always defeated any challenger. The O‘ahu chief Kakuhihewa was hosting the Maui chief at his residence in Waikīkī and was losing many goods while betting on the cock-fighting, which the Maui chief’s rooster always won. Kakuhihewa had heard about the hero Kau‘ilani and asked him if he could find some way to defeat the Maui rooster. When Kau‘ilani agreed, Kakuhihewa gave him his daughter in marriage. Kau‘ilani asked for the help of his sister, who turned into a beautiful hen to fight the rooster. The two combatants both changed forms several times during the battle, but eventually Lepeamoa won. The daughter of the king had a child, called Kamano, who Lepeamoa took back to Kapālama to care for (Westervelt 1923:227-245)

### 7.2.2 Stories of Hero’s and Gods

In the Legend of Palila, a hero had a war club that could magically carry him far distances in a single flight. Palila came to the plain of Keahumoa in ‘Ewa to participate in the athletic games given by the O‘ahu king, Ahuapau. The residence of this chief was said to be at Kalaepōhaku, near Wailuakio in Kapālama (Fornander 1918, *Legend of Palila*, Vol. V, Part I:142). Kalaepōhaku Peak (meaning “the stone promontory”) is near the intersection of School and Alaneo streets in Kapālama.

A place named Niuhelewai (*lit*. “coconut going in water”) in lower Kapālama, located *makai* of King Street (Fornander 1917, *Legend of Kaulu* Vol., IV, Part III:530-531; Fornander 1919, *Legend of Kaulu* Vol. V, Part II:368) was associated with the deity Haumea and the hero, Kaulu, who was known for his great strength.

Kaulu was born in Kailua on the windward side of O‘ahu. His older brother Kaeha was taken by the spirits to a realm of gods in the sky. For love of his brother, Kaulu followed him to this realm, playing a number of tricks on the gods, including Makali‘i, the god of plenty, who had a magic fish net that would fill with fish whenever used. After playing the tricks, Kaulu then had to rescue his brother from the wrath of the various spirits. The brothers finally returned to the land of men on O‘ahu, setting down at Moanalua (*ahupua‘a* west of Kapālama).

> *A hiki laua ma Moanalua, i Papakolea, hoonoho o Kaulu ia Kaeha ilaila; hele mai la o Kaulu a loaa o Haumea i Kapalama. He ‘kua o Haumea no Oahu nei, e noho ana ia i Niuhelewai, he wahine of Haumea.*
>
> When they arrived at Papakolea, Moanalua, Kaulu left Kaeha at this place while he continued on his way to Kapalama in search of Haumea. Haumea was a spirit that lived at Niuhelewai, Oahu. It was a female spirit. (Fornander 1917 Vol. IV:530-531)

Haumea, the goddess of childbirth, had a home at Niuhelewai in Kapālama; she challenged anyone who passed by, often killing them. Kaulu challenged Haumea to a fight on the following day. That night he flew back up to the spirit land in the clouds and borrowed the magic nets of Makali‘i, and then threw them over Haumea’s house. When Haumea could not break through these nets, she fell asleep in exhaustion, tangled in the nets. While asleep, Kaulu burned down her house, killing her.

### 7.2.3 Legend of the Tapa Board

A brief mention is made of Kapālama in the Legend of the Tapa Board, which has several different versions (Pooloa 1919; Raphaelson 1925; Sterling and Summers 1978:25-26, 149; Thrum 1911:129-131). Tapa is placed on a wooden board (also called an anvil), and beaten by women with tapa sticks to soften and smooth out the fibers. This pounding made a resonant sound, and women could often identify the owner of the board by the sound that was made. One day a woman in Kahuku on O‘ahu took her favorite tapa board to a pool to clean it and left it at the side of the pool. The next day the board was missing. The pool is identified as Waiakaole, Punaho‘olapa, or Waikalai, all in Kahuku, in various versions. The woman first searched the windward districts of the island, but never heard the distinctive ringing sound of her own favorite board. After several months without finding her board, she traveled to the leeward side of O‘ahu.

> She went from Kahuku on the Koolau side to Kaneohe where she spent the night. There was no sign of the anvil in Koolau, because the sign she sought was the sound it made. . . . She went on and spent the night at Wailupe but did not find hers. She heard other anvils but they were not hers. The night turned into day and she went on to Kapalama where she slept but did not hear what she sought till she came to Waipahu. (*Ka Loea Kalaiaina*, June 10, 1899; English translation in Sterling and Summers 1978:25)

At Waipahu Spring in the ‘Ewa District, she finally heard the sound of her own board. She followed the sound to the uplands of Waikele and found a woman beating tapa on her board. The woman claimed that she had found the board one day floating on the water at a spring near her house. This legend illustrates the belief by the ancient Hawaiians that there were underground streams and passages that led from one side of the island to the other. In one version of this story, the people of ‘Ewa followed the woman back to Kahuku so that she could prove that the board was the same one she had lost. They wrapped a bundle of *ti* leaves and cast them into the pool near the house of the Kahuku woman. Then returning to ‘Ewa, they saw the same bundle of *ti* leaves a few days later in Waipahu at the spring. Because of this, the Waipahu spring was called Ka-puka-na-wai-o-Kahuku, which means “Outlet of water from Kahuku.”

### 7.2.4 Keanakamanō, the Cave of the Shark

Near the Kamehameha Schools there was once a cave called Keanakamanō, which means “cave of the shark” (Sterling and Summers 1978:323). The Hawaiians have many stories concerning legendary caves that connected inland springs to the sea or extended below the Ko‘olau Mountains, connecting the leeward and windward sides of the island.

> On the Kamanaiki side of the Kalihi Valley there was once a shallow cave called Keana Kamano. It was called the cave of the sharks because the big shark gods from Pearl Harbor often went there to rest.
>
> Keana Kamano led into the fabulous underground cave believed in olden times to occupy the center of the island of Oahu.
>
> One branch of the cave led around and under the mountains to Pearl Harbor. Another branch of the cave led to the center of the Island where there was a sacred pool for swimming.
>
> Hawaiians living today can tell of elders who once traveled these caves and who once swam in the sacred pool. An earthquake about 1900 closed up the caves and no one has been known to travel them since.
>
> It may be that the cave-in of the Wilson Tunnel occurred over the old lava tube leading to Pearl Harbor. (Taylor 1954)

An access street, called Kealamanō (“the way of the shark”) on the Kamehameha School’s Kapālama Heights campus is named for this cave. The shark referred to is Kamohoali‘i, king of the sharks, who is the older brother of Pele, the Hawaiian volcano goddess. On the long trip of Pele’s family to Hawai‘i, it was Kamohoali‘i who acted as the navigator. Don Mitchell, who said that earthquakes in 1900 caused the collapse of the cave (1993:146), states:

> His [Kamohoali‘i] favorite pastime was to swim through the extensive water-filled lava tubes or tunnels that extended from Pearl Harbor to areas under Kalihi Valley. As the tunnels rose above sea level, he assumed his human form and walked to his cave, Keanakamanō, on Kapālama Heights.

### 7.2.5 Pāka‘aluna Heiau and the Legend of the Kihapū

Samuel Kamakau (1991:130) says that the first *heiau* in the islands were built in Waolani Valley by Wākea, said by some to be the progenitor of the Hawaiian race:

> In Waolani, Wākea built the first *heiau* houses for the gods. These were Kupuanu‘u, Kupualani, Pāka‘a-lana-lalo, and Pāka‘a-lana-luna. They were in the valley of Waolani. On the ridge that joins Waolani and Kapālama were two *heiau,* one overlooking the valley of Ke‘ana-o-ka manō and the other overlooking Nu’uanu valley. These were the *heiau* where, it was said, most of the *‘e‘epa* people lived and most of the people of wondrous fame who lived at Waolani lived.

The Hawaiian word “luna” means “high” and the word “lalo” means low, suggesting that Pāka‘a-lana-luna was at a higher elevation than Pāka‘a-lana-lalo. An 1851 outline sketch of Kapālama may indicate where Pāka‘a-lana-luna Heiau was located. At the *mauka* end of the *ahupua‘a*, a peak on the east side is marked “Pakaaluna”, while a peak on the west side, is marked “Puu Keanakamano” (in Keanakamanō Valley). It is possible that Pāka‘alanaluna Heiau was built on Pāka‘aluna Peak (Figure 49). On modern maps, this peak is called Nāpu‘umai‘a, and it is located at the head (*mauka* end) of Waolani Valley.

Samuel Kamakau (1991:19-21) relates a legend about two *heiau* named Pāka‘alana, one in Waipi‘o Valley on Hawai‘i Island and one near Waolani Valley in Nu‘uanu on O‘ahu. There was once a boy named Kapuni.

> *He keiki o Kapuni na Kauhola. Ua olelo ia oia he Alii i hanau i ka la hookahi, a hele no, a nui no, a kanaka makua no, a elemakule no, a make no i ka la hookahi. Ma Waipio kahi i hanau ai, a ua waiho ia iloko o* ***Pakaalana*** *o ka Heiau, a ua hoolilo ia i akua* [Kamakau, *Kā Nūpepa Kū‘oko‘a,* July 13, 1865].
>
> Kapuni was the son of Kauhola. It is said that he was a chief born, walked, grew, became a mature man and an elderly man all in one day. He was born at Wai-pi‘o, Hawai‘i, was laid away at **Paka‘alana** *heiau,* and became a god. (Kamakau 1991:19)

One day two gods passed Kapuni’s home in Waipi‘o and saw him leaping far into the air, only to fall back to the ground. One god caught him in one of his leaps, and cut off a part of his body (his testicles), so that he would be light enough to leap high and to fly. The boy traveled with the gods to Kahiki (the ancestral Hawaiian homeland) and then to Kaua‘i, where they heard the sound of a conch shell (*pū*) blown by the *‘e‘epa* (legendary gnomes) at the Waolani temple in Nu‘uanu Valley.

Kapuni decided that he wanted that shell, even though the gods warned him that it was well-guarded by the *‘e‘epa*. Nevertheless, the three traveled to O‘ahu, landing at Pāka‘aluna Heiau, above where the shell was kept. Kapuni rested on a stone there in the land called Niolapa (an *‘ili* of Nu‘uanu). Kamakau provides some information on this location:

> *Hoi mai lakou nei mai Kauai mai, a luna o Kahakea, noho lakou a po. Lele mai lakou a kela pohaku pili ilaila (oia ka pili o Kapuni), aia ka Heiau e kani ai o ka*

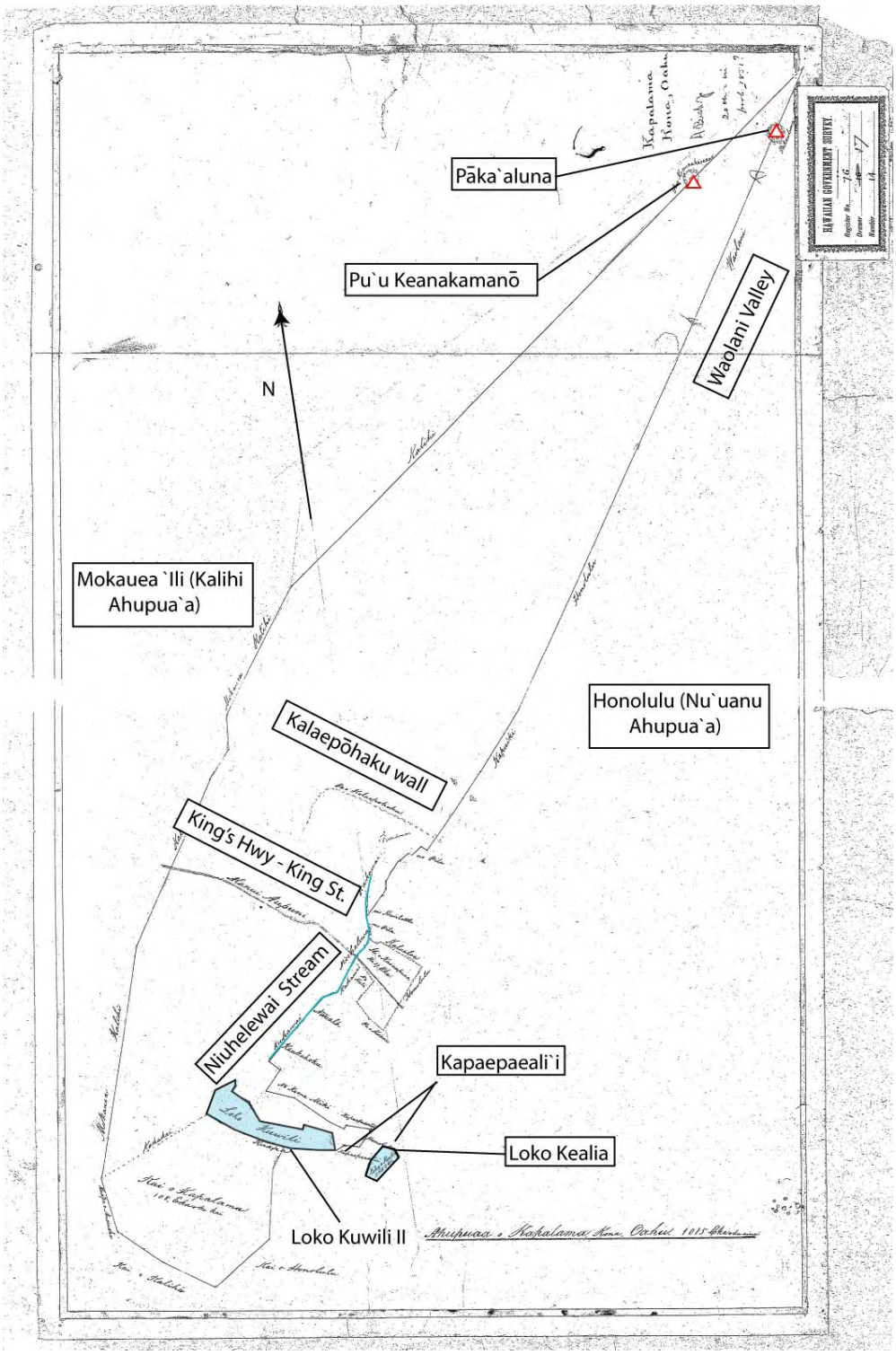


Figure 49. 1851 (ca.) map (not to scale) of Kapālama Ahupua‘a boundary, drawn by A. Bishop (Reg. Map No. 76, Hawai‘i Land Survey Division); note possible location of Pāka‘alanaluna Heiau near Pāka‘aluna Peak (now called Pu‘u Nāpu‘umai‘a)

> *pahu iluna aku o Waolani, iluna o ka puu, o Pakaaluna ka inoa o ua Heiau la*. (Kamakau, *Ka Nūpepa Kū‘oko‘a*, July 13, 1865)
>
> They came from Kaua‘i and stayed for a night above Kahakea, then leaped over to that rock (the one associated with Kapuni) there by the heiau where the pahu drums were sounded, above Waolani. Pāka‘a-luna [Pāka‘a-lana-luna] was its name. (Kamakau 1991:20)

Kapuni stole the shell from the *paehumu* (taboo enclosure) outside of the *heiau*, and the three leapt into the air, and flew north over the ocean to Moloka‘i. During this leap, the shell touched the ocean water and sent out a clear blast. The god of the temple heard the sound, and chased the thieves, but Kapuni and his friends hid in the waves and the god could not find them. They took the shell to a *heiau* in Hainoa, in the North Kona District of Hawai‘i island. The *heiau* became a gathering place for the gods, who often blew on the trumpet shell.

In a continuation of this tale (Fornander 1917, *Legend of Pupualenalena*, Vol. IV, Part III:558-560; Kamakau 1991:21-22; Skinner 1900:248-252; Westervelt 1963b:105-111; Westervelt 1987:214-218), Kiha was a chief of Hawai‘i dwelling in Waipi‘o Valley. He had dedicated a *heiau* in Kawaihae and had placed a *tabu* of silence until the dedication of this temple. The sound of the shell broke this tabu, and Kiha determined to find the shell and take it for himself. He enlisted the aid of a dog, named Pupualenalena, who was an excellent thief. The dog stole the shell, jumping over the walls of the *heiau* in Hainoa and bringing the magical object back to Kiha in Waipi‘o Valley.

> The shell was renowned for its wonderful sound, and could call the warriors of the king from any distance when the king caused it to be blown. It was known as Kiha’s shell, the Kiha-pu. (Westervelt 1963a:110)

In other stories of the *kihapū* (Emerson 1988:130-131; Gowen 1908:19-26; Kalākaua 1990:251-265; Pukui and Curtis 1949:229-235), the owner of the shell is the Hawaiian chief Kiha, his son, Liloa, or his grandson, Umi, who ruled the island of Hawai‘i from ca. 1560-1620 (Cordy 2002:191). In one story, Kiha of Waipi‘o was the owner of the magic shell, which had been passed down through his family. It was stolen by a band of thieves, who fleeing Hawai‘i, finally made their way to Waolani Valley. The thieves’ leader, a man named Ika, became cruel to his followers, one of whom decided to bring about his downfall by silencing the shell, and thus negating the powers that the shell gave to Ika. A priest at the temple in Waolani placed a *pe‘a* mark, or tabu cross, on the shell. When Ika next tried to blow the shell, it made an ordinary sound, not the loud, supernatural sound it had once made. A priest was consulted, who told Ika the magic of the shell could only be restored if it was taken back to Hawai‘i. The thieves returned to their old haunts above Waipi‘o Valley, and Kiha, learning of their return, determined to steal the shell back. He enlisted the help of the dog, Pupualenalena, who stole the shell and fled back to the valley. On the way, he dropped the shell once, breaking off the part with the *pe‘a* mark, and restoring the supernatural sound of the shell. When Kiha regained the shell, he summoned his men to capture the band of thieves, who were sacrificed in the temple of Pāka‘alana in Waipi‘o.

These legends are interesting in that two *heiau* named Pāka‘alana, one on Hawai‘i and one on O‘ahu, are both associated with the Kihapū legend. King Kalākaua said of the Waipi‘o *heiau*:

> Its tabus were the most sacred on Hawai‘i, and a descendant of Paoo officiated there as high priest. It was connected with the palace enclosure by a sacred stone pavement, which it was death for any but royal and privileged feet to touch, and on its walls were over a hundred gods. (Kalākaua 1990:178)

Several early authors noted that the shell came into the possession of Kamehameha I, and was passed down through his family, finally being incorporated into the collection of the Bishop Museum (Fornander 1880:72). According to the Bishop Museum ethnology collection database (http://www2.bishopmuseum.org/ethnologydb/detailed.asp?ARTNO=06458), the *kihapū* is currently part of the museum collection.

### 7.2.6 Fishponds of Kapālama and Iwilei

According to Māhele documents, Kūwili Pond (Kūwili I), Kawa Pond, and the land surrounding them in the *‘ili* of Kūwili were considered part of the *ahupua‘a* of Honolulu, not Kapālama. However, these ponds are surrounded by Kapālama lands and were an important resource for the inhabitants of the area.

Kūwili, literally, means “stand swirling” (Pukui et al. 1974:125). Kūwili [Kūwili I] Pond is mentioned in the legend of Kū‘ula, the fish god of Hawai‘i. ‘Ai‘ai, son of Kū‘ula, gave the sacred *pā* (fishhook), called Kahuai, to his son, Puniaiki, who used it to summon a school of *aku* (*Katsuwonus pelamys*; ocean bonito) in Honolulu harbor. The *aku* “unprecedented in number, fairly leaped into the canoes . . . and the shore people shouted as the akus which filled the harbor swam toward the fishpond of Kuwili and on to the mouth of Leleo stream” (Manu 1998:247-248). No oral traditions, legends, or other ethnographic information have been found regarding Kawa Fishpond. The Hawaiian word “kawa” literally translates as a precipice or leaping place, or the pool below a precipice into which swimmers leap (Pukui and Elbert 1986:139).

Three other ponds are labeled on historic maps, Loko Kūwili II and Loko Kapukui in Kapālama and Loko Kealia in Iwilei. Pukui et al. (1974) do not give meanings for Loko Kapukui or Loko Kealia, but *keālia* is the Hawaiian word for salt bed, which may indicate that at least one of these ponds was used for salt collection.

## 7.3 Winds, Rains, and Seas of Kapālama

Each small geographic area on O‘ahu had a Hawaiian name for its own wind, rain, and seas. The name of the winds of O‘ahu are listed in a chant concerning a powerful gourd called the wind gourd of La‘amaomao. When the gourd was opened, a specific wind could be called to fill the sails of a canoe and take the person in the desired direction. The chant lists the winds of the Honolulu area from east to west.

> Kukalahale is of Honolulu,
> ‘Ao‘oa is of Māmala,
> ‘Ōluniu is of Kapālama,
> Haupe‘epe‘e is of Kalihi,
> Ko-momona is of Kahauiki.
> (Nakuina 1990:43)

The names of the seas of southeastern O‘ahu are listed in a chant for the high chief, Kūali‘i, paramount chief of the Hawaiian Islands from 1720 to 1740 (Cordy 2002:19). From the east end of Waikīkī to the west boundary of the Kona district at Moanalua Ahupua‘a, the seas were:

> A sea for surf swimming is Kahaloa [*sic*] [in Waikīkī]
> A sea for net fishing is Kalia [in Waikīkī]
> A sea for going naked is Mamala [mouth of Honolulu Harbor]
> A sea for swimming is Kapuuone [in Kapālama/Kalihi]
> A sea for surf-swimming sideways is Makaiwa [in Kapālama/Kalihi]
> A sea for catching ‘*anae* [mullet] is Keeia [in Moanalua]
> A sea for crabs is Leleiwi [in Moanalua]. (Fornander 1880:390)

## 7.4 Traditional Accounts of Battles in Kapālama

### 7.4.1 Kū‘ali‘i’s (A.D. 1720-1740) Defeat of the Rebelling Ko‘olaupoko Chiefs

Kū‘ali‘i was originally a Maui chief, but through a series of battles with the ‘Ewa and Kona chiefs, he also unified O‘ahu under his rule around A.D. 1720-1740 (Cordy 2002:19). Keanakamanō is the name of both the upper valley of Kapālama and the ridge that separates it from Waolani Valley, a portion of Nu‘uanu Ahupua‘a to the east. Somewhere in Waolani Valley stood an important *heiau* called Kawaluna.

> In the valley of Waolani, a side valley from the great Nuuanu, stood one of the sacred Heiaus called Kawaluna, which only the highest chief of the island was entitled to consecrate at the annual sacrifice. As Moi [king] of Oahu the undoubted right to perform the ceremony was with Kualii, and he resolved to assert his prerogative and try conclusions with the Kona chiefs, who were preparing to resist what they considered an assumption of authority by the Koolaupoko chief. Crossing the mountain by the Nuuanu and Kalihi passes, Kualii assembled his men on the ridge of Keanakamano, overlooking the Waolani valley, descended to the Heiau, performed the customary ceremony on such occasions, and at the conclusion fought and routed the Kona forces that had ascended the valley to resist and prevent him. The Kona chiefs submitted themselves, and Kualii returned to Kailua. (Fornander 1996:280)

Thomas Thrum (1907:44) mentions only one *heiau* in Waolani Valley by name.

> Kawaluna..... Waolani, Nuuanu.-Of heiau and luakini class, consecrated by Kualii about 1685. Tradition credits the construction of several in this locality to the time of Wakea.

According to the report of the battle between Kūali‘i and the rebellious O‘ahu chiefs, this *heiau* was probably on the Waolani Valley floor, as Kūali‘i “assembled his men on the ridge of Keanakamano, overlooking the Waolani valley, [and] descended to the Heiau . . .” (Fornander 1996:280).

In a chant for the high chief Kūali‘i, the O‘ahu lands under his authority are listed, as though someone is traveling around the island of O‘ahu. The chant also seems to be a play on words, as

a portion of the definition of the place name also appears in the stated action (e.g. let us go up for **lama**-Kapa**lama**):

| | |
|---|---|
| Let us abide in the hollow—of Moanalua; | *E noho kaua i ka lua—o Moanalua*; |
| We will bend the hau—at Kauahuiki; | *Hoopiopio hau kaua—o Kahauiki*; |
| And go zigzagging down the edge—of Kalihi; | *Hookeekee lihi kaua—o Kahlihi*; |
| **Let us go up for lama-in Kapalama;** | ***E pii kaua i ka lama—o Kapalama;*** |
| Then bundle and fasten on the back—at Hononunu; | *E nunu a paa hoawe—o Hononunu*; |
| There my hair is anointed—at Waikiki; . . . | *Kiki kuu oho ilaila—o Waikiki; . . .* |

(Fornander1917, *History of Kualii*, Vol. IV, Part 2:400-401)

### 7.4.2 Kahahawai‘a defeat of Kahāhana (A.D. 1780-1783)

Niuhelewai Stream was the location for a famous battle between Kahahawa‘i, the war chief of Kahekili, king of Maui, and the O‘ahu ruling chief Kahāhana. Fornander (1919, *Famous Men of Early Days,* Vol. V, Part II:498) states in a footnote to a story that Niuhelewai was the name of the locality of the Pālama cane field between the fire and pumping stations. Ross Cordy (2002:19) places Kahāhana’s reign of O‘ahu around the year 1780 to his death in 1783 after this battle.

> *I ka wa e noho ana o Kahekili he ‘lii no Maui, a o Kahahana he ‘lii no Oahu nei iloko oia kau i holo mai ai o Kahahawai me na koa e kaua ia Oahu. Ma keia kaua ana ua hee a ua luku ia na kanaka Oahu, ma Niuhelewai, a ua hoi ka wai i uka o ka muliwai, no ka piha i na kanaka.*
>
> Translation:
>
> When Kahekili was reigning as king of Maui, and Kahahana was king of Oahu, it was during this period that Kahahawai with a number of warriors came to make war on Oahu. In this battle the people of Oahu were defeated and slaughtered at Niuhelewai, and the waters of the stream were turned back, the stream being dammed by the corpses of the men. (Fornander 1919, *Famous Men of Early Days,* Volume V, Part II:498-499)

### 7.4.3 The Rebellions of the ‘Ewa and Kona Chiefs (post 1783)

After Kahāhana’s death, the chiefs of Maui took over O‘ahu. Some of the chiefs from the O‘ahu districts of ‘Ewa and Kona conceived a plot to murder their new overlords, but the Maui chiefs were warned. Although the main backers of the plot were the chiefs of Waipi‘o, ‘Ewa, they were temporarily able to convince Kahekili that the conspiracy originated on Kaua‘i, thus the phrase, *Waipi‘o kīmopō*, “Waipio‘o of the secret rebellion” (Pukui 1983:#2918:319). Eventually the truth was revealed and:

> *A no kēia mea, ulu maila ke kaua kūloko o Kona me ‘Ewa, nā moku o O‘ahu i luku nui ‘ia; ua luku ‘ia nā moku o O‘ahu i luku nui ‘ia; ua luku ‘ia nā kāne, nā wāhine a me nā keiki, a ua pani kūmano ‘ia nā kahawai a me nā muliwai i nā heana o nā kānaka o Kona a me ‘Ewa. ‘O nā kahawai i ‘oi aku ka nui o nā heana, a ho‘i hou ka wai i uka, ‘o ia nō ‘o Makaho a me Niuhelewai ma Kona, a ‘o Kaho‘ā‘ia‘i ho‘i ko ‘Ewa. He kūmukena ka nui o nā mea he make, ke lilo ka wai i*

> *mea ‘awa-‘awa ke inu aku. Ua ‘ōlelo mai ho‘i ka po‘e ‘ike maka “O ka lolo ka mea i ‘awa-‘awa ai ‘o ka wai”* (Kamakau 1996:91, *Ka Nūpepa Kū‘oko‘a*, March 30, 1867)
>
> Translation:
> . . . the districts of Kona and ‘Ewa were attacked, and men, women, and children were massacred, until the streams of Makaho and Niuhelewai in Kona [in Kapālama] and of Kahoa‘ai‘ai in ‘Ewa were choked with the bodies of the dead, and their waters became bitter to the taste, as eyewitnesses say, from the brains that turned the water bitter. All the Oahu chiefs were killed and the chiefesses tortured. (Kamakau 1992:138)

### 7.4.4 Kamehameha’s Invasion and Conquest of O‘ahu (A.D. 1795)

In 1795, the Hawaiian chief Kamehameha sailed his invasion fleet to O‘ahu, landing on the leeward shore from “Wai‘alae to Waikiki” (Desha 2000:407). For three days, Kamehameha and his warrior chiefs prepared to battle the O‘ahu forces and wrest the island from the native chiefs, in order to unite all the Hawaiian Islands under his rule. Some of the preparations consisted of ceremonial rites. According to Desha (2000:407):

> For three days this organization went on, and on the third night after his landing on O‘ahu, he climbed with Keaweokahikona and two O‘ahu ali‘i who had turned to Kamehameha’s side. They climbed up above Hauhaukoi, Kapālama. This was a journey for Kamehameha to drink *‘awa*, as this was the place where the royal *heiau* of Lonoikekūpali‘i stood. . . . The *‘awa*-drinking platform (papa‘inu‘awa) was set up, and immediate preparations for the *‘awa*-drinking ceremony for Kamehameha were begun. When the cups of *‘awa* for Kamehameha and his companions were ready, they drank, and at the end of the ceremony, they returned to Waikīkī where Kamehameha’s armies were encamped.

Neither Thomas Thrum nor J. Gilbert McAllister, two early documenters of O‘ahu *heiau*, list Lonoikekūpali‘i. According to this description, the *heiau* was in the *‘ili* of Hauhaukoi. In the waihona ‘āina database (waihona.com), Hauhaukoi is listed as an *‘ili* of Honolulu, rather than Kapālama; it was located along the eastern border of Kapālama.

## 7.5 Mele (Songs) concerning Kapālama

There are a number of late nineteenth century and twentieth century *mele* (songs) which concern or mention Kapālama; two are presented below.

| **7.5.1 Moana-lua** | **Moanalua** |
|---|---|
| *I Moana-lua ha‘i ke ‘au,* | At Moana-lua the shaft breaks, |
| *I Ka-hau-iki hemo ka ‘umoki.* | At Ka-hau-iki take out the cork. |
| *‘O ke kula loa ho‘i o Ka-lihi,* | The long plain of Ka-lihi, |
| *‘O **Ka‘iwi‘ula** kīki‘i pau.* | At **Ka-iwi-‘ula** tilt back. |
| *‘O **Ka-pā-lama** lo‘i laiki,* | At **Ka-pā-lama** rice patches, |
| *I Ke-one-‘ula malu ke kiawe.* | At **Ke-one‘-ula**, *kiawe* shade. |

| | |
|---|---|
| *‘O Leleo, a he loko wai,* | At Leleo, a pond, |
| *Ha‘alili-a-manu honi kāua.* | At Ha‘alili‘a-manu, we kiss. |
| *‘O Ka-pu‘u-kolo, i Ka-nēkina* | At Ka-pu‘u-kolo and Ka-nēkina |
| *Holo lio lā‘au me ka ulua.* | Ride a merry-go-round with an *ulua* fish. |
| *‘O Ka-manu-wai moa li‘ili‘i,* | At Ka-manu-wai, little chicks, |
| *Hauna ke kai ‘eha ‘oe ia‘u.* | Strong-smelling soup and I hurt you. |
| *He aha ‘ē ke kumu o ka ‘eha ‘ana?* | What’s the reason for the pain? |
| *‘Ōno‘onou ‘ia i ka hua noni.* | A *noni* fruit forced in. |
| | |
| *Auwē ‘eha ‘ino i ku‘u kīkala,* | *Auwē*, how my hips hurt, |
| *Pehea la ia e lewa hou ai?* | How then to wander anew? |

This *mele* was arranged by David Nape and collected by Samuel H. Elbert and Noehani Mahoe. In their interpretation (Elbert and Mahoe 1970:77-78), this is a traveling song about a girl taking a trip from west to east, from Moanalua Ahupua‘a, through Kahauiki, Kalihi, Kapālama, Nu‘uanu, and to Honolulu. In Moanalua, her carriage breaks down; in Kahauiki, she uncorks a liquor bottle, then passes through Kalihi; in Kaiwi‘ula (site of the Bishop Museum in western Kapālama), she staggers from the drink; she then crosses the rice patches of Kapālama; and, in Keone‘ula (site of Ka‘iulani School and Kauamakapili Church in eastern Kapālama), she seeks the shade of the *kiawe* trees. At Leleō, she notes a pond (probably Kūwili II Pond) and then she crosses Nu‘uanu Stream to Ha‘aliliamanu; at Kapu‘ukolo and Kanēkina (near Hotel Street and Nu‘uanu Stream), she rides a merry-go-round with her sweetheart (called an *ulua* fish); and, at Kamanuwai (an *‘ili* of Nu‘uanu near the lower part of the stream), she woos youngsters who she plans to hurt. The *noni* (*Morinda citrofilia*) is a bitter fruit.

### 7.5.2 Pua Hē‘ī — Papaya Flower

| | |
|---|---|
| *Aloha no paha ‘oe* | Perhaps you’re dearly loved |
| *E ka pua o ka hē‘ī* | Oh papaya flower, |
| *Ke ī a‘e nei nō wau* | I hold in the highest esteem |
| *O ka ‘oi o **Kapālama*** | The greatness of **Kapālama**, |
| *Mālama ‘ia ko kino* | Your person is protected |
| *‘O lilo mai ia nei* | To be won over by me, |
| *Ia nei nō māua* | Just you and I |
| *I ka malu o ke kukui.* | In the shade of the kukui. |
| *Hui: Sweet rosebud o ka uka onaona* | Chorus: Sweet rosebud of the perfumed island |
| *Pulupē i ka hunahuna wai* | Drenched in watery spray |
| *I noho a kama‘āina* | Just to abide with to be familiar with |
| *Ka makani ‘Ōlauniu.* | The ‘Ōlauniu wind. |
| *Aloha no paha ‘oe* | Perhaps you’re dearly adored |
| *E ke anu o Waimea* | Oh chill of Waimea |
| *K ka ua Kīpu‘upu‘u* | Oh, the Kīpu‘upu‘u rain |
| *Lei kōkō‘ula i ke pili* | That lays a bright low-lying rainbow upon the grass |

| | |
|---|---|
| *Hāli‘i mai la i luna* | Spread out in the heights |
| *I ka welelau o ke kuahiwi* | To the peaks of the mountains, |
| *Kuahiwi kū kilakila* | Mountains that stand so regal |
| *Māpu ke ‘ala onaona.* | Where sweet fragrance drifts in the air. |

This song, copyrighted in 1928 by Johnny Noble (1929:98-99), uses the winds of the islands to stand for actions or emotions. The ‘Ōlauniu wind, which means “thrusting coconut fronds” suggests sexual play, while the Kīpu‘upu‘u wind of Waimea on Hawai‘i suggests chilliness.

# Appendix B Land Commission Awards

**No. 23 F.L., Moeino**
**N.R. 727v3**

To the Land Commissioners of the Hawaiian Islands: The one whose name is below has some claims in the Fort Lands of Honolulu at Hauhaukoi, There are five taro lo`i, one house lot, and at Kunawai, one lo`i adjoining with the land of Kuwili. Having been directed by the Honorable M. Kekuanaoa, Governor of Oahu to enter my claims, therefore I hereby do so. M. Kekuanaoa and some other persons are the witnesses, when the time comes.
With thanks.
MOEINO
Honolulu, 20 December 1851

**N.T. 267-268v10**
No. 23 FL, Moeino, Claims Building, 24 December 1851

Hololua, sworn, I have seen his places - patch and hog sty in Hauhaukoi, also Kunawai's ilis for the fort in Honolulu, Oahu. Five sections in Hauhaukoi, 5 patches and a hog sty.

One section in Kunawai lele, 1 patch.

Section 1 - 1 hog sty in Hauhaukoi.
Section 2 - 1 patch in Hauhaukoi.
Section 3 - 2 patches in Hauhaukoi.
Section 4 - 1 patch in Hauhaukoi.
Section 5 - 1 patch in Hauhaukoi.

Section 1 - Hog sty.
Mauka, Kahawali ili
Waikiki, Kaahiki's land, Kuapuu's land
Ewa, Kane's land.

Section 2:
Mauka, Koahou's land, Kane's land
Waikiki, Kaanaana's land, Hololua's land
Makai, Hololua's land
Ewa, Kahawali, Peolole's ili.

Section 3:
Mauka, Waikiki, Hololua's land
Makai, Kukui's land, Kapo's land
Ewa, Holulua's land, Kukui's land.

Section 4:
Mauka, Kukui's land
Waikiki, Kukui's land, Keonekapu's land
Makai, Keonekapu's land
Ewa, Kahawali (Kane's, Kaeo's) ili.

Section 5 - 1 patch.
Mauka, Kahawali ili
Waikiki, Keoneula ili
Makai, Kamahalo's land
Ewa, Wahie's land.

Section 6 - 1 patch in Kunawai, lele.
Mauka, Keoneula ili
Waikiki, For Kamana, Kuuili ili
Makai, In Kuuili is Kewa's land
Ewa, Kekai's land, Wainane's land, In Kaukahoku ili, a patch.

Land from M. Kekuanaoa in 1849, it is there peacefully to the present time. Kaniku in 1840, no disputes. The four patches in Hauhaukoi are poalimas and have been registered. Moeino has left some poalima patches numbering five for the government. The patch in Kunawai lele is not a poalima.

Moeino, sworn, I was placed in Hauhaukoi as konohiki for the fort in 1849, there were eight koeles in Hauhaukoi at the time I had received that land, the ninth of the patches was returned by the tenant and it was the fifth of the patches belonging to the government. The thirteen tenants of this land are Kaanaana, Openui, Wahie, Kalokea, Ka-mahalo, Kaahiki, Kaheana, Kapo, Keonekapu, Hololua, Kawanalama and Koahou.

*Boundaries of Hauhaukoi ili.
Mauka, Hauhaukoi ili, Kahawali ili
Waikiki, Makai, Koiuiu ili
Makai, and Ewa, Kahawali ili, Paeaki ili, Kuhimana ili.

The lele of this land adjoins L. Smith's church, in Nuuanu, a new lele is in the big land.

[Award 23 F.L.; R.P. 2764; Kunawai Honolulu Kona; 1 ap.; .37 Ac

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**No. 655, John Kahaleaahu, Honolulu, August 23, 1847**

**N.R. 325-326v2**

Kaoawai: My claim for a house lot at Kaoawai is what I am petitioning for to you, the Land Commissioners. Kuapuhi was the one who had this place first, and he died. His kaikamahine is living here at this time, not someone else, and his kaikua`ana and makuahine live here also. Keakahiwa, who is his /the deceased/ kaikamahine, is the one who has this place. I, Kahaleaahu, am her kane and I will administer the place. My wahine and the kaikunane and makuahine all decided together that I would be the one to administer it, not themselves, only myself, and they would be under me. If I die, they will regain the administration of their old place.

A portion has been fenced and a portion has not. This is the claim which is explained to you, the people who quiet titles.
I am, JOHN KAHALEAAHU

See No. 663 page 332

**F.T. 108-109v2**
Claim 655, J. Kahaleaahu, December 27, [1847]

Kahaiao, sworn, I know this place. It is bounded:

On Ewa side by Kooka's place
Mauka by dividing road from Kauaoa's yard
Waititi side by Keomana wahine's
Makai by land of Aualaloi.

There is no other claim to the place. The claim has been in the family since time of Kamehameha 1st. It has been fenced, and has 3 houses on it. Those living in them are under claimant. He has been in possession ever since 1842. When he dies it is to go to Kaiau, the mother, Keikikua, the daughter and her son Keekipi.

Nookipi, sworn, the place was given to claimant by me. My sisters and mother, to hold during his life, to revert to us at his death. This was done because he had become our Guardian, being our brother-in-law, and it was better to have only one head. The boundaries agree with the first account.

**N.T. 443-444v2**

Claim 655, J. Kahaleahu, December 27 [1847]

Kahaiao, sworn by the Word of God and stated, "This property is at Kaoawai in Honolulu here. I have seen it for I had a house there.

Nakookoo's place is on the Ewa side
Kauana, toward the mountain
the konohiki John Young, Waikiki and
the land toward the sea does not belong to anyone yet.

Ka-haleaahu's parents had lived there during the time of Kamehameha I. The place has a fence and there are three houses there and in the year 1842, Kahaleaahu lived there. He had received it from Kekipi and should Kahaleaahu die, probably then the land would be returned to Kekipi." Kekipi, sworn by the Word of God and stated, "I have seen this place. When our father died, the land was left to us (two) the children and we have given it to Kahaleaahu. Upon his death the land would be inherited by his child with my sister. The reason this place was possessed by Kahaleaahu was because he had become our husband and upon his death the inheritance was for their children. They had two, the second child had died. The boundaries are the same as Kahaiao has just stated."

[Award 655; R.P. 3590; Keoneula Honolulu Kona; 1 ap.; 1.34 Acs]

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**No. 1034, Kapauhi, Honolulu, Oahu, October 15, 1847, [See also Kuhelelei 8400]**
**N.R. 598v2**

Greetings to the Land Commissioners: I hereby tell you of my house lot claim at Iwilei in Honolulu. It is bounded on the north by the lot of Paele, on the east by kula, on the south by the lot of Kekai, on the west by a Road.

It was I who made the fence, and four houses are within this lot, which are mine. They have been held peacefully and this month, A. Keliiaho-nui is objecting and is charging a large payment if I live there, therefore I consented not really wishing to go, but because of fear of the burdensome pay-ment. Knowing that I have a genuine claim to this place, therefore I petition you to consider this action by A. Kelliahonui.
I am, with aloha,
KAPAUHI X

See Kuhelelei No. 8400

**F.T. 304v2**
Cl. 1034, Kapauhi, 12 May [1848]

Kahahawai, sworn, I know this place. It is a house lot in Honolulu, bounded:

Mauka and Waititi by my lot and also on the other two sides.

Kekaiolau's is mauka of my land. Nalowai is on my Ewa side. It is fenced. And has two small houses belonging to claimant and two to Muoli. They have a joint claim to both houses and land.

They received it from Kahauwai in Kinau's time where they have lived to the present time without being disturbed.

Kaui, sworn, and knew the previous statement to be true and knew of no counter claimant.

**N.T. 47-48v3**
No. 1034, Kapauhi, May 12

Kahahawai, sworn and stated, "I have seen Kapauhi's property in Honolulu here and the boundaries are:

My properties, mountainside
Waikiki and toward the sea
Naluai's property, Ewa.

This property has been enclosed and Kapauhi has two houses, also Mauli has two houses there. MPuli ant Kapauhi have lived here together during the time of Kinau and they both have equal interests in this property. I have given them this property with love and no one has objected."

Kaui, sworn and said, "I have seen this property exactly as the remarks Kahahawai has made here."

[Award 1034; R.P. 2850; Kapalama Honolulu Kona; 1 ap.; .54 Ac.; Iwilei also listed with 1 ap.; .54 Ac. with same R.P. number; See also Award 8400]

**No. 1050, Kaikaai**
**N.R. 609v2**

To the Land Commissioners, Greetings: May the peace of God be with you. I, Kaikaai, hereby tell you of my claim for four patches and also an irrigation ditch. They are at Maili, land of Nauala, in Kapalama. I have lived there four years. There is also a house lot at Haikuou, Island of Oahu.

KAIKAAI X

**F.T. 322v2**

Claim 1050, Kaikaai, Wahine, 24 May 1848

Kawaineae, sworn, This land is in Kapalama.

3 kalo patches, bounded:
Mauka by Mahoe's land
Waititi by Kahinavai's land
Makai, Haalulu's
Ewa by Kaha's.

Claimant received this place in 1843 from Haalulu and has lived there to this time without any dispute or trouble. It has neither house nor fence.
Kahenawai, sworn, confirmed the above account
June 2, Haalulu, sworn, and admitted the above gift as described and no ther claim existed to it.

**N.T. 72v3**
No. 1050, Kaikaai, May 24

Kawahineai, sworn and stated, "I have seen Kaikaai's property at Kapalama in Oahu here having three patches. Thus are the boundaries:

Mahoe's land, toward the mountain
Kahenawai's land, Waikiki
Halulu's land, toward the sea
Kaha's land, Ewa.

Kaikaai's land had been from Halulu without any cost and that was in the year 1843. There is no house or fence there and no one has objected."

Kahenawai, sworn and said, "I have seen Kaikaai's property exactly as Kawahineai has just related here."

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There is one house-lot at Kumupali, it has no fence.

**N.T. 80v3**
No. 1050, Kaikka, from page 72, June 2 [1848]

Halulu, sworn and stated, "I have seen Kaikaai's place. I had given him [her] his [her] interest. He [She] has three houses; Moopuaa has three houses, too.

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[Award 1050; R.P. 3282; Kainapuaa Kapalama Honolulu Kona; 2 ap.; .98 Ac.; no R.P. Mokauea Kalihi Kona; 1 ap.; .45 Ac.]

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**No. 1051, Kanakaole**
**N.R. 609v2**

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To the Land Commissioners, Greetings: I, Kanakaole, hereby tell you of my claims for two patches, and also a little kula, at the `ili `aina of Haikuou in Kapalama, Island of Oahu I have lived there three years.

KANAKAOLE

**F.T. 393-394v2**
No. 1051, Kanakaole, July 21 1848

Kalimaiki: This land I know. It is in Kapalama, oahu, consisting of 3 lots.

1. House lot. It is not fenced and is bounded:
Mauka by Nalauai's land
Waikiki by Kuena's (Neddles) [1723-B]
Makai by Kaiona's
Ewa by Halulu's land [8179].

2. One kalo patch, bounded:
Mauka by Kaeona's land
Waikiki also
Makai by my land
Ewa by Halulu's [8179] & Kaiona's land.

3. One kalo patch & fish pond, bounded:
Mauka by Kaiona's land
Waikiki by Kuena's (Neddles) land [1723]
Makai, by my land
Ewa by Halulu's [8179].

Claimant got these 3 pieces from Kaiona, konohiki under the King in 1844 the gift was made. I know no counter claim. Claimant has cultivated and held these lands ever since he got them in 1844.

Kaiona, sworn, I and a konohiki under the King - I gave claimant these lands in 1844 as a hoaaina. I have no claim on these lands except for the King, who is entitled to claimant's work every Friday or 3 days each month rather. As long as claimant and his heirs do the poalima work, the land is the claimants and his heirs on the same condition. No person but the King has any claim to this land.

**N.T. 162v3**
No. 1051, Kanakaole, July 21, 1848

Kalimaiki, sworn and stated, "I have seen Kanakaole's property at Kapalama consisting of three parcels and the boundaries of the first parcel are:

Nalanai's land, mauka
Needles' land, Waikiki
Kaaione's land, makai
Land, Ewa.

2. Parcel II:
Kaaione's land, mauka and Waikiki

My property, makai
Halulu's land and Kaaione's Friday land, Ewa.

There is one patch in this section.

3. Parcel III - There is one patch.
Kaaione's land, mauka
John Needles' land, Waikiki
My land, makai
Halulu's land (?) (Ewa).

Kanakaole's three parcels are from Kaaione given in the year 1844. Kaaione is a konohiki under Kamehameha III; no one has objected."

Kaaione, sworn and stated, "I have seen these three parcels of land belonging to Kanakaole just as Kalimaiki has stated."

[Award 1051; R.P. 2519; Kainapuaa & Kumupali Kapalama Honolulu Kona; 2 ap.; .87 Ac.]

**No. 1053, Kanahenawai**
**N.R. 610v2**

To the Land Commissioners, Greetings: I hereby tell you of my claims: three patches and also an irrigation ditch, at the `lli `aina of Nauala, in Kapalama.

Another claim is for a house lot at the `ili `aina at Koholala in Hono-lulu. I have occupied the land claim for four years, and a great many years at the house lot.
KANAHENAWAI X
Island of Oahu

**F.T. 322v2**
Cl. 1053, Kahenawai, 24 May 1848

Kawahineae, sworn, This place is in Palama.

Three kalo paches bounded:
Mauka by Mahoe's
Waititi by poiokama
Makai by Noai's
Ewa by Kaikaai's.

There is neither house nor fence. Claimant got the place from Haalulu in1 843 and has never been since disturbed.
Kaikaai, wahine, sworn and confirmed the above account in every point.

June 2, Haalulu, sworn, and admitted the above described gift and that no other claim existed to it.

**N.T. 72-73v3**
No. 1053, Kahenawai, May 24 [1848]

Kawahineai, sworn and stated, "I have seen Kahenawai's property at Kapalama. He has three patches collectively and the boundaries are:

Mahoe's land, toward the mountain
Poiokama's land, Waikiki
Naai's land, toward the sea
Kaikaai's land, Ewa.

There is no fence on this property, nor is there a house. Kahenawai had received this land from Halulu in the year 1843 and no one has objected to this day."

Kaikaai, sworn and said, "I have seen the property of Kahenawai and everything is exactly as Kawahineai has just related here; no one has objected."

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**N.T. 81v3**
No. 1053, Kahenawai, June 2, from page 72

Halulu, sworn and stated, "I have seen Kahenawai's property exactly as the first witnesses' statements which have been read here. It was I who had given him his land; no one has objected.

[Award 1053; R.P. 7795; Kapalama Honolulu Kona; 1 ap.; .42 Ac.]

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**No. 1084, Nuuanu**
**N.R. 621v2**

To the Land Commissioners, Greetings and the peace of God: I hereby tell you of my two claims, at Kealia, adjoining and between Kananakila and Kapalama, Island of Oahu. There are seven patches and some kula and my house lot is there, on which I live, and have lived for ten /or/ 11 years.

Here is another claim of which I tell you, consisting of three patches at Maliko, within the lot of Kanepaiki, adjoining Kalihi, Island of Oahu. There is also a kula and there are some houses there at this time. I have been seven years at this claim of mine. That is what I have to say to you. Farewell to you all.
NUUANU

**F.T. 335v2**
Cl. 1084, Nuuanu, 7 June 1848

Hueu, sworn, This place is in Palama.

1. First a house and kalo patches, bounded:
Mauka by Kawelo's place
Waititi by Kanoa's
Makai by Aupuni land
Ewa by Kahaa, Manauu & Kolou's land

There is no fence but the general one, and one house & 7 patches

2. Second lot is bounded:
Mauka by Malanai & Palau's lot
Waititi by my lot
Makai by Alanui aupuni to Ewa
Ewa by Kanoa's land.

There is one house & 3 patches.

3. Third is bounded:
Mauka by Kawelo and Kaloa's land
Waititi by Manuwa
Makai & Ewa by Kulou's land.

There are 4 patches.

Claimant obtained all these places from Keaniani, who is dead, in time of Kinau; and has always held them undisturbed.

Lauoho, sworn, I know the testimony is true which has been now given and there is no other claimant.

**N.T. 90v3**
No. 1084, Nuuanu, June 7, [1848]

1. Hueu, sworn and stated, "I have seen Nuuanu's property in Kapalama and the boundaries of the first section are:

Kawelo's land, toward the mountain
P. Kanoa's land, Waikiki
the government land, Kaha's land
Namauu's lant and Koloa's land, Ewa.
The property fence is the only enclosure there with seven patches and one house.

2. And section two is thus:
Palau's land and Kamalanai's land, toward the mountain
my property, Waikiki
the government road, toward the sea and
Kanoa's land, Ewa.
Nuuanu has one house on this section and three patches; no one has objected.

3. The boundaries for the third section are:
Kawelo's land and Kaaloa's land, toward the mountain
Manuwa's land, Waikiki
Kulou's land, toward the sea and Ewa.

Four patches are there with no fence and no house. Nuuanu had received these places during the lifetime of Kinau. There is a pasture in section 1 and another in section 2. Nuuanu had received his interest from Keaniani and no one has objected to this day.

Lanoho, sworn by the Word of God and stated, "I have seen Nuuanu's property exactly as Hueu has just related here; no one has objected to this day."

[Award 1084; R.P.2015; Kapalama Honolulu Kona; 1 ap.; .38 Ac.; Awardee index lists claimant as Nuuanu for Kanaina]

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**No. 1101, Kaha, Land Claim of Kaha**
**N.R. 628v2**

Here is my claim for land in Kapalama, in the `Ili of Nauala, adjoiing the land of John Meek on the west. I have three small patches and one house lot in the `Ili of Kainapuaa. I have occupied this land and the house lot since the time of Kukuwailehua.
This is what I have to tell you all.
I am, with aloha.
KAHA X
Kainapuaa, Kapalama
December 3, 1847

F.T. 351v2
Cl. 1101, Kaha, June 21 1848

Halulu, sworn, This place is in Kapalama, bounded:

Mauka by Kauilalaau's land
Waititi by Kaikaai's land
Makai by G. Wood's
Ewa by Kaumealani.

There are 4 kalo beds.

No. 2 is partly fenced and claimant has 1 house on it, bounded:
Mauka by the Alanui
Waititi by P. Kanoa's & Hooliliomanu's land
Makai by Ahaikuno's
Ewa by land of Zupplien.

I gave claimant these places in 1841, which I got from the King in 1831. I only intended to allow Kaha the use of these lands as long as it pleased me. I never meant to give them away. I have not sent into the Land Commission any claim. I am willing for Kaha to hold the lot under me and not in any other way.

Kaha admitted the correctness of the above statement and that he had the place under Halulu.

Kaikaai, sworn, and confirmed the above testimony. I know of no counter claimant.

N.T. 111v3
No. 1101, Kaha, June 21, 1848
Halulu, sworn and stated, "I have seen Kaha's property in (Kapalama. I, had given Kaha the land, probably in the year 1840. He has four patches and a houselot and here are the boundaries of the taro land:

Kaululaau's land, toward the mountain and Ewa
George Holmes, toward the sea

Kaikaa's land, Waikiki.
There are four patches and a ditch.

2. The boundaries of the houselot are:
The government road, toward the mountain
Hooliliamanu's place and Kanoa's lot, Waikiki
Ahaikuou's land, toward the sea
Hale's lot, Ewa.

This place has been enclosed; however, Kanoa has protested, but Kaha has lived there to the present time. My land is from the king, probably was received in the year 1834. This land is not for Kaha outright, it is for him under me. No one has obiected to him."

Kaikaai, sworn and stated, "I have seen this property exactly as Halulu has just related here."

[Award 1101; R.P. 685; Kapalama Honolulu Kona; 2 ap.; 1.44 Acs]

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**No. 1398, Mumuku**
**N.R. 98v3**

To the Land Commissioners, Greetings: I, the undersigned, hereby tell of my claim for three lo`i, and two irrigation ditches, in the `ili of Kealia, in Kapalama, also a house- lot at Keoneula, in Honolulu, Island of Oahu.
MUMUKU X
Residence: Keoneula

**F.T. 6-7v3**
No. 1398, Mumuku, October 9 [1848]

Palau, sworn, This land is in the ili of Kalia in Palama in several pieces.

1 house lot in Honolulu.
Mauka is Limakuni's yard
Waitiiti by Nakookoo
Makai is Kewa
Ewa is Mumuku's (another man from claimant). This land is partly fenced. There are 3 houses on it, one is claimants, 1 Ilalio's and the other Simeona's.

2. kalo land, consisting of 2 kalo patches and an auwai
Bounded:
Mauka by my land
Honolulu by Kawelo's
Makai by Umauma's
Ewa by Kuakini's.

3. One kalo patch
Mauka is Kauliokamoa's land
Honolulu is Puakini's
Makai is Kuloa's
Ewa is Kahina's.

One kalo patch and part of an auwai
Mauka is Kanaana
Honolulu is Kaliokamoa's
Makai is Keawe's
Ewa is Ahualua's.

Claimant had the first lot in Honolulu from Kalunaaina, konohiki of Honolulu, when Kinau was living at the fort; and has retained ti undisputed to the present time. Claimant had the other 3 lots from Puakini, konohiki under Kekuanaoa in time of Kinau and they have never been disputed.

Ilalio, sworn, and confirmed the preceding testimony. He owned a house as stated in the first lot but not the land.

**N.T. 324-325v3**
No. 1398, Mumuku, October 9, 1848
Palau, sworn, I have seen his place in the ili of Kealia in Kapalama, also his house lot in Honolulu here.

1. 1 house lot in Honolulu:
   Mauka, Leimakani's place
   Waikiki, Nakookoo's place
   Makai, Kea's place
   Ewa, Mumuku's place.

This is not completely enclosed. Three houses are within, one of which is for Mumuku, two for HaiIlalio and Simeona.

2. 3 taro patches at Kealia.
   Mauka is my place
   Honolulu, Kawelo's place
   Makai. Umauma's place
   Ewa, Huakini's place.
3. 1 taro patch:
   Mauka, Kauliokamoa's land
   Honolulu, Huakinis' place
   Makai, Kuloa's place
   Ewa, Kahinu's place.
4. 1 ditch taro patch:
   Mauka, Kanana's place
   Honolulu, Kauliokamoa's place
   Makai, Keawe's place
   Ewa, Alualua's place.

Kaluaaina had given the house lot during Kinau's time, before the year 1839. No one has driven him away nor raised objections.

Huakini had given Mumuku the taro sections. Mumuku is the konohiki under M. Kekuanaoa and he had received these sections at the time Kinau was alive, after he had received the house lot. No one had objected.

Ilalio, sworn, Our testimonies are similar.

[Award 1398; R.P. 1906; Keoneula Kapalama Kona; 1 ap.; .49 Ac.; Kaluapilau Kapalama Kona; 1 ap.; .19 Ac.; R.P. 3963; Kealia Kapalama Kona; 1 ap.; .88 Ac.]

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**Cl. No. 1723-B, John Neddles, February 21 [1849]**
**F.T. 110v3**

Kanoena, sworn, I know this place. It is in Pulahu, Palama, in two lots.

1 house lot, having a frame house and two brick tombs and 1 house belonging to me, and 1 kalo patch:

Mauka is Kaholo and Hooliliamanu
Honolulu is Lupe
Makai, George Holmes & Kekai
Ewa, Kaaione.

3. Kalo land, 2 patches:
Mauka, Kaaione
Honolulu, Kekai [LCA 7681] and George Holmes [LCA 8504]
Makai, stream
Ewa, Kaaione.

Claimant received this land from the present King in 1833 and confirmed in 1835 by Kaikioewa, then Guardian of the King and he has ever since held it without dispute unto the present.

The land originally belonged to the King and that of Kaaione which is outside of it.

Kala, sworn, confirmed the above account and the survey presented by claimant was admitted [as] a correct one of the place.

N.T. 440v3 0
No. 1723B, John Neddles, February 21, 1849

Kauoena, sworn, I have seen his place at Kapulehu in Kapalama in two sections.
1. 1 house lot, 1 taro patch:
Mauka is I, Hooliliamanu
Honolulu, Lupe
Makai, George Homa and Kekai
Ewa, Kaaione.

2. 2 taro patches:
Mauka is Kaaione
Honolulu, Kekai and George Homa
Makai, a ditch
Ewa, Kaaione.

Chief Kauikeaouli had given J. Neddles land in the year 1833 and the deed for it was given by Kaikioewa in 1835 because he was the assistant at that time and he has lived there to the present; no one has objected.

Kala, sworn, Our testimonies are similar.

[Award 1723B; R.P. 80; Palama Honolulu Kona; 2 ap.; 3.36 Acs]

**No. 2073, Kauhiwa**
**N.R. 347v3**

To the Land Commissioners: I, the one whose name is below, hereby state my claim to you, the Commissioners of the Independent King of the Hawaiian Islands. There are five taro lo`i and also a half of a lo`i, in the `lli of Kaukahoku in the Ahupua`a of Kapalama and also a house lot in the `Ili of Keoneula. The length of the occupation of this house lot is from the time of Kaomi to the present.
KAUHIWA X, his mark
Keoneula, December 25, 1847

**N.T. 635v3**
No. 2073, Kauhiwa, July 3, 1850

Kuheleloa, sworn, I have seen his land at Kaukahoku in Kapalama - 3 land sections.

1. 5 taro patches; the boundaries are:
Mauka, Kuene's land
Waikiki, George Holmes' land
Makai, R.G. Davis' land
Ewa, Kuene's land.

2. ½ taro patch:
Mauka, Keaonui's land
Waikiki and Makai, Kekaawe
Ewa, Aikake's land.

3. 1 house lot at Keoneula in Honolulu here
Mauka, Hooliliamanu's lot
Waikiki, Lupe's land
Makai, Kekai's land
Ewa, Kaholo.

Sections 1 & 2 are from me given in 1836. Kekai, the konohiki, had given me my interest. Kekai had given him section 3 in 1834 where he has lived to the present. No one has objected.

Kekai /konohiki/, sworn, Everything which has been mentioned above is true and I have known similarly.

[Award 2073; R.P. 693; Kapalama Kona; 1 ap.; .7 Ac.; Keoneula Honolulu Kona; 1 ap.; .35 Ac.]

**No. 2107, Kahina**
**N.R. 358v3**

To the Land Commissioners, Greetings: I, the one whose name is below, hereby state my claim for land situated in Honolulu. Three taro lo`i and a section of irrigation ditch are in the `ili of Kahawali. Also -five taro lo`i are in the `ili of Hauhaukoi and my house lot is in this same `ili. Its dimensions are: 25 fathoms on the north, 35 fathoms on the east, 25 fathoms on the south, 24 fathoms on the west. This is at Honolulu Lewa, adjoining the Estuary on the makai side of the

Government Road at the place of Hooliliamanu on the Island of Oahu. That is what I have to tell you, the Commissioners.
KAHINA X his mark
Honolulu, Muliwai, December 22, 1847

**N.T. 649-650v3**
No. 2107, Kahina, July 17, 1850

Umi, sworn, I have seen his land sections in the ili listed below and are in Honolulu here.
Section 1 - House lot at Kaoawai.
Section 2 - 1 patch in the ili of Kahawali.
Section 3 - 1 patch in the ili of Kahawali.
Section 4 - 3 patches in the ili of Hauhaukoi.
Section 5 - 2 patches in the ili of Hauhaukoi.

1.The boundaries are:
Mauka land of Paakua
Waikiki, land of Kauaua
Makai, land of Kahaleaahu
Ewa, Uluhoaloha.

2. Mauka, Pihiliilii
Waikiki, Holelua
Makai, Pihiliilii
Ewa, the konohiki.

3. Mauka, Kalaau
Waikiki, Kaihumua
Makai and Ewa, konohiki land.

4. Mauka, land of Kaihumua
Waikiki, a ditch
Makai, Kaahiki
Ewa, Kianui.

5. Mauka, Kupoolakea
Waikiki, Kianui
Makai, land of the konohiki
Ewa, Kaluahi.

He had received section 1 before 1859; there was no house nor fence at this time; sections 2 & 3 from Kaeo in 1839 or before /that time/; sections 4 & 5 from Uluhoaloha in the year 1847 and he has lived comfortably on these places to the present time. No one has objected.

One of the officers will check to clarify these /Kaeo and Kahina/ in-terests and he will make the best decision

Uluhoaloha will be summoned next Wednesday for his interest at Hauhaukoi
[Award 2107; R.P. 7254 & 4528 & 8483; Kahawali Honolulu Kona; 3 ap.; .79 Ac; Hauhaukoi Honolulu Kona; 1 ap.; .11 Ac.; Kapahaha Honolulu Kona; 1 ap.; .14 Ac.]

**No. 4889, Kalimaiki, Honolulu, Oahu, December 9, 1848**
**N.R. 333v4**

To the Land Commissioners, Greetings: I hereby state my claim for a house site at Ahaikuou in Kapalama, Island of Oahu. The boundaries are: on the north, Nauala, land of Halulu, on the east and south, a kula, on the west, the lo`i of Uku. I occupied this place in the time of Keaniani, the konohiki of Kapalama. One house stands within this place, which is mine. There has been no dissent until this time. I have two other lo`i at Ahikuou in Kapalama; one lo`i adjoins that of Kawelo [LCA 1102], and one adjoins Kuena's lole pipi lo`i /cattle skinner's lo`i?/. Two also are at Niuhelewai on the north side of the stream. One lo`i adjoins Puaaloa's lo`i and one adjoins Kekie's lo`i. They are held under the konohiki in peace.
KALIMAIKI

**N.T. 204-205v10**
No. 4889, Kalimaiki, 24 February 1853

Mose Hoaliku, sworn, I have seen his land sections in Kapalama, Kona, Oahu.

Section 1 - 1 patch at Ahaikuou, ili for Kapalama.
Section 2 - Kahuahale at Kainapuaa, ili for Kapalama.

Section 1:
Mauka, Kanakaole's patch [LCA 1051]
Honolulu, John Neddle's land [LCA 1723-B]
Makai, Stream
Ewa, Nauala, for Konohiki, Kamehameha III land.

Section 2:
Mauka, Kaha's house lot [LCA 1101]
Honolulu, Konohiki P. Kanoa's land
Makai, Ahaikuou konohiki's koele patch
Ewa, Kilikiliana, Henry Zuppleen's land [LCA 275-B].

Kaimaiki's places from Kuku at the time Keaniani was konohiki in Kapalama. Land to Kuku from Moo, Moo's land from Keaniani before the uprising of Kaomi and long before the death of Kinau in 1839. Kalimaiki had lived there peacefully and died on 8 August 1850, probably. These places were bequested to his wife, Kahuhu and children Keoni, Kaneikele, Kahaole and Kualii and they have lived there continuously to this time, no disputes.

Kawaihoa, sworn, I have seen these places of Kalimaiki in Kapalama just as Mose Hoaliku has related here, it is true.

[Award 4889; R.P. 2147; Kainapuaa Kapalama Kona; 2 ap.; .69 Ac.]

**No. [7681], Kekai, Honolulu, February 8, 1848**
**N.R. 431v5**
[listed as 7679!]

Greetings to the Land Commissioners, Respectfully, I hereby state that my share of land from the Mo`i is as follows: one half Kaukahoku, `Ili of Kapalama, Kona, Oahu.
Respectfully,
KEKAI

**N.T. 188v10**
No. 7681, Kekai

Copy
Kekai's ½ property in Mahele Registry
½ Kaukahoku ili for Kapalama, Kona, Oahu
True Copy
A.G. Thurston, Secretary K.K,, Department of Interior, 25 December 1852

[Award 7681; R.P. 3461; Kaukahoku Kapalama Kona; 5 ap.; 4 Acs]

**No. 8400, [Kauhelelei], Kapauhi, See No. 1034 Kapauhi**
**N.R. 551v5**

I hereby state my claim for land at Kaukahoku, an `Ili in Kapalama. There are some taro lo`i. District 2, Island of Oahu.
KUHELELEI X, hls mark

**N.T. 220v10**
No. 8400, Kuhelelei, 25 April 1853

Koi, sworn, I have seen his land at Kaukahoku, Kapalama, Kona, Oahu, 3 land sections.

Section 1 - 1 patch.
Mauka, Mauli's land
Honolulu, R.G. Davis' land
Makai, Makaikaik's [sic] land
Ewa, Naalu's land.

Section 2 - 1 patch.
Mauka, G. Holmes's land
Honolulu, J. Meeks's land
Makai, Kukahekahe's land
Ewa, M. Kekuanaoa's land.

Section 3 - 1 patch.
Mauka, G. Holmes' land
Honolulu, J. Meeks' land
Makai, Hale's land
Ewa, M. Kekuanaoa's land.

He had received these land sections from Kekai in 1841 and he has lived peacefully to this day.

Mauli, sworn, every statement above is true. I have known in the same way.

[No. 8400 not awarded; See Award 1034]

**Claim 8504, George Holmes, Ohule Counter, No. 856**
**F.R. 18v3**

To Board Land Commissioners, &C, Gentlemen, Honolulu, February11, 1858

I present the following claim to a land called "Kumuulu," situated at Palama, Oahu. This land was given to Oliver Holmes, my late father by Kamehameha Ist 35 or 40 years ago. At the death of my father in 1825 it fell to me, and I have been in quiet possession of it ever since.
Signed, George Holmes

**F.T. 293-294v3**
Cl. 8504, George Holmes

Kaiwiaoao, sworn, I know this land called "Kumuulu" in Kapalama in 3 pieces.

Part 1, Mauka piece - 10 or more kalo patches & a house lot having 1 house occupied by me. It is bounded:

Mauka is land of R.G. Davies
Waititi, Kapuuiki's
Ewa by Opala

Part II is 8 kalo patches.

Part 3, makai lot - 1 kalo patch and a pond.

Claimant's parents got this land from Kamehameha I. They and he have possessed it ever since.

There is no counter claimant except Ohula who has already got an award for a part of the mauka lot. No. 1.

Kama, sworn, confirmed the above testimony.

**N.T. 664-665v3**
No. 8504, G. Holmes, See pg. 105, Vol. 10, No. 1056 Kama, August 23, 1850

Kaiwiaoao, sworn, I am familiar with the land of Kumuulu in Kapalama, his land and its boundaries, this land has three sections.

1. 10 patches, 1 house site with 1 house standing; the boundaries are:

   Mauka, land of R. G. Davis
   Waikiki, land of Kekai
   Makai and Ewa, land of Naopala.

   These boundaries given above have Ohule's two sections in it too, but when this section is surveyed, a separation of Ohule's land would be possible and the remaining land would be for G. Holmes.

   2. 8 patches: The boundaries are exactly as the survey by A. G. Thurston as shown on the map.

   3. 1 patch and 1 fish pond: It is exactly as the map, the boundaries of which were surveyed by A. G. Thurston.

Kama, sworn, I have heard clearly the testimony given by Kaiwiaoao and I have known in the same way. No one has objected except for Ohule's two land sections yet he had received them from his grandparents.

G. Holmes had received his interest from his parents in 1825 and he has lived comfortably. During the Mahele in 1848 the land was granted to him permanently by King Kamehameha III.

[Award 8504; R.P. 683, 684; Kumuulu Kapalama Kona; 3 ap.; 6.59 Acs]

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**No. 11056, Mauli**
**N.R. 631v4**

I hereby state my claim for land at Kaukahoku, an `ili at Kapalama. There are some taro lo`i, that is my claim. District 2, Island of Oahu.
MAULI

**N.T. 221v10**
No. 11056 Mauli, 25 April 1853

Koi, sworn, I have seen his land section at Kaukahoku, Kapalama, Kona, Oahu

Mauka, J. Neddles's land
Honolulu, George Holmes' land
Makai, Kuhelelei's land
Ewa, the King's land.

Land from Kekoi in 1834 and Mauli has lived peacefully to the present time.

Kuhelelei, sworn, every statment above is true, I have known in the same way.

[Award 11056; R.P. 2513; Kaukahoku Kapalama Kona; 1 ap.; .67 Ac.]

# APPENDIX B

Cultural Impact Assessment

*Helber Hastert & Fee, Planners*

UNIVERSITY OF HAWAIʻI
**HONOLULU COMMUNITY COLLEGE**

# ADVANCED TECHNOLOGY TRAINING CENTER

## C U L T U R A L  I M P A C T  A S S E S S M E N T

Honolulu District, Oʻahu, Hawaiʻi

**November 2010**

Prepared for:
**Design Partners, Inc. and**
**Honolulu Community College**

Prepared by:
**Helber Hastert & Fee, Planners**

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**Glossary**

| Hawaiian term | English Translation |
|---|---|
| ahupuaʻa | Land division usually extending from the uplands to the sea, so called because the boundary was marked by a heap (*ahu*) of stones surmounted by an image of a pig (*puaʻa*), or because a pig or other tribute was laid on the alter as tax to the chief |
| akua | God |
| aliʻi | Chief |
| ʻauwai | Canal |
| ʻewa | Place name west of Honolulu, used as a directional term |
| haole | Foreigner |
| hoaʻāina | Tenant |
| ʻili | Land section, next in importance to *ahupuaʻa* and usually a subdivision of an *ahupuaʻa* |
| ʻili ʻāina | An *ʻili* land division whose chief pays tribute to the chief of the *ahupuaʻa* of which it is part, rather than directly to the king |
| kahawai | Stream, creek |
| kalo | Taro |
| kamaʻāina | Native born |
| kanikau | Dirge |
| keiki | Child |
| kiawe | *Prosopis pallida* |
| konohiki | Headman of an *ahupuaʻa* land division under the chief |
| kuāuna | Bank or border of a taro patch |
| kuleana | A small piece of property |
| kupuna | Ancestor, grandparent |
| lānai | Porch, veranda |
| loʻi | Irrigated terrace, especially for taro but also for rice |
| loʻi kalo | Taro patch |
| loko iʻa | Fishpond |
| Māhele | Land division of 1848 |
| Māhele ʻĀina | Land division of 1848, also known as Great Mahele |
| makai | Ocean |
| makua | Parent |
| mānowai | Dam, stream or water (irrigation canal) |
| mauka | Inland |
| moʻolelo | Story |
| ʻohā | Taro corm growing from the older root, figuratively offspring or youngsters |
| ʻohana | Family |
| pali | Cliff |
| poʻowai | Water source or head, dam |
| punawai | Water spring |
| wai | Water |

## 1.0 Introduction

Helber, Hastert and Fee, Planners, Inc. (HHF) was contracted by Honolulu Community College (HCC) to conduct a Cultural Impact Assessment for the proposed Advanced Technology Training Center within the existing campus, Kapālama, Oʻahu [TMK (1) 1-5-18: 001, 002, 003, 004]. The proposed ATTC facility will be located on the west side of the existing Main Campus on Dillingham Boulevard between the existing six-story library building and Kōkea Street. The new facility will provide modern laboratory and classroom spaces for HCC's science technology training programs.

## 1.1 Background and Objectives of the Cultural Impact Assessment

The purpose of the Cultural Impact Assessment is to consider the effect the proposed development may have on native Hawaiian or any other concerned ethnic group in terms of their culture and their right to practice traditional customs. The State of Hawaiʻi constitution, laws and courts "require government agencies to promote and preserve cultural beliefs, practices, and resources of native Hawaiians and other ethnic groups" (Office of Environmental Quality Control 1997). Past failures to assess cultural impacts have resulted in the loss and destruction of many important cultural resources and have impeded the free expression of native Hawaiian culture. As adopted in the State of Hawaii under Chapter 343, HRS, Act 50 is an attempt to balance the scales between traditional lifestyles and development and economic growth.

PROTOCOL FOR ASSESSING CULTURAL IMPACTS:

- Identify and consult with individuals and organizations with expertise concerning the types of cultural resources, practices and beliefs found within the broad geographical area, e.g., district or ahupuaʻa;
- Identify and consult with individuals and organizations with knowledge of the area potentially affected by the proposed action;
- Receive information from or conduct ethnographic interviews and oral histories with persons having knowledge of the potentially affected area;
- Conduct ethnographic, historical, anthropological, sociological, and other culturally related documentary research
- Identify and describe the cultural resources, practices and beliefs located within the potentially affected area; and
- Assess the impact of the proposed action, alternatives to the proposed action, and mitigation measures, on the cultural resources, practices and beliefs identified

Office of Environmental Quality Control 1997

Although the size of the project consists of a relatively modest footprint, the extent of cultural impact assessment extends well beyond the proposed ATTC building site. This is protocol in cultural impact studies:

> In scoping the cultural portion of an environmental assessment, the geographical extent of the inquiry should, in most instances, be greater than the area over which the proposed action will take place. This is to ensure that cultural practices which may not occur within the boundaries of the project area, but which may nonetheless be affected, are included in the assessment (Office of Environmental Quality Control 1997).

In the case of this assessment, the study area refers to the extent of HCC's main campus. However, the scope of the study extends generally from King Street to Dillingham Boulevard and from Kapālama Drainage Canal to the intersection of King Street and Dillingham Boulevard. The *ahupua'a* is usually the appropriate geographical unit for a cultural impact assessment, however in this case a smaller scope was chosen for two reasons. First, a previous cultural study has been conducted for this same project identifying many of the cultural traditions and resources within the context of the *ahupua'a* (*See* O'Hare, Shideler and Hammatt 2010). Also and more importantly, the urbanization of the study area has altered it to such a great extent that traditional cultural practices and resources are no longer tied to the original natural resources of the area (i.e. Filling of wetlands in the study area during the beginning of the 20th century completely modified the ground surface). To address the more modern and imported traditional practices relevant to the proposed project, the scope is better defined by the communal hub of Pālama.

## 1.2 Description of the Project Area and Ahupua'a of Kapālama

### General Setting

Honolulu Community College's (HCC) main campus is located on O'ahu's southern coast, in Kapālama, Honolulu bordered by Dillingham Boulevard on the south, Ka'iulani School and businesses and apartment complexes to the east and Kapālama Drainage Canal to the north (Figure 1 in Appendix A; all report figures are in Appendix A). The proposed building site consists of a parcel within the Dillingham Campus (from now on referred to as the Main Campus) situated just west of the current library on a paved and shaded parking lot, Lot 1 (Figures 2 & 3).

The study area is located in a mixed business and residential area. Many of homes that once existed in the vicinity of HCC between King Street and Dillingham Boulevard have been replaced with businesses or warehouses. The main campus of HCC marks the transition between a mixed residential-commercial neighborhood of King Street and the industrial lots *mauka* of Dillingham.

Soils in the study area consist of Fill Land, mixed (FL) in the west and Ewa Silty Clay Loam (EaA) on the east (Foote et al. 1972). Fill Land, mixed (FL) consists of areas of material dredged from the ocean or hauled from nearby. Much of the coastline in the primary urban corridor of Honolulu is derived of fill.

Vegetation of the study area consists of landscaped shade trees such as the shower tree (*Cassia spp*), banyan tree (*Ficus benjimina*) and well-maintained lawn grass. Hedges are also minimally used to accent buildings or entrances of buildings around the campus.

## 1.3 Methods

### Archival Research

Historical documents, maps and photographs pertaining to Kapālama *Ahupua'a* were used as a foundation for the background historical information and for the land use transitions in the early periods. *Māhele* documents were acquired via Cultural Surveys Hawai'i, Inc. who in turn received them from Waihona 'Aina, an online database of *Māhele* and other land use documents. Early land use records were supplemented with information from the Hawai'i State Archives. Oral histories conducted by the University of Hawai'i Center for Oral History were particularly rich in cultural material. Hawai'i newspapers of the early 20th century such as *The Star Bulletin* and *The Honolulu Advertiser* were researched at University of Hawai'i at Mānoa's Hamilton Library. For the time period prior to 1921, the predecessor to *The Honolulu Advertiser*, *The Pacific Commercial Advertiser* was available at the Hawai'i State Library. Early Hawaiian periodicals were accessed via Ho'olaupa'i, the online database of historic Hawaiian-language newspapers published between 1834 and 1948, www.ulukau.org. The Hawai'i State Survey Office was the primary repository for maps from the time periods ranging from the Hawaiian Kingdom, through Hawai'i's territorial period (1898-1959) and into the statehood years (1959-present). Historic photographs of Kapālama were obtained primarily through the Hawai'i State Archives, though the Bishop Museum photograph collection was also accessed.

### Community Consultation

Community consultation is a significant component of the cultural impact assessment because it helps to identify the cultural practitioners in the area of the proposed development. Different methods of qualitative methods of sampling are used to identify participants to the study. Because the purpose of the consultation effort is to identify a group of people that possess specific knowledge regarding the study area, techniques such as purposive and snowball sampling are used. These techniques involve selecting a group of participants based on certain characteristics or criteria often by way of a snowball or chain effect in which one interview leads to another. These techniques are particularly effective because they capitalize on informal social networks to identify key players who are difficult to locate.

Relevant community-based or culturally-based organizations were contacted such as the Hawai'i State Preservation Division, Office of Hawaiian Affairs, O'ahu Island Burial Council, Palama Settlement, Kalihi YMCA, Kalihi-Palama Neighborhood Board, State and local representatives and faculty and staff of Honolulu Community College. These organizations would provide names of potential participants who would then be contacted. This might continue for two to three links down the chain before leading to a potential participant or a dead end.

Another technique used to gather qualitative information on the study area and the outlying community was the walkabout assessment. The objective of this type of assessment was to gather information regarding the natural resources and the community profile in the vicinity of the study area. Two HHF staff walked the area beginning at Kapālama Drainage Canal adjacent to Honolulu Community College, visited Banyan Courtyard next to the Kaumakapili Church, walked along King Street and down all the major lanes along King Street including Hikina Lane, Austin Lane, Robello

Lane and Akepo Lane. Talk story was encouraged with community members and this technique led to an encounter with one of our interview participants, Mr. Vina.

## 2.0 Kapālama: 1800s

The following is a summary of a cultural history of Pālama as it relates to the project area. This summary touches on the people who once lived in and near the study area and the transition of the land in the study area from productive agricultural wetlands, to fill land, to industrial lands. A more detailed and comprehensive study on the legends and history of the entire *ahupua'a* of Kapālama is included in "An Archaeological Literature Review and Field Inspection Report for the Honolulu Community College Advanced Technology Training Center Project Kapālama Ahupua'a, Kona District, O'ahu Island TMK: [1]1-5-005:003, 039; 1-5-006:026, 027, 028;1-5-017:001, 004, 005, 006, and 1-5-018:001, 002, 003, 004". Some of the historic material gleaned for the project area also comes from this report.

## 2.1 Niuhelewai

The area in which HCC Main Campus and the study site are located is today referred to as Pālama. However, the study site was probably once known as Niuhelewai, named after an area and a stream that once flowed through the northwestern edge of the campus just east of the Kapālama Drainage Canal. The place Niuhelewai, was described as situated "makai of King Street, between the fire and pumping stations" (Fornander 1917; 1919). The fire station, presumably the Pālama Fire Station, is located directly *mauka* of the Main Campus and no longer operates as a fire station, but as a discrete and adjunct part of Honolulu Community College. The pumping station refers to the Kalihi Pumping Station, built in 1899 as one of three pumping stations to provide water to Honolulu. Today the pumping station is located on the corner of North King Street and Waiakamilo Road. John Papa 'Ī'i, an influential member of the courts of Kamehameha II and III, describes the Niuhelewai area "from down below the present road at Niuhelewai to the bend in the road where the houses of the Portuguese now stand" as being well populated and full of farms ('Ī'ī 1959). The main road in reference in those days was the Alanui Aupuni, the "Government Road", now known as King Street (Figure 4). This was the primary thoroughfare that connected land districts and *ahupua'a* east to west. In one early map (1850s), Niuhelewai is labeled not only as the stream, but also as the village at this general intersection.

Several community members of Niuhelewai contributed to the Hawaiian newspapers in the late 1850s and 1860s. The place name Niuhelewai comes up quite often in the writings of this period, particularly in the literary expression called the *kanikau* or Hawaiian dirge. This uniquely Hawaiian expression was traditionally a chant of mourning in which professional wailers would attend the wake of the dead to offer poems of praise for the life of the person (Johnson 2010).

By the late 1860s, early 1870s, the use of the place name Niuhelewai dropped off. Maps no longer labeled the area Niuhelewai and the name no longer appeared in the Hawaiian newspapers. The stream however continued to carry the name Niuhelewai on maps until the late 1940s, early 1950s even after the Kapālama Drainage Canal was completed in 1939.

Place names are a significant aspect of Hawaiian cultural traditions, particularly relating to land. The significance of place names is explained by Mary Kawena Pukuʻi, an authority on place names in Hawaiʻi:

> How many place names are there or were there in the Hawaiian Islands? Even a rough estimate is impossible: a hundred thousand? A million? Hawaiians named taro patches, rocks and trees that represented deities and ancestors, sites of houses and sea, resting places in the forests, and the tinniest spots where miraculous or interesting events are believed to have taken place…(Pukui, Elbert and Mookini 1974).

The following is a short list of the main place names found in the study area (*see* Figure 4). They refer to the *ʻili ʻāina* or land divisions that were claimed by those that once lived and worked there. Although the true meanings behind the place names found in the study area are not known, sometimes the literal meaning can give an indication as to the kinds of resources in the study area. The meanings are taken from "PEM" *Place Names of Hawaii* (Pukui, Elbert and Mookini 1972) and "PE" the *Hawaiian Dictionary* (Pukui and Elbert 1986).

| | |
|---|---|
| **Niuhelewai** | Niuhelewai: *Lit.*, coconut going [in] water (PEM: 166) |
| **Kumuulu** | Kumu: *Lit.*, source (PEM: 124); Ulu: *Lit.*, growth (PE: 368); ʻUlu: *Lit.*, breadfruit (PE:369) |
| **Nauala** | unknown |
| **Kainapuaʻa** | ʻāina puaʻa; this may be a special assignation to a piece of land worked for tax or tribute; this land is associated with the chiefly class as it was retained for the chiefs |
| **Haikuou** | Haʻikū: *Lit.*, speak abruptly or sharp break (PEM: 34); ʻou: sharp, protruding, piercing (PE: 293); possible reference to the limestone ledge that traverses the area |
| **Kumupali** | Kumu: *Lit.*, source (PEM: 124); Pali: *Lit.*, cliff (PEM: 177) |
| **Kapulehu** | Pūlehu: *Lit.*, broiled (PEM: 193) |
| **Kaukahoku** | Kaukahōkū: *Lit.*, the star appears (PEM: 92) |
| **Keoneʻula** | Keoneʻula: *Lit.*, the red sand; Area in which are situated Kaʻiulani School and Kaumakapili Church (PEM: 108) |
| **Olani** | ʻŌlani: *Lit.*, to toast over a fire, broil, warm in sunlight (PE: 283) |

## 2.2 Kapālama 1840s-1880s

### 2.2.1 *Māhele ʻĀina*

The land division or *Māhele ʻĀina* of 1848 allowed the native peoples in Hawaiʻi, who did not originate from the ruling class, the opportunity to acquire land fee simple, also known as *kuleana*. For the most part, native tenants or *hoa ʻāina* made claims to land on which they lived and actively cultivated. The claim process required *hoa ʻāina* to provide personal testimonies regarding their residency and land use practices. The documentation of such land use practices collected under the auspices of the Board of Land Use Commission offers a clear picture of the study area as it was in the 1840s and 1850s.

The *ahupuaʻa* of Kapālama was awarded to Moses Kekūāiwa as part of Land Commission Award (LCA) 7714-B. As the son of Kīnaʻu, one of Kamehameha I's wives, Kekūāiwa was entitled to

many lands. Kapālama passed down through *aliʻi* hands until it came into the possession of Bernice Pauahi Bishop, first cousin of Ruth Keʻelikōlani. Kamehameha Schools Bishop Estate continues to own much land in the Kapālama ahupuaʻa.

The *kuleana* awards in Kapālama were extensive spreading throughout the *ahupuaʻa*. This indicated intensive use of the *ahupuaʻa* resources for permanent habitation and agriculture. Mid-nineteenth century Māhele documents identify these *kuleana* parcels as comprising house sites and irrigated taro fields. Maps of this period also indicates large areas set aside for rice fields near the central irrigation ditch or *ʻauwai* in land managed by the *konohiki* (land agent for the *aliʻi;* in this case Moses Kekūāiwa) (O'Hare, Shideler and Hammatt 2010:18).

Even within the vicinity of the study area, based on the numbers of land claims and land awards, the area now known as the Honolulu Community College Main Campus was being intensively cultivated during this period. Twenty-two land commission awards or portions thereof are documented for the HCC main campus area and upwards of forty-five wetland taro fields or *loʻi kalo* were claimed within this area (Figure 5 and *see* Appendix A). These irrigated taro patches consisted of a complex system of irrigation ditches, many of which are claimed by the *hoa ʻāina*, along with the actual *loʻi* or taro patch and the *kuāuna*, or taro banks surrounding the irrigated terrace.

In addition to *loʻi kalo* and associated irrigation infrastructure, a fishpond was also claimed within or just south of the study area, in a parcel belonging to George Holmes. Today, this parcel is filled and covered by Dillingham Boulevard, HCC's main campus and a parking lot *makai* of Dillingham. Although it is not known where within the study area the fishpond was situated, it is safe to say that the study area constituted an area of prized wetlands, a transition zone from the irrigated taro patch to the fishponds. Standing on the limestone ledge at Kahaleaahu's LCA 655 at the southeast corner of the study area and looking south, it was once possible to view Kuwili Fishpond where today the electric substation sites.

### 2.2.2 Konohiki of Kapālama

The Land Commission Awards of the study area also give a glimpse into the politics and turmoil caused by the transition from a usufruct system to the new system of land tenure adopted through the *Māhele ʻAina*. *Konohiki*, or land agents, of Kapālama were given their lands directly through the Secretary of the Department of Interior, A.G. Thurston (Appendix B; *see* LCAs 7681 and 8179). One *konohiki*, Kekai was awarded four acres of land in parcels scattered around Kapālama, significantly more land than the average less than one acre awarded to other *hoaʻāina*. Halulu, another *konohiki*, was awarded one half of the land district of *ʻili ʻāina* Nauala, a good sized parcel. The value of the Nauala land is its location adjacent to Niuhelewai stream and the *mānowai*, the dam that allocates water to several *kuleana* within the study area.

The hold to traditional views of land tenure and management is poignant in the words of the *konohiki* Halulu, as he provides testimony for Kaha's claim to land within the study area (LCA 1101).

> I gave claimant these places in 1841, which I got from the King in 1831. I only intended to allow Kaha the use of these lands as long as it pleased me. I never meant to give them away.

> I have not sent into the Land Commission any claim. I am willing for Kaha to hold the lot under me and not in any other way…
>
> This place has been enclosed; however, Kanoa has protested, but Kaha has lived there to the present time. My land is from the king, probably received in the year 1834. This land is not for Kaha outright, it is for him under me. No one has objected to him.

Halulu was willing to continue to allow Kaha to utilize the lands under the old system of land tenure, in other words with a usufruct right to the lands under the management of himself as *konohiki*. However, Kaha was awarded the parcel in fee simple, an entirely new and foreign form of possessing land. This excerpt from the native testimony is also an example of the hierarchy under which not only *hoa'āina* operated, but also *konohiki*.

### 2.2.3 *Haole* Gain Land Commission Awards in Kapālama

Houselots were another common claim; nineteen were counted for the study area. Most of these houses were grass huts common at that time, however one person, John Neddles, specified a wood-frame house on his land. John Neddles was one of several *haole,* or foreigners who was given land by the Kamehamehas , compensation for services rendered during the early 1800s. Because of its proximity to Honolulu and its rich lands, Kapālama was frequently distributed by the king to foreign business partners as well as to lesser chiefs. Neddles, also referred to as John Neddles Anthony Chu-Chu Gilman, was a native American of Cherokee descent who arrived in Hawai'i in 1817 and soon became a shipping merchant with his schooner, the S.S. Honolulu. He was awarded land within the study area. Neddles married two Hawaiian women, first Louisa Pi'ilani and later Harriet Kapu Kawahaea. He sired nine children between his two wives.

George Holmes, who owned large land plots in the study area, acquired his land from his father, Oliver Holmes. As one of the first foreign residents of Hawai'i, Oliver Holmes worked at Honolulu Harbor provisioning ships. He married a Maui *ali'i*, Kalanihooulumokuikekai (Day 1984:53).

James Isaac Dowsett was the first *haole* baby born in the Hawaiian islands. His father was English sea captain, Captain Samuel Dowsett. Arriving in the islands in 1822 to deliver a ship to Kamehameha I, Captain Dowsett stayed on to raise his family in the islands. His son, James Isaac grew up as a playmate of Kamehameha III, Kamehameha IV, and Lunalilo. J.I. Dowsett became a successful businessman running a fleet of whaling vessels during the whaling boom and also becoming involved in the lumber, steamer and ranch businesses. He married a part-Hawaiian named Annie Ragsdale, who served as a lady-in-waiting to Queen Kapi'olani. James Dowsett received land adjacent to the study area from Kamehameha IV. He also acquired land within the study area, soon thereafter selling the parcel.

## 2.3 King Street (Palama Road) 1890s and the Political Pulse of Hawai'i

As the commercial center of Honolulu took on increasing importance in the late 1800s and the port of Honolulu continued to grow with the ascendancy of the sugar industry, neighboring Pālama became a quiet suburb of the bustling downtown and Chinatown areas. In the 1880s and 1890s,

Pālama was a popular residential area for well off Hawaiian and *haole* families, particularly along King Street, which at the time was known as Palama Road (Figure 6). *Kuleana* gave way to large estates that sometimes served as second homes for well-off families.

Pālama was a very politically turbulent place during the 1880s and early 1890s when the threat of annexation was imminent. Queen Liliʻuokalani had a home on what is today the grounds of St. Elizabeth's Episcopal Church. Many retainers and supporters of the queen and the Hawaiian kingdom lived near her estate in Pālama. The Queen's supporters belonged to the "Liberal Party", a political party that encouraged Liliʻuokalani to draft a new constitution to reestablish the power of the Hawaiian monarchy. Many political meetings and rallies were held in Pālama at the residences of various Liberal party members. The following excerpt from a newspaper dated January 1892 speaks to the political tension of the day:

> After failing to obtain permission to hold political meetings at the Reformatory School [current Kaʻiulani School grounds] and Hon. Jos. Nawahi's premises [home in Pālama], the Hon. D.W. Pua [home in Pālama on Pua Lane] came to the rescue of the Liberal party, and gave up his house and grounds to the candidates. About four hundred with women and children from the surrounding neighborhood turned out to hear the political discussions of the Liberal party…" (Pacific Commercial Advertiser, January 1892)

Resident of Pālama, Joseph Nawahi was a member of the Hawaiian legislature and served as Minister of Foreign Affairs on Queen Liliʻuokalani's cabinet. He was the president of the Liberal Party and founded Hui Aloha ʻĀina, also known as the Hawaiian Patriotic League—the major campaign to halt the annexation of Hawaiʻi to the United States. Nawahi was extremely popular with Native Hawaiians and his funeral was one of the largest seen in Honolulu with the exception of royal families (Pacific Commercial Advertiser, October 1896). Following his death, James Keauiluna Kaulia, a Pālama resident who lived on King Street at the site of Tamashiro Market, took over as president of Hui Aloha ʻĀina. Kaulia led the anti-annexation movement heading a delegation to Washington D.C. to protest annexation.

Members of the rival Reform Party also lived in Pālama. The Reform party campaigned under a platform encouraging commercial opportunities while safeguarding the independence of the Kingdom, however many members of the party were leaders in the overthrow of the Hawaiian Kingdom. The Reform Party Platform states: "We pledge ourselves to maintain, inviolate, the autonomy and independence of this Kingdom, while securing, at the same time, the amplest commercial benefits in our treaty relations with the United States" (Pacific Commercial Advertiser, January 1890). Several leaders of the party who served as Oʻahu Island Nobles for the Reform Party had large estates at Pālama including W.O. Smith, M.P. Robinson and J.I. Dowsett (*see* Figure 6). W.C. Achi, successful Chinese-Hawaiian realtor who served as Representative of the Kona District for the Reform Party, also lived along King Street in Pālama.

This volatile political situation did not bode well for recruiting members into the Palama Chapel, an offshoot of the Central Union Church and precursor to Palama Settlement. The Central Union Church was associated with the overthrow of the Hawaiian Kingdom. The struggles of the Central Union Church to enlist new members from the local Pālama community is documented in the following excerpt.

WN: You called it an outreach center of the church, an outreach branch. The reason for that was to tend to convert the Hawaiian population that was living out in Pālama?

RR: Well, yes the history of the population is interesting and also contributed to the change from the strictly church activity into the broader aspects of social work. Queen Liliʻuokalani had a home in that area. She liked to go there because [of] the informality as compared to being in the [ʻIolani] Palace. A number of her retainers and a number of the *aliʻi*, Hawaiian *aliʻi* lived in the area where they were near her.

WN: You know where and what…

RR: Well, Desha Lane was one of the places, pretty much Desha Lane and King Street on up to what is now Kaʻiulani School. Kaumakapili Church is there and from Kaumakapili Church towards Honolulu was basically the area. What made it hard, therefore, for Central Union Church was they were trying to, you might say, recruit members to the church in an area where the predominantly Hawaiian group would in their minds connect Central Union Church's leaders with the overthrow of Queen Liliʻuokalani in 1893. So there was a reticence on the part of the adult population of Hawaiians to assimilate with the Central Union Church. And so it was mainly a matter of getting some youngsters, hopefully, in for kindergarten [which was] originally a Sunday school. But they had a succession of so-called superintendents that they sent down there, changing almost every year and sometimes twice a year. It was really not a successful church effort. (Interview with Robert Rath Jr. *in* Center for Oral History 1998).

Several lanes off King Street were named after notable families of this time period, Dowsett Lane (now Akepo Lane), Alapai Lane (now Hikina Lane), Pua Lane, Desha Lane, and Auld Lane. A portion of an 1892 map of King Street shows the names of the families living in this area during this historic period (*see* Figure 6).

### 2.3.1 Kaʻiulani School

Kaʻiulani School was opened on King Street in 1899. The school was built in honor of Princess Kaʻiulani, daughter of A.S. Cleghorn and Princess Likelike. Princess Kaʻiulani died just before the completion of the school. A cutting of a banyan tree which once grew on her family estate in Ainahau, Waikīkī, was planted on the school grounds. The Ainahau banyan was famous because this is where the young princess sat conversing with Robert Louis Stevenson. A plaque was placed on the tree at Ainahau until the banyan was cut down around 1949. On the plaque was a poem written for the Princess by Stevenson:

The daughter of a double race
Her island here, in southern sun,
Shall mourn their Kaiulani gone,
And I, in her dear banyan shade,
Look vainly for my little maid.

The plaque was given to Kaʻiulani School around 1954 (Honolulu Star Bulletin, June 3, 1954). The cutting from the original Ainahau banyan has grown into a large tree and is located on the southern corner of the Kaʻiulani School grounds, adjacent to the fence adjoining HCC main campus.

The 50th Anniversary of Kaʻiulani School was held in the banyan court and some of the names of the first classes at the school included Henry A. Nye, a civic leader involved in the Hawaiian Civic Association, Lion's Club and Lunalilo Trust; the Dwight brothers, the children of George Holt, the Prendergast sisters (one of whom became a well known musician), Dr. Dai Yen Chang, a dentist and the first Chinese to be elected Honolulu city and county supervisor, the Hakuole boys, Walter Chinn and the Desha boys (Honolulu Advertiser, May 3, 1949).

### 2.4 Rice and Duck Farms of Pālama

Even as the land fronting King Street became popular for the Hawaiʻi elite, the backwaters *makai* of King Street were still devoted to wetland agriculture. Throughout the 1870s and into the 1880s, taro fields were replaced with rice paddies. The demand for rice began to grow as Hawaiʻi brought in more Asian laborers to work for the sugar industry. Also rice was treated as an export to California to feed the laborers in the resource extraction industries.

Chinese rice growers dominated the industry in Hawaiʻi. Starting as a vegetable gardener in the 1870s, Young Ah In (Y. Ahin), an immigrant from Chung Shan, China, developed Tung Sun Wai, a Pālama rice plantation, in partnership with relatives (Lum 1988). Y. Ahin expanded his operations to Waikīkī, Pawaʻa, Moanalua and other locations on Oʻahu, opening rice mills in Pālama and ʻEwa. His Pālama rice mill, Wing Chong Chan Rice Mill, was located at Auld Lane, *mauka* of King Street. His name is found on early 20th century land maps of the study area suggesting he may have been growing rice in the study area at that time.

With the abundance of wetlands, duck farming also became a profitable enterprise. In the 1880s, many duck farms emerged in the Pālama area, the Chinese again taking the entrepreneurial lead.

> Not a few Chinese make a good living raising ducks wholesale for this market. Hundreds of them are hatched by artificial heat, and fed for a few weeks and then sold. They appreciate as rapidly in price as any fowl can, being worth a dollar a dozen when not more than one week old, and a dollar a piece six weeks afterwards. Out at Kapalama a Chinaman has at least eight hundred ducks of all ages and sizes. He finds a ready market for them (Pacific Commercial Advertiser, 1884).

A 1914 Sanborn Fire Insurance map depicts a duck pond to the southeast of the project area (Figure 7). By 1927, the duck ponds had been filled and developed by the Oahu Railway and Land Co. (OR&L) and the pineapple canneries.

## 3.0 Kapālama: 1900s-1940s

### 3.1 Chinatown Fire and the New Pālama 1900

In 1899, the bubonic plague came to shore via Honolulu's port. The first victim died in Chinatown in December and the Board of Health decided to close schools and quarantine Chinatown's 7000 residents. Fire was chosen as a measure to control disease and in the first weeks of January 1900, several controlled burns took place in Chinatown. On January 20,1900, a controlled burn was planned for wooden buildings *mauka* of Beretania between Nuuanu and Smith streets. Shifting winds drove this fire out of control and almost the entire 38 acres of Chinatown, were burned. Kaumakapili Church, located on Beretania Street at that time, also caught on fire, the flames engulfing the steeples with the winds (Figure 8). Though no lives were lost, 4000 people, the majority Chinese and Japanese with a lesser number of Hawaiians, were left homeless (Mohr 2005).

Refugee camps were hastily set up. Kawaihao Church, Iolani Palace grounds, portions of Kalihi, and properties belonging to Queen Emma were all used to house refugees. Due to its proximity, parts of Pālama were also developed as displacement camps for refugees, sometimes referred to as Detention Camps. The influx of the displaced Chinatown residents had a profound effect on the social fabric of Pālama, changing it forever.

> WN: And so when this reverend, Dr. Scudder, went to Springfield to try and recruit your parents to come over, was there anything else going on in that Pālama area that caused them to change from a church endeavor to a settlement house?
>
> RR: Well, something very dramatic, and that was the bubonic plague hit Honolulu Harbor and the Honolulu area. And they purposely burned down, they thought, a small section of Chinatown where people who had the plague had been residing. The fire got out of hand and decimated, just burned up that whole area, what is now called Chinatown all the way through to ʻAʻala Park. And that meant that those people had to be—they were displaced. And in a hurry tenements went up from ʻAʻala Park, Liliha Street on through to what is now Mayor Wright housing. And that made it much less desirable for the Hawaiian families to live there. They had enough wherewithal so they moved out and it turned into a vastly different community.
>
> WN: More of an immigrant community.
>
> RR: More of an immigrant community or, you might say, the less wealthy Hawaiians and others. There still [was a] substantial share of Hawaiians but they were not the *aliʻi* retainers, Queen Liliʻuokalani type of Hawaiian in there. (Interview with Robert Rath Jr. *in* Center for Oral History, 1998).

Tenement homes, meant to be temporary, were hastily thrown up from Aʻala towards Liliha and into Pālama. These homes were constructed to house several families in a compact space and often had shared kitchen and bathroom facilities (Figure 9). One resident who grew up in the tenements at Pālama remembers what it was like:

> But we were happy when we moved to Robello Lane, even if it was two small bedrooms. The living room was small. And [there was] a very small kitchen and you had to share the bath. I mean the bath was like furo, but you had to walk [outside]. It was a house where a lot of people shared it. It was a camp really. And we shared—it was a duplex—the toilet with a neighbor, so it was just right outside. You know you had to go outside of the house to go to the bathroom. So that can be pretty scary in the wee hours of the night…(Interview with Barbara Paresa *in* Center for Oral History, 1998).

A decade after the Chinatown fire and the plague scare, many tenements were still found in Pālama. Though the tenements were gradually replaced over time, some were still around well into the 1940s and 1950s.

**Palama Settlement**

Palama Settlement played an important role in the community following the displacement of many immigrants into Pālama. Beginning as an offshoot of the Central Union Church at the turn of the century, the mission of the Church was broadened from a purely religious mission into more of a social mission following the changes in the Pālama population. The director of the Palama Settlement, James Arthur Rath, made an address to a community group in 1906 describing the situation in Pālama.

> Rath spoke of the "other half" as inhabiting the district Ewa of Nuuanu steam, which, he said, formed a social and economic barrier. This district was densely populated and desperately poor. People of many nationalities jostled each other for room. The Hawaiians were especially poverty-stricken in the extreme sense of the term.
>
> Vice and crime abounded in the tenements of this district to a degree surprising in such a well-churched city as Honolulu. In one room 27 men, women and children were in the habit of bathing (Pacific Commercial Advertiser, January 1906).

The settlement house, as a progressive social movement, offered social services to community residents to help them improve their economic and social situation through a "holistic family strengthening approach" (Figure 10). Palama Settlement established the first public health nursing department in the Territory. Other services included a day-camp for children with tuberculosis, a pure milk depot, a day nursery for children of working mothers, and a night school offering classes in English, American history, civics and geography. In 1914, an athletic complex was opened and free medical and dental clinics were established (Nishimoto 2000).

**Growth of Commerce in Pālama**

As a result of the Chinatown fire, two other buildings were built along King Street just *mauka* of the study area. The Palama Fire Station was one of three fire stations built in 1901 to prevent another Chinatown fire in the growing city of Honolulu. At the time it was state of the art with electric door-opener and slide poles connecting the upper living quarters with the engine hose wagon and horses on the first floor (Lanzone, 1976). The 75-foot stucco fire hose drying tower made the building a turn of the century landmark.

A significant victim of the Chinatown fire was Kaumakapili Church on Beretania Street. The church had been almost entirely destroyed by the blaze. The Church decided to move quarters to Kapālama in 1903. At that time, the land at Kapālama was slated to be developed as Mauna Kamalu lots by its owner, Bishop Estate. After much discussion between church leaders, the American Board of Commissioners for Foreign Missions (ABCFM) and Bishop Estate Trustees, the land at Kapālama was transferred to Kaumakapili Church (Kaumakapili Church 2001). A new church was built in 1910 and dedicated in 1911. Even more so than the fire station, Kaumakapili Church served as a physical beacon for the surrounding community with its towering steeple, designed to match the original steeple from the Beretania Street church.

Numerous shops and restaurants sprouted up as the new immigrant residents sought to make a living in Pālama. One of the main English speaking periodicals of the day, the Pacific Commercial Advertiser (March 1904) reports the success of Chinese-operated, second-hand stores in Pālama.

> King street, Palama, is fast becoming the Baxter street of Honolulu. It is being filled on each side of the street with Chinese establishments which can sell one anything from a painting of King Kalakaua to a top or a second-hand set of dominoes or dice with which to conduct a gambling game. These shops have sprung up within the past four or five years and many of them now do a thriving business…The second-hand dealers buy their wares for little or nothing, sell for next to nothing, and yet make something of a profit and in many cases a considerable profit.

The article goes on to explain how the success of the Chinese business owners lay in the initial output of very little capital and the reinvestment of all profits to acquire more supplies. The Chinese were not the only ones to successfully operate businesses in Pālama. Significant numbers of Japanese and Koreans were also involved in providing services for the community. A count of the different commercial enterprises made in 1906 illustrates the tendency for the different ethnicities to open certain types of businesses. "Cold drink stands, 17; Japanese hotels, 12; Chinese restaurants, 12; saloons, 12; Japanese barber shops, 10; Japanese baths, 6; missions, 5; schools, 4; Chinese barbers, 3; play-grounds, 2; lodging houses 1; Korean restaurant, 1" (Pacific Commercial Advertiser, January 22, 1906). The few remaining Mom and Pop shops/restaurants in Pālama are a relic of these original entrepreneurs.

## 3.2 Filling the Wetlands of Kapālama

### 3.2.1 Kapālama Basin

In 1914, the Chamber of Commerce of Honolulu submitted a statement to Washington D.C. recommending the extension of Honolulu Harbor to Kapālama Basin. The report argued that more wharfage space and facilities were needed to accommodate the growth in commerce and shipping in the Pacific. The Kapālama Basin, due to its proximity to Honolulu Harbor, was a favorable location for the extension (Chamber of Commerce of Honolulu 1914). The completion of the Panama Canal was expected to drive further growth in commerce in the Pacific.

Ten years later, the issue of the Kapālama Basin developed into a law suit, in this case over land, or rather submerged land. The Board of Harbor Commissioners of the Territory of Hawai'i were seeking appropriations for the filling of Kapālama Basin. However, Trustees for the Bishop Estate claimed they owned the land by virtue of ownership of the fishing right of Kapālama (The Honolulu Advertiser, October 4, 1924). The Attorney General argued that fishing rights entailed use of the fishery, not use of the land under the water. The outcome of this case set precedent for the filling of future lands.

> Determination of the ownership of the land is a necessary preliminary to the government project of dredging Kapalama basin and filling a part of the area until it is above sea level, according to Matthewman, who said the chief concern of the Territory is not to have to purchase the area after dredging has made land and increased its value (The Honolulu Advertiser, February 13, 1925).

This sentiment underlies the shift in value of land over fisheries, something that would play out over the next many decades and have far-reaching impacts on fishing rights and access to fishing in Kapālama.

### 3.2.2 Kapālama Drainage Canal

The Land Reclamation Act of 1902 made reclamation a federal program and led to the creation of the United States Reclamation Service (later Bureau of Reclamation) and numerous reclamation projects in the first part of the 20th century. Plans for reclamation in Hawai'i were introduced by Lucius E. Pinkham, president of the Board of Health on O'ahu, in 1906. In a report to the Territory in 1906, Pinkham declared the wetlands of Waikīkī as "deleterious to public health…an unsanitary and dangerous condition… a breeding ground for mosquitos" (Lum and Cox 1991). This eventually led to the Waikiki Reclamation Project, a massive construction project that spanned the years 1922-1926 and drained the wetlands of Waikīkī, filled considerable acreage and created the Ala Wai Canal.

While the Ala Wai Dredging project was in full swing, the concept of a drainage canal for Kapālama came up for consideration. The proposed Kapālama Drainage Canal was introduced to the public in August 1924 with a design featuring four construction phases. Twenty-five parties attended a planning meeting on the proposed canal in November 1924 to discuss the issues and the Advertiser reported that generally, "the assembly approved the project as proposed by the planning commission" (The Honolulu Advertiser, November 16, 1924). As a motive for the proposed public work, the periodical has this to say:

> It is not believed the public in general appreciates the great importance of this project. Everybody in Honolulu is aware of the terrible traffic congestion on King street during the busy hours of the day. This is principally due to the fact that there is but one boulevard through the city. Traffic conditions are getting worse every day and will continue to do so until another main thoroughfare is built. There is no place to build this other thoroughfare except across the Palama cane fields. It would be useless to build a new street on a fresh fill across this land unless the flood waters coming down from the mountains were taken care of first. In fact, no important development in the ewa portion of Honolulu, until the Palama

> district is drained and another street or two, opened up to relieve the traffic on King street can be assured (Honolulu Advertiser, November 16, 1924).

In fact, construction on the Kapālama Drainage Canal did not begin until 1938, well after the second thoroughfare, Dillingham Boulevard, was built in 1930 (Figure 11). By the time the drainage project was completed in 1939, the purpose of the project was most definitely flood control.

> Men, materials and equipment have thrown another barrier between the menace of flood and the lives and property of a flood-threatened district. Kapalama, in years past a sufferer from lack of proper drainage is now flood-safe. Heavy rains which formerly spread their waters unchecked, causing death and destruction, now present no menace to this wide district. An area of 1,145 acres is now protected by 2.6 miles of drainage structures and open canal. Flood waters will now sweep controlled into the sea! (Star Bulletin, February 25, 1939)

And thus, the "rich" *kalo* lands of Kapālama were gradually converted over a period of 30-40 years into "valuable" fill land, open to progress. This effectively ended the traditional cultural practices related to *kalo* cultivation, though by the end of the 19th century, *kalo* cultivation was in decline on all the islands. The effect of the filling of the agricultural wetlands is not recorded and no information detailing the lives of those impacted by these changes has been found.

It is not known exactly when the land within the study area was filled. The process probably occurred over a period of many decades. By 1914, OR&L had built the Kalihi Branch of the railroad line through the main campus and sugar cane was growing within the study area (*see* Figure 7). This suggests that the land had been altered and filled enough to permit sugar cane cultivation, a crop that cannot endure standing water. Duck ponds were still maintained near the southern boundary of the study area. By 1927, the duck ponds had been filled and rail road tracks built over them. Sugar cane cultivation within the study area was also abandoned. A recommendation was made in 1939 to fill the study area with city-county garbage (Honolulu Advertiser, December 3, 1939). Chief Engineer Rush suggested that instead of using private property as a landfill, public property should be used—and then filled with topsoil to create a public park. It is not known if garbage was used to fill in the study area, however no public park was built because soon afterwards, the lands were used for WWII warehouses.

## 4.0 Community Consultation

One of the most important components of the cultural impact assessment is the community consultation. Consultation was conducted with organizations and community leaders and members to identify knowledgeable *kupuna* and participants to be interviewed, as well as others who could inform on the history of the subject parcel and previous land uses (*see* Table 1). The organizations consulted were the State Historic Preservation Division, the Office of Hawaiian Affairs, the Oʻahu Island Burial Council, the Queen Liliʻuokalani Children's Center, the Kalihi-Pālama Neighborhood Board, Honolulu Community College, Kaumakapili Church, State Senators and Representatives.

Early on in the consultation process, it became clear that many of the original families that had once lived in the area had moved away from the region entirely. One common theme that often came up

during the consultation was that for a long time the Pālama area has been an area for immigrants and the immigrant dream has driven these families to work hard so they can eventually move out of the area. This situation often made it difficult to fulfill part of our search criteria in finding participants who had a long history in the Pālama area.

In preliminary consultation with community members at Pālama, it also soon became evident that the natural resources of the study area did not support many Hawaiian traditional cultural practices. With the exception of the Kapālama Drainage Canal, itself a vestige of urban development, very few natural resources remained in the vicinity of the study area. Many community members who we talked to were completely unaware that the area had once supported a large network of taro terraces with nearby fishponds. Because of this, the focus of the sampling shifted to include not only cultural practitioners, but also multi-ethnic members of the community who had a long-time relationship with the study area.

### 4.1 Results of Community Consultations

Key:
Y=Yes
N=No
A=Attempted (at least 3 attempts were made to contact individual, with no response)
S= Some knowledge

**Table 1: Results of Community Consultation**

| Name | Affiliation | Contacted (Y/A) | Knowledge of Area | Comments |
|---|---|---|---|---|
| Aiu, Dr. Pua | Hawai'i State Historic Preservation Division (SHPD) Administrator | Y | N | Made Referrals |
| Cachola, Romy | Honolulu City Council Member, District 7 | A | | |
| Cayan, Coochie | SHPD, History & Culture Branch Chief | Y | N | Made Referrals |
| Florendo, Leon | Honolulu Community College Native Hawaiian Center | Y | S | Made Referrals |
| Fang, Cardy | Chair, Kalihi-Pālama Neighborhood Board, No. 15 | Y | | Could not think of referrals |

| Name | Affiliation | Contacted (Y/A) | Knowledge of Area | Comments |
|---|---|---|---|---|
| Galuteria, Brickwood | State Senator, 12th Senatorial District | Y | N | Could not think of old time residents from the Pālama area |
| Harada, Jan | Executive Director, Pālama Settlement | A | | |
| Harding, Ken | Kalihi Resident, former member Kalihi-Palama NB | A | | |
| Harris, Robert | President, Sierra Club | Y | N | No knowledge of area |
| Ka'eliwai, George | Long time Kalihi Resident | A | Y | Elderly, unwell |
| Kaleikini, Ka'anohi | *Kanaka maoli*, has *kūpuna* in Kalihi Kai, Kapālama, Kaka'ako | Y | S | No concerns re: study area |
| Kam, Dr. Ralph | Dean, Honolulu Community College | Y | Y | Made Referrals |
| Kamanu, Richard | Kahu, Kaumakapili Church | A | | Referred to Kahu David Ka'upu |
| Ka'upu, David | Kahu, Kaumakapili Church | Y | N | Referred to Henry Maunakea |
| Kealoha, Katherine Puana | Director, OEQC | A | | |
| Loy, Bob | Outdoor Circle, Environmental Program Director | Y | N | No cultural concerns |
| Lum, Fenton | Former Pālama Resident | Y | S | Grew up on Peterson Lane, not very interested in study |
| Markell, Kai | Office of Hawaiian Affairs | A | | |
| Maunakea, Henry | President of Executive Commitee, Kaumakapili Church; Kupuna | Y | S | Referred by Kahu David Ka'upu; Many years of dedication to Kaumakapili |

| Name | Affiliation | Contacted (Y/A) | Knowledge of Area | Comments |
|---|---|---|---|---|
| | | | | church |
| McKeague, Kawika | Chair, Oʻahu Island Burial Council | A | | |
| McKenzie, Edith | Former Hawaiian Studies Teacher, HCC | Y | S | Talked story with Aunty Edith; lived *mauka* of study area; little recollection of study area |
| Moʻokini, Kiki | Kupuna | Y | N | Made referral |
| Namuo, Clyde W. | CEO, Office of Hawaiian Affairs | A | | |
| Nishimoto, Warren | UH Oral History Department | Y | N | Made referrals |
| Pfaltzgraff, Tony | Executive Director, Kalihi YMCA | Y | N | Made referrals |
| Pine, Susan | Former president, Kalihi Pālama Hawaiian Civic Club | Y | | Unwell; elderly |
| Rhoads, Karl | State Representative, 28th Rep District | Y | | Replied late in consultation period |
| Shibayama, Guy | Former Kalihi Resident; HCC alumnus and apprentice coordinator | Y | S | Grew up Kalihi, but could not find people of Pālama |
| Soares, Dexter | Vice-President, Kalihi Pālama Hawaiian Civic Club | Y | S | Made referrals |
| Spencer, Melvin | Member, Kaumakapili Church | Y | Y | Grew up in Tsing Tsing Lane in Pālama; Interviewed July 12-2010 |
| Steiner, Mary | CEO, The Outdoor Circle | Y | N | No cultural concerns; concerned re: kamani trees |

| Name | Affiliation | Contacted (Y/A) | Knowledge of Area | Comments |
|---|---|---|---|---|
| | | | | along Dillingham Blvd. |
| Young, Bernadette | Member, Kalihi-Pālama Neighborhood Board, No. 15 | Y | S | Made referrals |
| Vina, Andrew | Resident, Akepo Lane | Y | Y | Interviewed June 19, 2010 |

### 4.2 Interviewees

Through the consultation process, two individuals were identified as interviewees. Two of the individuals had lived near the study area for at least some period of their lives. These included Mr. Melvin Spencer and Mr. Andrew Vina.

#### 4.2.1 Andrew Vina

HHF interviewed Andrew Vina on the lānai of his home at Pālama. Mr. Vina was born at Queen's Hospital in 1958. He grew up in Pālama in a small house on Akepo Lane. Mr. Vina's father, Cruz Vina, left his home in Negros, a province in the Central Visayan region of the Phillipines, to stow away on a ship to Hawai'i about 1915. His mother, Anunciacion, was born and raised on O'ahu and was of Filipino and Chinese heritage. Mr. Vina's mother and her sister pooled money to buy the house on Akepo lane in 1939 and the Vina children have worked hard to hold on to it ever since, even while most of their neighbors have moved on. One of six children, Mr. Vina attended Ka'iulani School and later McKinley High School. He spent two decades on Maui as a cook, but has recently returned to his home on Akepo Lane to help his siblings care for the home.

#### 4.2.2 Melvin Spencer

Melvin Spencer Jr. was born in 1933 at Kapi'olani Hospital. He grew up in Pālama with his sister Myrtle and their Chinese Hawaiian mother, Helen Ching who had come to Pālama from Kahakuloa, Maui. His father, Melvin Everett Spencer Sr. was an American from Clinton, Illinois and spent much of his time overseas as a petty officer in the Navy. Spencer Sr. passed away as a prisoner of war in the Philippines during the Second World War when Melvin Jr. was still quite young. Nicknamed "Haole" because of his haole roots, Mr. Spencer continues to nurture some of the friendships he made as a child growing up in Pālama. After graduating from Roosevelt High School, he remained in his childhood home, living there for almost fifty years while raising his own children. Kaumakapili Church has played a significant role in the life of Mr. Spencer and continues to provide a foundation for generations of the Spencer family. Though he no longer lives in Pālama, Mr. Spencer continues to travel to Kaumakapili to attend services and partake in church activities.

## 4.3 The Interview Process

Once the participants were identified, they were contacted and appointments were set up to conduct the interviews. The interviews were conducted between June 19, 2010 and July 12, 2010. All interviews were recorded and transcribed. Participants were given the opportunity to review the typed transcript for corrections, to edit and to approve the final transcript. All interviewees signed an "Authorization for Release" form giving HHF permission for the interview to be used as part of the study. Excerpts from the interviews are used throughout this report, wherever applicable.

## 5.0 Traditional Cultural Practices of Kapālama

During the cultural assessment for the proposed ATTC building, five types of traditional cultural practices or resources were identified within or in the vicinity of the study area: Agricultural: *Loʻi Kalo*; Agricultural/Subsistence: *Wai*; Subsistence/Recreational: Fishing and Swimming in Kapālama Canal; Access-related: Trails and Access and Commercial/Residential: Commercial/Residential Sector on King Street.

## 5.1 Agriculture: ***Loʻi Kalo***

Based on the land awarded during the *Māhele*, upwards of 45 taro patches were cultivated in and around the study area between 1847 and 1853. There is no documentation on the size of the *loʻi kalo* or the varieties of *kalo* grown there, however, based on records from the *Māhele*, there was a strong established tradition of *kalo* cultivation within the study area (Figure 12). The lands of the current HCC main campus were considered "*kalo* lands" a land type suggesting wetlands, or irrigated lowlands. In the case of the study area, the lands consisted of lowlands irrigated via streams and springs.

The stories of Kamehameha I, conquerer and unifier of all the islands, link the taro fields of Kapālama with the great chief.

> ... He [Kamehameha] made the great [taro] patches at Waikiki called Keokea, Kalamanamana, Kualulua, and cleared the land at Waikiki, Honolulu, Kapalama, Kapaʻauki, Keoneʻula, Kapaʻeli, and all the other places; and when all the lands were under cultivation he cultivated mauka in Nuʻuanu as far as Keawawapuʻahanui…(Kamakau 1961:192).

As a prominent retainer in the courts of Liholiho and adviser to Kauikeauoli and other rulers of the Kamehameha line, John Papa ʻĪʻī was privy to first-hand accounts of the association between Kamehameha I and the *loʻi kalo* of Kapālama and Keoneʻula. Keoneʻula is recognized as a land division that traverses the study area.

> He [Kamehameha] also lived in Honolulu, where his farms at Kapālama, Keoneula, and other places became famous. These tasks Kamehameha tended to personally, and he participated in all the projects (ʻĪʻī 1959:69).

In addition to the Māhele records, maps and *moʻolelo* (stories), there is other documentation that Kapālama was famous for its *loʻi kalo*. The success of taro growing in this area was attributed to the availability of high quality soil and water resources.

> The growth and fullness [of the taro] in all wet plantings are not the same, the taro is very flourishing and healthy in some places, as in Kapalama, where the taro patch is soft. Some places are unfruitful, the plants withering, while in some places development is fine. Poi from wet planting is palatable if the taro is good, but tasteless if eaten immediately [after pounding]. Men and women who live in wet lands are darkskinned on account of the cold food. (Fornander 1919-1920).

*Kalo* was significant to Hawaiians spiritually as well as for subsistence. Traditional rituals associated with the growing, harvesting, preparing and eating of *kalo* were the basis for understanding the relationship between the spirit world of the ancestors and the human world. *Kalo* was viewed as family or *ʻohana*, specifically as the elder brother and first ancestor of the Hawaiian people.

> Hāloa, born of father sky and goddess Hoʻohokuikalani, was the first born of the gods. Born shapeless and prematurely he was buried, and from his body there grew the first kalo plant. The second child to be born, also called Hāloa, became the ancestor of the Hawaiian people (Enos and Johnson, 1996:1).

Names given to parts of the *kalo* represent the spiritual and physical essence of the Hawaiian *ʻohana*. The *makua* (parent) is the central corm and the young offshoots are the *keiki* (children) and are named *ʻohā*, as part of the *ʻohana*. Just as the *kalo* itself is named for the *ʻohana*, so too did the working of the *loʻi* require the collective spirit and labor of the *ʻohana*.

### 5.2 Agriculture/Subsistence: ***Wai***

Because water was fundamental to the cultivation of wetland taro, the staff of life and the backbone of the *ʻohana*, concepts of water-use rights were highly developed in traditional life. Water management practices such as conservation and cooperation were prioritized and translated into values pertaining to other aspects of daily life.

The building and maintenance of the flooded taro terraces (*loʻi*) and the irrigation ditch system (*ʻauwai*) were communal undertakings; all taro farmers took part in this labor, and all shared in the use of the water, the amount available to each being in part determined by the amount of labor contributed. The water rights of farmers along the streams themselves were respected in that no waterway was permitted to divert more than half the flow from any stream; each farmer took only as much water as he needed and then closed the inlet so that the farmer below could take his share.

Early maps illustrate the extent of the *loʻi* production in and adjacent to the study area. An 1885 map of Kapālama depicts an extensive irrigation infrastructure starting with the stream, or *kahawai*, Niuhelewai running northeast to southwest through the western edge of the study area (*see* Figure 12). The irrigation dam, or *mānowai* (also commonly referred to as *poʻowai*) is a prominent feature on Brown's 1885 map and diverted water from Niuhelewai Stream into the irrigation ditches, the *ʻauwai* in the western part of the campus. A fresh water spring, or *punawai* located just beyond the north

central boundary of the HCC campus, fed *lo'i* through the central portion of the campus. And the southern boundaries of the campus transitioned into fishponds, *loko i'a*.

### 5.2.1 Stream: ***Kahawai***

> The *kahawai* or stream is a vital component of a *lo'i*. This is where the water for the *lo'i* would come from. Because of its importance, most *lo'i* are built near *kahawai*. Within the *ahupua'a*, the *kahawai* would empty out in a *loko i'a* (fishpond). The advantages of this is that as the water flows down the *kahawai* and especially in and out of a *lo'i*, it collects nutrients that are vital and beneficial for the organisms living in the *loko i'a*, which in turn helps the production of *i'a*. (Kamehameha Schools n.d.)

Niuhelewai Stream was the *kahawai* that supplied cool, fresh water to the *lo'i kalo* via the *'auwai* within the study area. The stream is depicted in the 1885 Brown Map (*see* Figure 12) flowing northeast to southwest through the study area. The *kahawai* must have been fairly substantial to permit sufficient flow through multiple taro terraces. It is unknown whether the water drained southeast into Kuwili I Fishpond or whether the water drained southwest through numerous *lo'i* in the Iwilei area.

As agricultural practices in the area shifted to rice and duck farming in the latter decades of the 1800s and Chinese immigrants began to dominate the land use of the area, Niuhelewai Stream continued to be instrumental in making their agricultural enterprises successful.

Unlike many area streams and springs, Niuhelewai Stream was not immediately diverted during the development of Kapālama Drainage Canal in 1938-39. A Territorial map created in 1947 depicts the Niuhelewai Stream flowing through the study area (Figure 13). The Kapalama Incinerator (built in 1947) was designed with a ramp spanning the Niuhelewai Stream channel. It is not known when or why exactly the stream was filled, however a 1965 map showing a filled streambed suggests filling occurred between the late 1940s and the early 1960s.

At King Street today, a culvert passes under the roadway where the Niuhelewai Stream once flowed. A channelized drainage system collects rainwater and excess flow just *makai* of King Street. Even today, the stream water is used for plant cultivation as urban residents take advantage of the limited cultivable space within the unpaved channel (Figure 14). The natural channel is utilized for growing tropical favorites such as cassava (tapioca), sugar cane, papaya, banana and the popular Filipino tree, the malunggay.

Today, the streambed of Niuhelewai Stream exists under fill within the study area on HCC's campus; the original stream alignment traverses the proposed building site.

### 5.2.2 Fresh Water Springs: ***Punawai***

Fresh water springs, or *punawai,* are a common source of cool, flowing water for *lo'i kalo*. Handy and Handy (1972) suggest that the *lo'i* of Kapālama were irrigated by two streams that probably had spring sources.

> There were two streams that irrigated these *loʻi*, evidently originating in springs, since there is no valley mountainward but only a broad hillside on which are now The Kamehameha Schools and the residential section called Alewa Heights.

Springs were probably once abundant throughout Kapālama and Kalihi. John Dominis Holt, who spent some of his childhood in Kalihi between Middle Street and Kamehameha IV Road, wrote about a quaint recollection of one such spring in his neighborhood.

> The lot sat upon a natural spring, which was the reason the family had acquired it. The water from the spring fed the cement-lined fish ponds, then ran off into the taro patch. Somehow, the run-off from the patch went under King Street into a ditch which watered more taro patches and vegetable gardens kept by Chinese farmers. The water then flowed into Kalihi Stream, which somehow made a turn into where the Hiram Fong family lived. The stream turned again below us and ran into Keʻehi Lagoon. It was a curious pattern, for Hawaiian streams generally run straight down a valley in almost a direct line to the sea. This one had curious bends that caused serious flooding when the heavy rains fell at least once or twice a year during the winter months.
>
> We had long moved away from Kalihi when the taro and koi farm was abandoned. That happened when the city's water department capped the spring and dried up the enterprise combining the growing of decorative fish and the little round varieties of Japanese taro which were sold in markets downtown. (Holt 1993:128)

One such spring that probably watered taro patches within the central part of the study area was located just *mauka* of the Main Campus, near Austin Lane (*see* Figure 12). Originally belonging to Kamehameha IV, the parcel of land with the spring was given to James Isaac Dowsett in 1857. Three years later Dowsett sold this and an adjacent parcel of land to Mataio Kekuanaoa, then Governor of Oʻahu. The spring was described as located along the edge of the *pali*, most likely referring to the limestone ledge that transects the campus (Bureau of Conveyances, Liber 13, p.273).

A 1912 map of the east side of what is now HCC main campus depicts a spring located just south of the current HCC campus, on the *makai* side of Dillingham Boulevard. One of the interviewees who grew up in the 1960s, Andy Vina, recalls this spring where he and his brothers and sisters would visit on the sly:

> HHF: So tell me about that pond that was across the street [Dillingham].
>
> AV: It was, you couldn't see it. You had to go to the bushes and stuff. And lie on the ground. There was crab grass or something. You know that tall grass. If you're not careful you can get big thorns, like little spines inside of you. It would just be like, you see dragon flies and that at first, the big green ones.
>
> HHF: How big was it?

> AV: It was a pretty big size. It was flat. It was like one marsh actually. And in one part you go it was kind of like, the ground was soft and the water was cool. You could feel the water coming up out of the ground. We used go there and catch guppies and stuff and the baby dragon flies in the water. But we used to sneak over there because our parents never let us go over there. It was dangerous. It was next to the tracks and stuff.

This area was also referred to as the duck ponds (*see* Figure 7). A photo (pre-1930), illustrating the houses and duck ponds in the foreground and the pineapple processing canneries in the background, was probably taken from a two-story house off of Akepo Lane--then Dowsett Lane (Figure 15).

### 5.2.3 Irrigation Ditches: ***ʻAuwai***

> The ʻauwai is a man-made irrigation ditch that carries the water from the kahawai to loʻi and then back to the kahawai. In areas in which there were more than one loʻi, ʻauwai were built to move the water from loʻi to loʻi. (Kamehameha Schools, n.d.)

An intricate network of *ʻauwai* once checkered HCC's main campus. (*see* Figure 12) This is probably only just a partial illustration of the actual irrigation network considering the number of *loʻi kalo* in the area. Only a few *hoaʻāina* who claimed *kuleana* in the study area also claimed *ʻauwai*.

Arthur Akinaka, an engineer who grew up near the Pālama area near the turn of the century and was familiar with the water system of the times, recalls the source of irrigation.

> The area below School Street is predominantly alluvial. Prior to urbanization and in times past, this land was intensely cultivated. Water for irrigation of crops was derived from numerous springs and an intricate system of ditches or auwais. (Akinaka 1972:7-8)

Though there is no record of what happened to the *ʻauwai*, it is thought that the irrigation system was heavily utilized until the area was filled in the first decades of the 20th century.

### 5.2.4 Water Dam: ***Mānowai***

> Another vital component for a loʻi is the mānowai or poʻowai. Literally translated poʻowai means the "water head or source." The method in which to divert enough water from the kahawai to the loʻi is by building a dam of rocks that will move some of that water from the kahawai into the ʻauwai (ditch). One reason why rocks were used is that during times of heavy rain and the kahawai was overflowing, the rock dam would collapse preventing heavy flooding in the loʻi, by keeping the majority of the water in the kahawai. (Kamehameha Schools, n.d.)

The placement of the *poʻowai* or *mānowai* was significant because a certain hydraulic relationship was necessary between the intake and the *ʻauwai* system. Sufficient water needed to enter the irrigation system with the appropriate force in order to maintain the entire *ʻauwai* network. A distinctive *mānowai* is depicted in the 1885 Brown map located just on the edge of what would today be the

northeast boundary of HCC's main campus (*see* Figure 12). This *mānowai* fed many *lo'i kalo* that were once cultivated within HCC's main campus.

Not surprisingly, a *konohiki*, Halulu, owned the *kuleana* adjacent to the *mānowai* during the *Māhele*. As the land agent and de facto water agent, he would manage water allotment to the *'auwai* and *lo'i* via maneuvering of the *mānowai*. This responsibility was later turned over to the Kamehameha Schools Bishop Estate as they became owners of that parcel.

By 1913, OR&L had built a rail line, the Kalihi Branch, over the *mānowai* (Figure 16). The stones that comprised the *mānowai* would have provided a good foundation for the track. By this time however, the cultivable taro lands had been filled and converted to dryland sugar cultivation.

### 5.3 Subsistence/Recreation: Fishing and Swimming in Kapālama Canal

Though Kapālama Canal has only existed since 1939, it is the repository for all the water that once flowed through the lands in the study area, including water from Niuhelewai Stream and spring-fed water. The Canal was touted as a flood control project, similar to the Ala Wai Canal. However, reclamation and land speculation was popular in the first decades of the Territory of Hawai'i and the westward expansion of Honolulu was a common development theme. No record was found regarding the impact the dredging of the canal had on those who worked and lived in Pālama during this time. Agriculture, above all else, must have been deeply impacted. The one *kupuna* interviewed for this project does not recall the building of the canal as he was a young boy at that time. The Canal itself has its own story, some of which is told by those interviewed for oral history projects in years past.

In the early days following the construction of the Kapālama Drainage Canal, the canal was used as a food source as well as a place of recreation. An oral history project completed in 1998 interviewed Pālama residents, some of whom grew up around the canal. One Pālama *kama'āina* born in 1920, learned to swim at the Kapālama Canal.

> See, there used to be an old swimming hole in the Kapālama Canal there. And in order to swim, they throw you in there, see? And it's up to you to survive and fight your way back. And to grasp on the land or grass or whatever. That's where I learned. (Laughter) [Interview with Jerry Tarutani *in* Center for Oral History, 1998]

One interviewee recalls that the material utilized to fill HCC campus originated from spoils dredged from the canal. Born in 1911, Masato Sugihara was about 27 years old when the canal was being dredged.

> WN: Was Dillingham Boulevard there back then?
>
> MS: No, it wasn't there at that time. No, in fact, that area, there was a road over there, but it wasn't Dillingham Boulevard at that time. And of course, they were just dredging the [Kapālama] Canal I think and they were using the coral to fill up all of that land where [Honolulu] Community College is [today]. Because where the community college is was the old Honolulu Vocational School. And just beyond that there was just more coral. Because

> when they built that canal over there, Kapālama Canal, we used to go crabbing over there. And if I recall correctly, that land was all white coral that was dug up from the ocean. Oh, that's where I was born, that's where I was raised. (Interview with Masato Sugihara *in* Center for Oral History, 1998)

The Kapālama Canal provided food for Pālama's residents, mostly in the form of crabs and crayfish. Jeff Yamashita, another participant interviewed for the Palama Settlement oral history project, recalls visiting the canal from his home on Austin Lane to catch crayfish in the 1950s and 60s.

> HY: You mentioned that there was a Filipino boarding house that was just right next to you.
>
> JY: Right, yeah. Right by the front building. Bachelors, and was interesting because my mother used to always want to—we like the guys, and my mother liked them, and we'd talk. But she was careful for us not to get too friendly with them. But we became friends, and my brothers and I would run down to Kapālama Canal—in those days it was cleaner than it is now—and we'd catch crayfish, and bring home a half bucket or more, and sell it to them. You know, for fifty cents or something. And they'd cook it, and they made food. And I used to go over once in a while, and my mother didn't like it, but I used to go over because—they're bachelors so they fry most everything, right? They fry their garlic and smell up the whole place. Garlic and then they make the crayfish. You know, it's like little lobsters. And I went over there and ate with them, and stuff like that… (Jeff Yamashita *in* Center for Oral History, 1998)

Crabbing continues today along the canal (Figure 17). During a walkabout assessment through the surrounding neighborhood in June 2010, crabbing was observed in the canal. One crabber from ʻAlewa Heights explained that although there was mullet and a few other types of fish in the canal, most people fished for Samoan crab. He said crabbing was popular, particularly from the bridges (Dillingham and King Street). Generally, baited crab nets with attached floats (often a plastic detergent bottle) are laid out into the canal, secured to the canal banks and left for a period. As we did our assessment, one crabber was checking his crab nets by pulling on the net line. He explained that if crab was in the net, they would pull back on the line.

Samoan crab was introduced to Oʻahu in Kāneʻohe Bay in 1926 as part of a fishery project (Brock 1960). By 1940, they were well established on shorelines, in estuaries and in larger rivers (Edmondson and Wilson 1940). In the past, periodic dredging of the canal would disrupt the Samoan crab habitat, much to the chagrin of the crabbers. An interview with Mr. Vina conducted for this study illuminated this point:

> AV: …ʻCause they used to dredge Kapālama [Canal], Ala Wai [Canal] too and now they don't dredge them. I don't know why.
>
> HHF: What do you mean they used to dredge them?
>
> AV: The barge come out and dredge.
>
> HHF: You mean in the canal or the basin?

> AV: In the canal. The giant crane on the road and they take the mud out so it gets deep. They haven't done that in a long time. Maybe it cost too much money or something but it was safe to dig, but people didn't want them to dig. Same with Keʻehi Lagoon. Because they were worried about the ground, like the crab and stuff like that. If you dig the ground, it ruins the ecosystem. People would get pissed off they used to dredge them. Some people. But they did it for safety reason, to make the floor deeper. The more water it can hold. (Interview with A. Vina, 6/14/2010)

Water quality in the Kapālama Drainage Canal began to decline in the late 1960s, early 1970s. Mr. Vina suggests that this was due to all the light industry moving into the area. He remembers several mechanic shops in the area of Hawaii Hochi, near the current HCC campus, from which drained oil and industrial wastes entered the canal.

### 5.4 Access-related: Trails and Access

Since the time of the *Māhele*, the *mauka-makai* access trails have been documented in maps. For the most part, these access trails seem to be aligned with boundaries of the small land divisions or *ʻili ʻāina*. During the transition of Kapālama into suburb of Honolulu and when small *kuleana* were converted into large estates in the late 1800s, some of these *ʻili* boundaries were converted into more official lanes or drives, wide enough to accommodate a carriage, the most popular mode of transport at the time. In fact, a blacksmith and wagon shop, carriage trimming shop and a hack stable for renting out horses and carriages were all thriving businesses in this area of Pālama during the late 19th and early 20th centuries (*see* Figure 7).

The early 20th century lanes include Dowsett Lane (now Akepo Lane), Robello Lane, Austin Lane and Alapai Lane (now Hikina Lane) (*see* Figure 7). Dowsett Lane accessed the lands of the Dowsett estate along with several other smaller privately owned parcels in the area. Robello Lane accessed the Chinese Hospital and the Lanakila Hale (Home for Working Girls). In 1914, a hack stable and tenement homes existed at the end of Robello Lane where HCC's Trades and Industries Building is located today. Austin Lane led to tenement homes back of Kaʻiulani School and Alapai Lane (now Hikina Lane) accessed multiple sub-lanes and numerous tenement and other single family homes.

Prior to the development of Dillingham Boulevard in 1930, the primary thoroughfare was King Street. Access to areas *makai* of the study area was via Iwilei Road which was quite a distance east of the study area. More direct routes to the commerce of Iwilei and the shoreline areas were via the lanes off of King Street. The shoreline at Iwilei was a popular place for young children to collect *kiawe* beans used for horse feed at the beginning of the century.

> MS: …Also, to earn money, we used to go and pick kiawe beans. You know that burlap bag? One whole burlap bag, we sell it to the people that had horses for ten cents a bag. But way back in 1920s, ten cents for us was a lot of money.
>
> WN: This area had a lot of kiawe trees?

> MS: Oh, especially that Iwilei area. Near the seashore, yeah? Near the ocean area, over there had lot of kiawe. And we used to make our own wagons. You know, the small wheels? You get a one-by-twelve by maybe five feet. And then you get a two-by-four. Then you get your wheel from the bicycles and put the wheel there, and in the front you had another two-by-four with another one, with a big hole inside that would turn. And we used that to go and haul the beans and things like that.
>
> WN: So ten cents a bag. How long would it take to fill up one bag?
>
> MS: Oh yeah, kiawe [beans]. Well, it took—we didn't have any other tool, we had to hand pick them. But the beans were so plentiful that we just pick, pick. And usually we picked about four or five bag full and brought it back. So if two of us went, then it would be worth twenty-five cents each. It was fun for us because nothing else to do. (Interview with Masato Sugihara *in* Center for Oral History, 1998)

The growth of the pineapple canneries in Iwilei mirrors the growth of the Pālama community in the early part of the twentieth century. The large work force needed to process pineapples was obtained from the nearby residential communities of Pālama and Kalihi (Figure 18). Pālama residents walked to work and those that lived in nearby communities would find their way to work via King Street, accessing the cannery through Akepo Lane (Figure 19). In fact, pedestrian access was created for pineapple workers to access the canneries from Akepo Lane. Agnes Eun Soon Rho Chun, a former Akepo Lane resident born in 1925 remembers a pedestrian bridge leading from Akepo Lane to the cannery:

> When we lived in Akepo Lane, I remember living in a house painted green. Then right behind these Akepo Lane houses where Dillingham Boulevard is now situated, that area was just covered with elephant grass. I remember seeing my brother and my sister catch grasshoppers, and they'd toast [them], and then eat the grasshoppers. There was a walking bridge over that area. You'd go over the bridge to go to the CPC [California Packing Corporation] pineapple cannery. And then there was a ramp going up to the Dole pineapple cannery [Hawaiian Pineapple Company, Ltd.]. (Interview with Agnes Eun Soon Rho Chun in Center for Oral History, 2009)

Both interviewees for this project, Mr. Vina and Mr. Spencer, have specific memories of the Akepo Lane access into the Pineapple Cannery. Mr. Spencer's first job was at the pineapple cannery and he found his way there through Akepo Lane.

> MS: Akepo [Lane]. Akepo [Lane] is where it is. That road goes from King Street all the way to Dillingham. We'd walk down to there. That would be Hawaiian Pine and there'd be CPC California Packing. And only on the right side there would be Libby Cannery, so these were where the three canneries were and when you were 16 years old you had a chance to make some money during the summer. And I remember, my first year I did work in CPC and I stacked cases, 12 hours all right. Never bothered me. And I made the most money I ever saw in my whole life…(Interview w/ Melvin Spencer, July 12, 2010)

The other lanes were also used to reach *makai* areas. Robello Lane was used to reach Robello Lane School, now part of the east parking lot of HCC campus. Austin Lane and Robello Lane continue to be open to *mauka-makai* access. The closure of *mauka-makai* access at Hikina Lane, however, has caused some loss of commercial opportunities. Mrs. Amy Mogi, owner of a little neighborhood store, the 'Corner Groceteria' on Hikina Lane has been operating the store for 40 years. She said that before, business at the store had been much better but since the building of COSTCO, the demolition of the Kokea housing units (40+) and the closure of the gate to HCC, business is very slow. Previous to the gate closure, Mrs. Mogi explained the HCC students would take the bus, get off at King Street, walk through Hikina Lane and access HCC through the gate, visiting the store on their way.

### 5.5 Commercial/Residential: Commercial/Residential Sector on King Street

During the twentieth century, the study area evolved sandwiched between the residential and commercial sector bordering King Street and the industrial sector of the pineapple processing plants across the train tracks at Iwilei. The impetus for the growth of Pālama during the first years of the 1900s was the Chinatown Fire. Displacement camps and tenements grew up along all the lanes *mauka* of the study area. The Palama Fire Station and a decade later, Kaumakapili Church became new landmarks for Pālama residents. These are now historic sites. These buildings along with Ka'iulani School and various buildings related to the Palama Settlement lined North King Street.

For those who grew up in this area of Pālama, their memories involve generations of family members laboring for the pineapple canneries, eating the delicacies offered at the Chinese, Japanese and Korean stores of the area, viewing an occasional movie at the Palama Theater, swimming or playing sports at the Palama Settlement, attending church services at Kaumakapili Church, or going to the local schools. It is an urban lifestyle marked by an adaptation to ethnic diversity and the collective spirit of a working class neighborhood.

Growing up in the 1930s in Pālama, Agnes Eun Soon Rho Chun distinctly remembers the Korean families who contributed to a vibrant business environment.

> This Pua Lane area, Kanoa Street up to Dillingham [Boulevard], there were [Korean] stores. There was a laundry run by Koreans; a furniture store operated by two sets of people, the Whangs and the Parks. Next door was Adam Lee's dry cleaning shop. Then across the street was the Moon family living there, running a grocery store. Then there was another, Kwon grocery store. Isaiah Shon's mother was running a grocery store. Ken Kwak's grandmother had a grocery store…(Center for Oral History, 2009)

Eilene Vina Cabral, sister of participant Andrew Vina, wrote a colorful piece for the internet blog "Hanabuddah Days Stories" in which she describes the ethnic diversity of Pālama in the 1960s that provided a rich foundation for her childhood.

> Yes, when I was growing up in Palama, in Akepo Lane in fact, there were so many mom and pop store all over. Chinese, Filipino, Japanese, and they all had their specialties. Like B and K store made the best seeds, like prune mui, or apricot preserves, then the Filipino stores

> always had fresh meat and the freshest vegetables, Robellos saimin stand was the best saimin for .35 cents!!...and of course the landmark which stands today Tamashiro Market.
>
> The favorite stores of my youth are no longer there. But the flavor of all those precious taste still linger in my mouth, the sweet memories of when a nickel could buy you happiness and many friends to share your bounty!!! (Cabral 2001)

Part of the success of the small Mom and Pop stores and other businesses was due to the large labor force at the pineapple canneries just *makai* of the study area. Mr. Vina gives an example of the ways the pineapple canneries affected his own life—as well as how the canneries were linked to the business sector of Pālama.

> AV: Everybody. You used to see, there was a lunch bell that rang. And the whistle. This way you couldn't be late for school. They had a bell and a whistle. A quarter to 7, a quarter to 8, 11:30 had a whistle, and 12 o'clock had a whistle. So you couldn't be late to school because that thing used to be so loud. The 11:30 whistle used to ring. You used to stand over here and the whole street with people in white going to different eateries. They had all kinds of food places out there. (Interview with A. Vina, June 16, 2010)

Like Mr. Vina's mother, Mr. Spencer's mother worked in the canneries. In this working neighborhood, many women with large families worked in the canneries.

> HHF: So a lot of people who lived in Pālama worked at the Cannery.
>
> MS: I think that's why they lived by the Cannery. I think that's why my mother lived here, because she worked at the Cannery. It was walking distance. My mother walked to the Cannery and walked home from the Cannery every single day. I mean, when the pineapple was in, she was fore lady for the packers. In those days they didn't dress casually, they had white uniforms. They looked like a nurse. That was their appearance. Quality control I guess. She would walk to Kalihi and that was quite a distance from my house and she would walk back and walk there every day. Never complained. I mean, gosh. That was something special for her. I mean, it was hard work, man. After you are working 8 hours and I guess when pineapples were in, you're working 12 hours (Interview w/ M. Spencer, July 12, 2010).

Mr. Vina expressed sadness about the degradation of his neighborhood. He feels that the residential sector that made for such a unique and rich environment has been undermined as the area has evolved into a more commercial and industrial place.

## 6.0 Summary and Recommendations

Helber, Hastert and Fee Planners, Inc. undertook this CIA as part of an Environmental Assessment for the planned Advanced Technology and Training Center at Honolulu Community College. Though this CIA was meant to address a proposed building site within the Honolulu Community College Dillingham Campus, the area studied was much broader including a tract of land within Kapālama bounded generally by King Street to the north and Dillingham Boulevard to the south.

The results of archival research and community consultations in regard to cultural beliefs, practices, and resources in the vicinity of the study area are presented in this section. These findings are the basis for recommendations to help mitigate any concerns and potential adverse impacts.

## 6.1 Results of Background Research

Archival research on the project area and the surrounding vicinity of Pālama indicated the following results:

> The project area is located in a place that is rich in cultural and historic resources and heritage. The *ahupua'a* of Kapālama is known for its extensive and productive taro terraces and fishponds during the nineteenth century.
>
> The project area and vicinity was once named Niuhelewai, after a stream of the same name. Over time, this place name and many others referring to the land in the study area have been lost. In the mid 1800s, Niuhelewai Stream fed numerous taro terraces within the study area and proposed building site. The stream, Niuhelewai, once flowed through the project area and though it survived the creation of the Kapālama Drainage Canal in 1938-39, it was filled sometime in the mid-20th century.
>
> Niuhelewai is associated with the *akua,* Haumea, a goddess of dual nature. She is at once revered as the ancestor of the Hawaiian people, a goddess of fertility and childbirth and, at the same time, as a destroying force known to eat people and cause famine.
>
> Specific resources which during the nineteenth century were within or adjacent to the project area were related to the cultural practice of cultivating taro. These included the *kahawai*, Niuhelewai Stream; numerous *'auwai* (irrigation ditches); the *mānowai* (dam); and *punawai* (fresh water springs). *Māhele* records indicate upwards of 45 taro patches were cultivated within the area known as HCC's Main Campus today.
>
> A famous battle occurred at Niuhelewai in the 1780s between the war chief , Kahekili, king of Maui and the O'ahu ruling chief, Kahāhana. O'ahu forces were defeated and slaughtered at this place clogging the stream.
>
> In the last decades of the nineteenth century, the project area was converted from *lo'i kalo* into rice lands and duck farms.
>
> Sometime in the early part of the 20th century, the lands of the project area were filled, probably with dredged material from Kapālama Basin and perhaps later with spoils from the Kapalama Drainage Canal.
>
> By 1913, sugar cane was growing in the study area and OR&L had built a rail line (known as the Kalihi Branch) bisecting the study area. A portion of the rail line followed the contour of a limestone ledge still visible in places along the campus. The *mānowai* at Niuhelewai Stream, served as a foundation for the rail road stream crossing in this location. For a few

decades, this railroad branch and the surrounding land served as a dividing line between the King Street-oriented development *mauka* of the Kalihi branch railroad line and the industrial growth of Iwilei *makai* of the railroad track.

## 6.2 Results of Community Consultation

HHF contacted 33 community members including government agencies, community organization representatives, elected officials, and individuals such as residents, and cultural practitioners for the purposes of this CIA. Although many had passing knowledge of Pālama, only two participated in formal interviews. The following section summarizes the results of the community consultations:

Participants indicated that the proposed building site has always been in an industrial part of Pālama during their lifetimes and was not a popular place to visit.

Respondents acknowledge that the Kapālama Drainage Canal has always been a popular crabbing locale, though the water quality of the canal has fluctuated over time.

Participants felt that the study area and Pālama in general, represented a diverse ethnic community in which cultural traditions were practiced within the household and cultural tolerance was practiced on the streets.

Traditional accessways through the project area consisting of the lanes Hikina Lane, Austin Lane, Robello Lane and Akepo Lane have been used over generations to connect *mauka* and *makai* areas. In the last several generations, these routes were used to link the residential and business areas surrounding King Street with the industrial parts of Iwilei, principally the work opportunities at the pineapple canneries. *Mauka-makai* access via the different lanes between King Street and Dillingham Boulevard continues to be important allowing for transportation and commercial opportunities.

## 6.3 Impacts

There are no Native Hawaiian (or other ethnic group's) cultural practices customarily and traditionally exercised for subsistence, cultural or religious purposes that are known to occur in the study area at this time. Therefore, the proposed action would not impact traditional Hawaiian rights related to gathering, access, or other customary activities within the study area or its vicinity, or any cultural practices or beliefs.

## 6.4 Recommendations

- The study area has a vibrant history of Hawaiian habitation and taro cultivation spanning many generations. Place names documented during the *Māhele* of the mid-nineteenth century for lands within the study area are a testament to the richness of the cultural traditions once practiced in this locale. Consider incorporating place names in the design of the campus whether this be through building names, naming circulation routes or, distinguishing parts of the campus.

- Niuhelewai Stream once flowed through the study area, and more specifically, through the proposed building site. Although drainage of all surface waters is now routed through the Kapālama Drainage Canal, Niuhelewai Stream was once the backbone of the *kalo* cultivation practiced within the study area. Beneath layers of fill may be the old Niuhelewai streambed as well as associated remnants of *'auwai* and *lo'i kalo*. Be sensitive to the possibility of these features when doing subsurface work for the Advanced Technology Training Center.

- Pedestrian access linking the *mauka kalo* lands with the *makai* fish ponds was important in traditional times. Today, the *mauka* lands correspond to the residential and commercial sector of King Street while the *makai* lands were filled and developed into the industrial sector of Iwilei. Pedestrian corridors marking the traditional land boundaries were used throughout the 20th century by way of the lanes, Akepo Lane, Robello Lane, Austin Lane and Hikina Lane. Through access via these lanes continues to be important for commercial, educational and transportation opportunities. The campus should work with community partners to maintain open pedestrian routes between King Street and Dillingham Boulevard.

- Crabbing has become an established tradition in the Kapālama Drainage Canal since its creation in 1938-39. Prior to this period, waterways in the area were fished for crabs and crayfish. The importance of subsistence fishing is undervalued, particularly in urban areas. Part of the problem is the neglect of natural resources, in this case the Kapālama Drainage Canal. As a steward of land adjacent to the canal, HCC is one of many responsible parties in helping to maintain a good standard of water quality. Measures should be taken to protect the water quality of the Kapālama Drainage Canal during the different phases of construction of the Advanced Technology Training Center. This point is particularly relevant given the proximity of the proposed building site to the canal and the potential for runoff and other construction related materials to drain into the canal.

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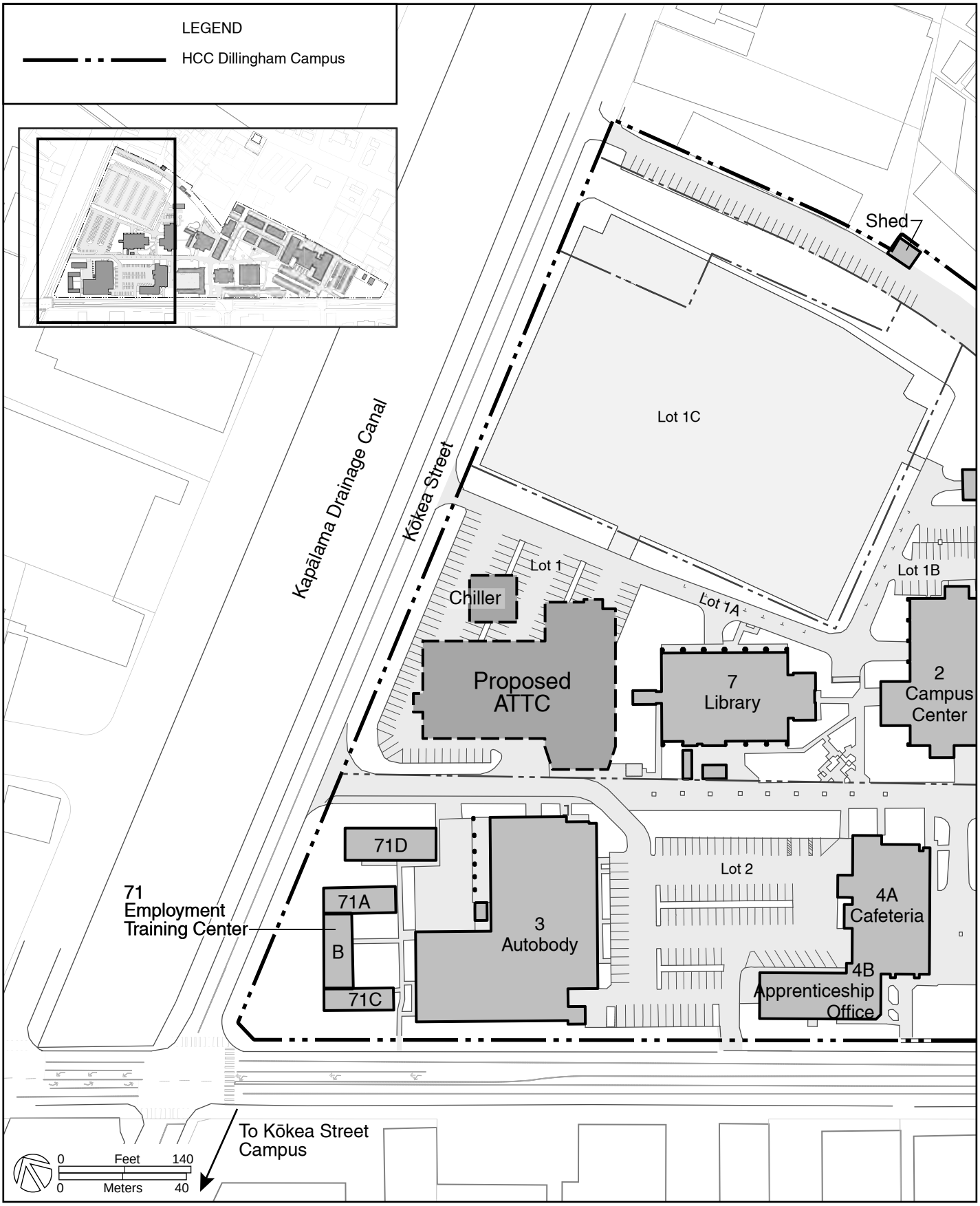
# Appendix A: Figures


HONOLULU COMMUNITY COLLEGE ATTC CULTURAL IMPACT ASSESSMENT

Honolulu, Hawai'i

**Figure 1**

**HCC Location Map**




HONOLULU COMMUNITY COLLEGE ATTC CULTURAL IMPACT ASSESSMENT

Honolulu, Hawai'i

**Figure 2**

**Proposed ATTC Building Site**




Photo 1: At north corner of Lot 1 and Kōkea Street showing proposed ATTC building site.



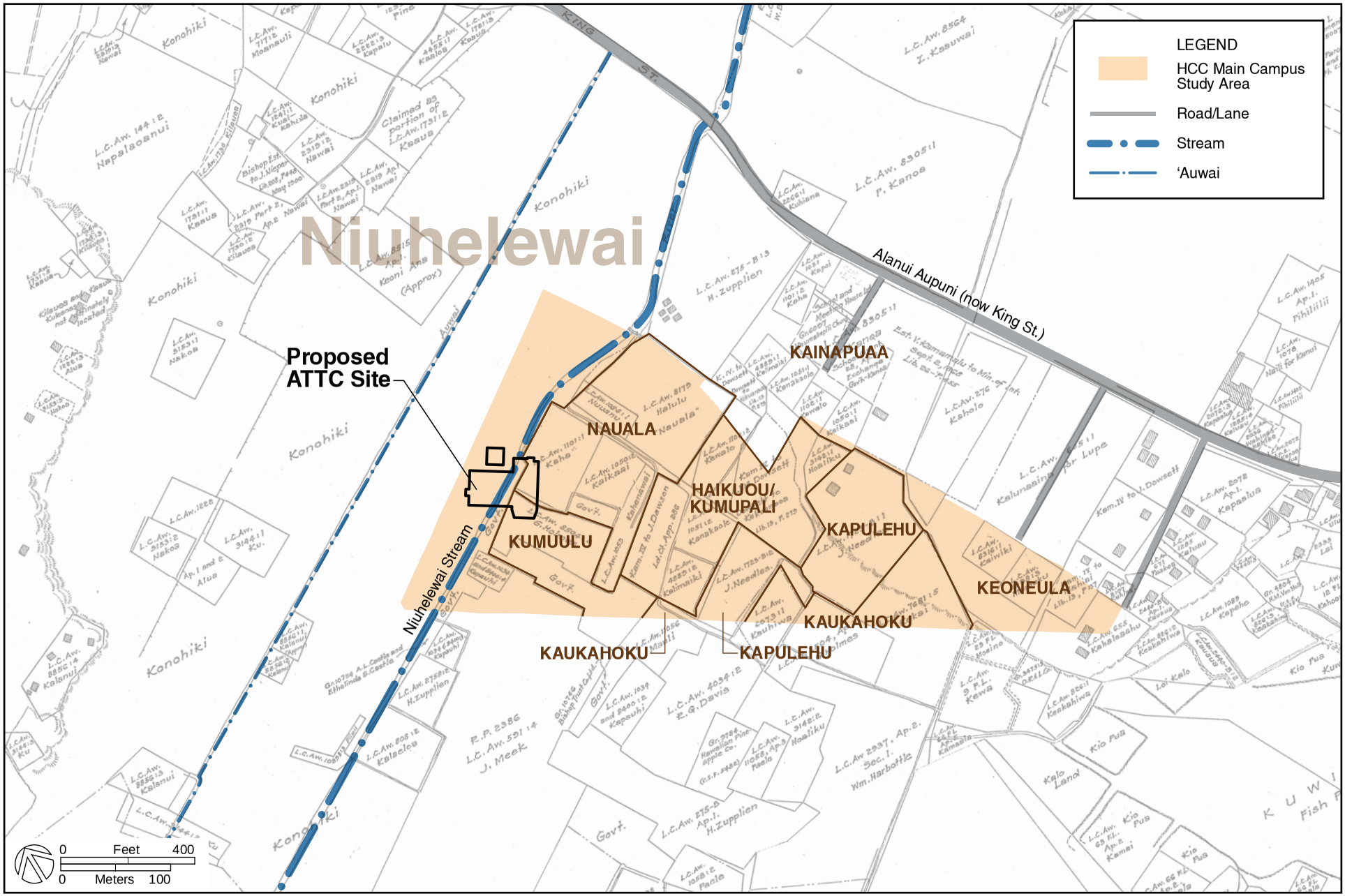
Photo 2: At corner of pedestrian mall and west corner of Bldg. 7 (library) looking north. Proposed building site of ATTC.

HONOLULU COMMUNITY COLLEGE ATTC CULTURAL IMPACT ASSESSMENT

Honolulu, Hawai'i

**Figure 3**

**Site Photos**

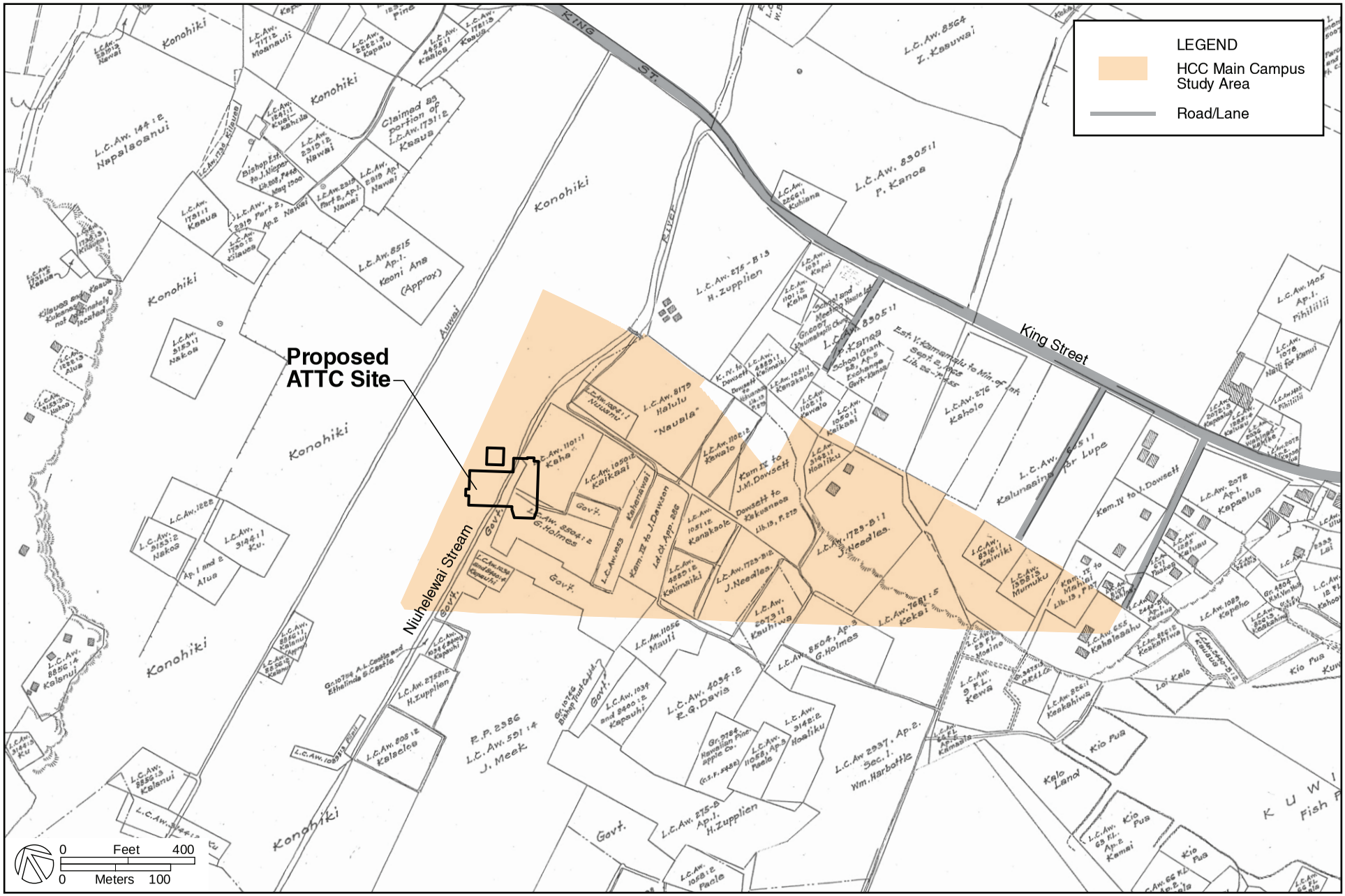



HONOLULU COMMUNITY COLLEGE ATTC CULTURAL IMPACT ASSESSMENT

Honolulu, Hawai'i

**Figure 4**

**Portion of Kapālama Map, 1885 Showing Place Names in Study Area**

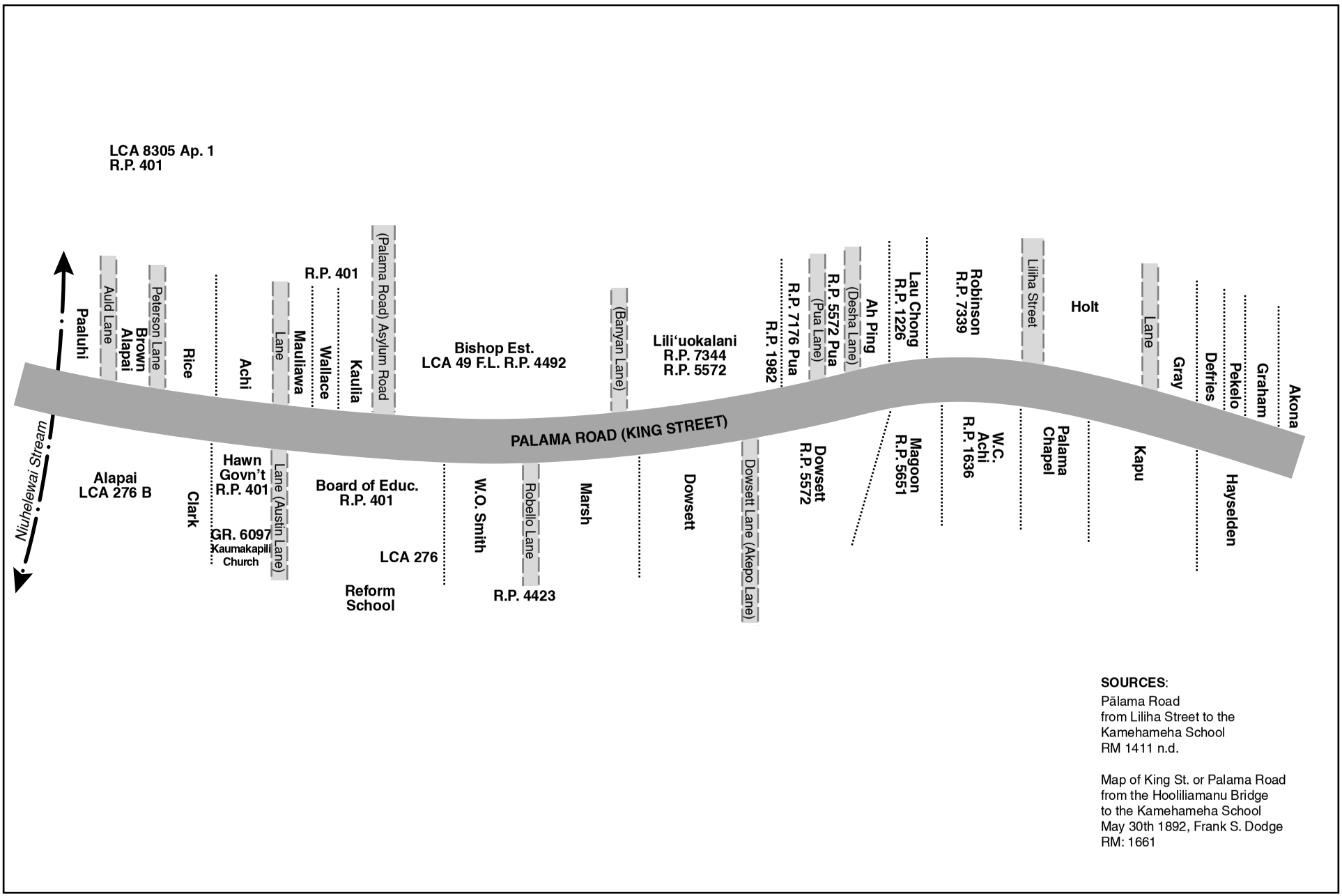



HONOLULU COMMUNITY COLLEGE ATTC CULTURAL IMPACT ASSESSMENT

Honolulu, Hawai'i

**Figure 5**

**Portion of Kapālama Map, 1885 showing Kuleana in Study Area**



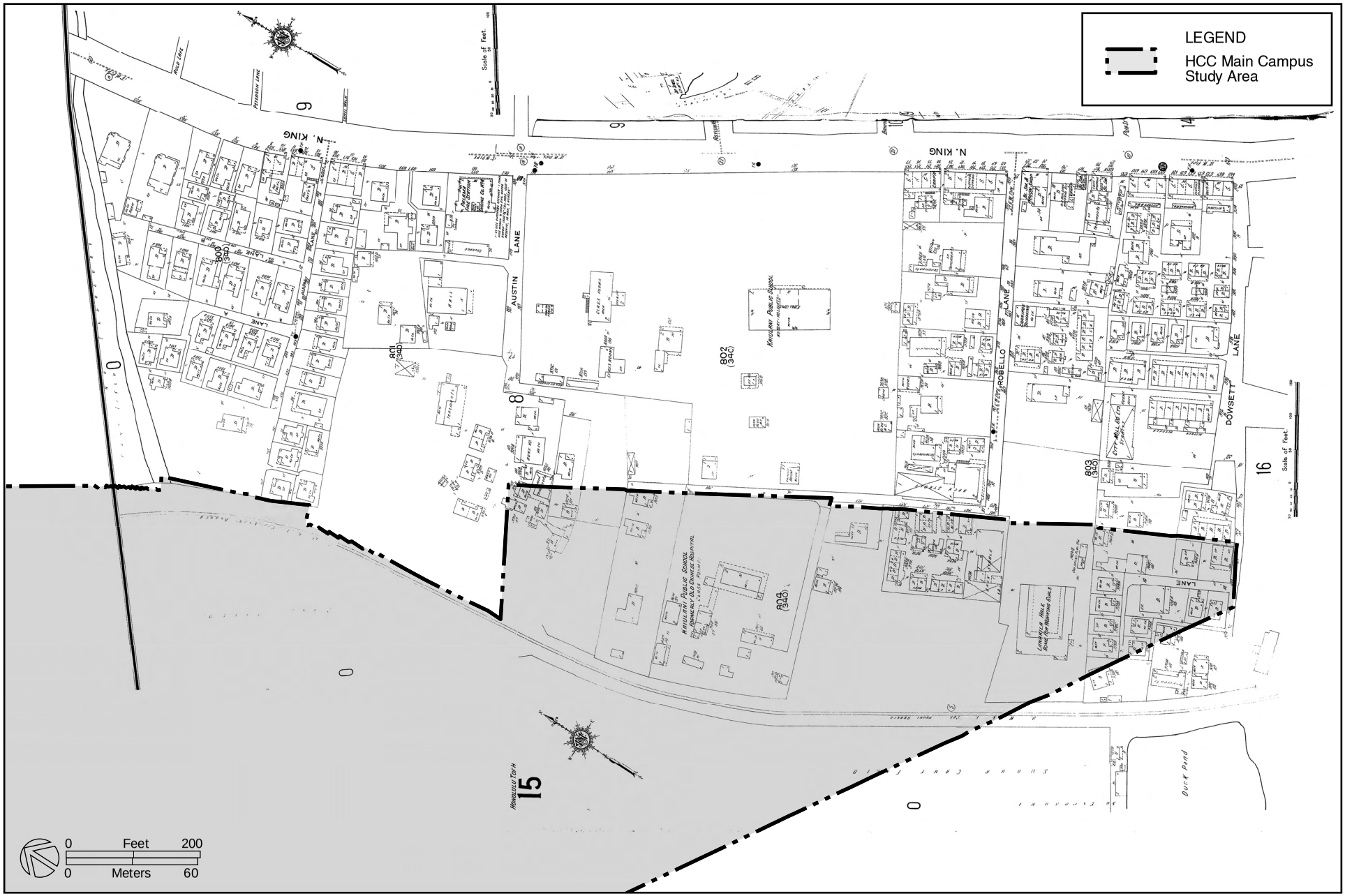

**SOURCES**:
Pālama Road
from Liliha Street to the
Kamehameha School
RM 1411 n.d.

Map of King St. or Palama Road
from the Hooliliamanu Bridge
to the Kamehameha School
May 30th 1892, Frank S. Dodge
RM: 1661



**Figure 6**

**Families Living on King Street c.1892**




HONOLULU COMMUNITY COLLEGE ATTC CULTURAL IMPACT ASSESSMENT

Honolulu, Hawai'i

**Figure 7**

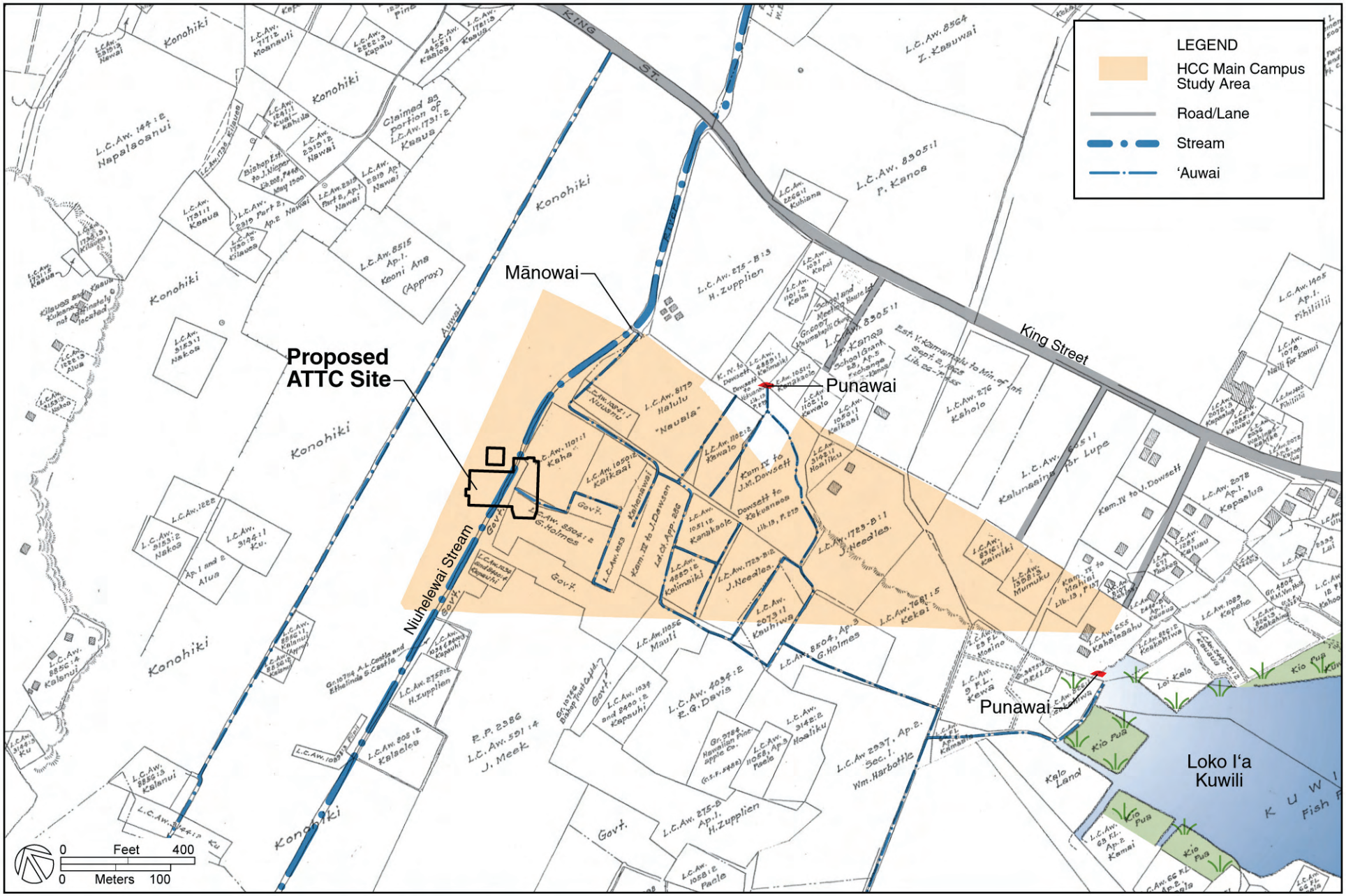
**Sanborn Fire Insurance Maps, Honolulu, 1914**
**Sheets 8 & 15**

**Figure 8:** Kaumakapili Church burning in Chinatown Fire of 1900.
(Hawai'i State Archives: H.R. Hanna)

**Figure 9:** Tenement homes like these dominated Pālama in the early 20th century.
(Bishop Museum Archives)

**Figure 10:** Original Pālama Settlement Church building at Liliha and King Streets. (Hawai'i State Archives)

**Figure 11:** Dillingham Boulevard c.1934 with view towards study area. Kaumakapili Church steeple in the distance. (Hawai'i State Archives; Pan-Pacific Press Bureau photo)

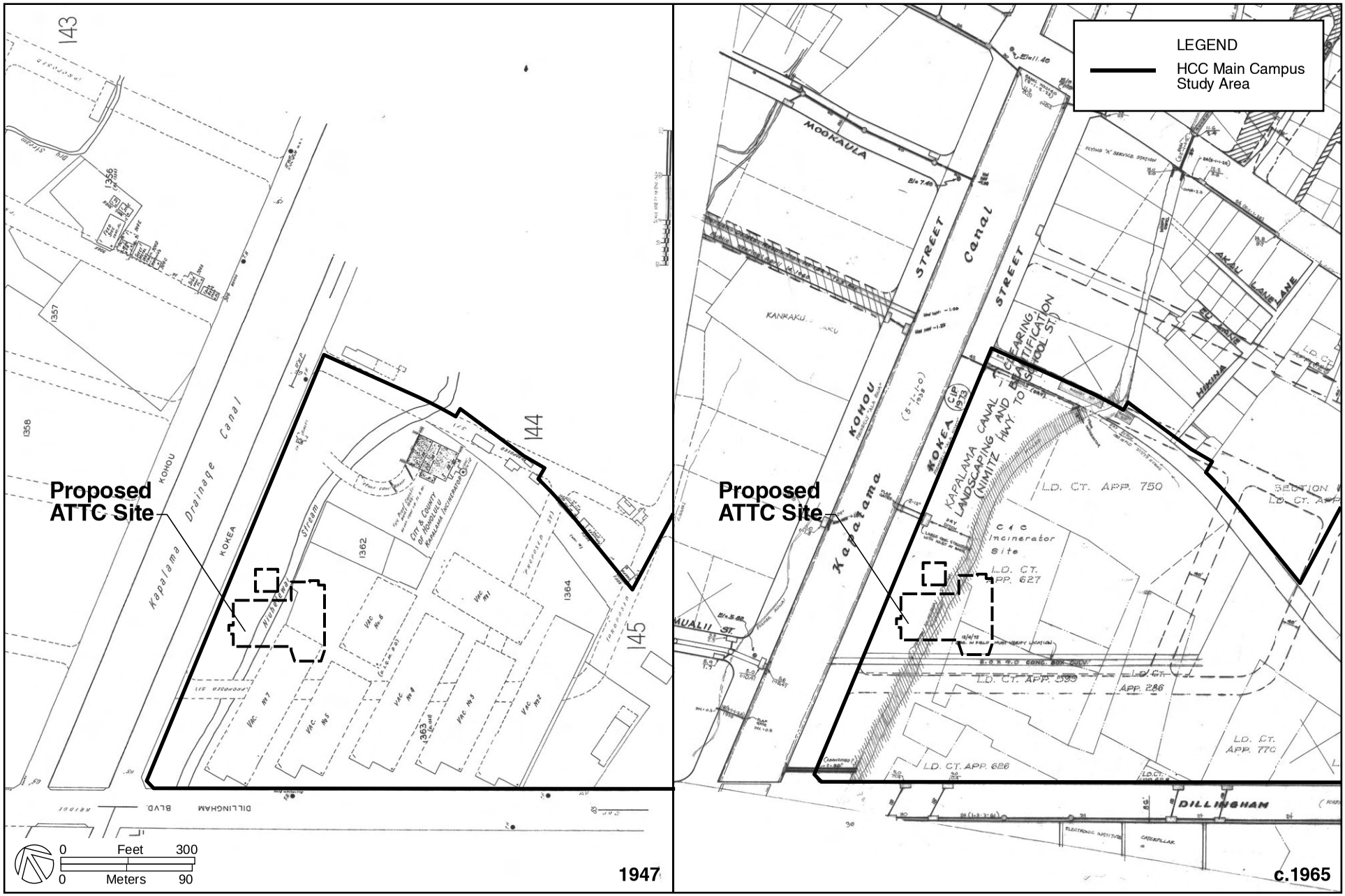



HONOLULU COMMUNITY COLLEGE ATTC CULTURAL IMPACT ASSESSMENT

Honolulu, Hawai'i

**Figure 12**

**Portion of Kapālama Map, 1885 with Traditional Cultural Resources**




HONOLULU COMMUNITY COLLEGE ATTC CULTURAL IMPACT ASSESSMENT

**Figure 13**

Honolulu, Hawai'i

**Niuhelewai Stream, 1947 & c.1965 Comparison**

**Figure 14:** Cassava and other fruits and vegetables have been planted in remnant Niuhelewai drainage off of King Street. (Helber Hastert & Fee, Planners 2010)


**Figure 15:** 1920 view of pineapple canneries from vicinity of Akepo Lane. Note spring-fed duck ponds between homes and railroad track. (Bishop Museum Archives)


**Figure 16:** OR&L Kalihi Branch cuts through study area traversing original dam, mānowai at Niuhelewai Stream. (1913 Land Application Map 286)

**Figure 17:** Crabbing continues today at Kapālama Drainage Canal. (Helber Hastert & Fee, Planners 2010)

**Figure 18:** Circa 1930 photo of pineapple cannery looking toward study area. Buildings in background may be the old Japanese School, now part of HCC campus. (Hawai‘i State Archives)


**Figure 19:** Akepo Lane 2010 looking west towards Dillingham Boulevard. Akepo Lane was once the major pedestrian access route to and from pineapple canneries. (Helber Hastert & Fee, Planners 2010)

# Appendix B: Land Commission Awards within HCC Study Area

**Appendix B: Land Commission Awards within HCC Study Area**

| Land Commission Award | Claimant | Description & Resources | Notes | Place Names |
|---|---|---|---|---|
| Por: 655 | John Kahaleaahu | House lot; witness claims there are 3 houselots on parcel; 1.34 acres | Portion of land within campus; fresh water spring on south corner of parcel at limestone ledge; land abuts Kuwili Fishpond; portion of parcel now under Dillingham Blvd. | Kaoawai<br>Keoneula |
| ** | Kamehameha IV to Mahiai | Record of metes and bounds only | Land transfer; Kamehameha IV sold the parcel for $100.00 | Hauhaukoi<br>Keoneula |
| 1398:3 | Mumuku | Three ʻāpana; three loʻi, and two ditches | Apana 3 is within HCC campus | Kealia<br>Kalia<br>Keoneula |
| Por: 23FL | Moeina | FL or Fort Lands; | Just N. corner of parcel within campus; includes portion of limestone ledge | |
| 8316 | Kaiwiki/Kauwiki (w) | One taro loʻi, one houselot | | Kuaiula<br>Keoneula |
| Por: 7681:5 | Kekai | Five ʻāpana; no land use specified, 4 acres | Authorized by A.G. Thurston, Secretary of the Dept. of Interior; no witness testimony; portion of limestone ledge in property | Kaukahoku |
| 1723-B:1 and B-2 | John Neddles; Needles | Two ʻāpana; 1 wood-frame house; 2 brick tombs; a ditch; 3 taro patches in Pulehu ʻIli | Portion of limestone ledge in property | Pulehu<br>Pulahu<br>Kapulehu |
| 3142 | Hoaliku/Hoalike | Two loʻi; a houselot; a puʻuone/sand dune fishpond; a kula; ¼ acre | Puʻuone/sand dune fishpond is not located within campus | Haikuau/Haiku oa |
| ** | Kamehameha IV to J.M. Dowsett; Dowsett to | Register of metes and bounds; Fresh water spring | Land Transfer; Dowsett sold parcel (2+acres) to M. | Kumupali |

| Land Commission Award | Claimant | Description & Resources | Notes | Place Names |
|---|---|---|---|---|
| | Kekuanaoa | recorded at north corner of property; spring in association with limestone ledge; "kalo land" | Kekuanaoa for $210.00 | |
| Por: 2073:1 | Kauhiwa | Five and one half taro loʻi in Kaukahoku and houselot in Keoneula | Five taro loʻi appear to have been partially within the study area | Kaukahoku<br>Keoneula |
| Por: 1102:2 | Kewalo/Kawelo | One patch, one irrigation ditch and one houselot at Kainapuaa; a witness claims 3 taro patches | Seems to have claimed the ʻauwai and loʻi within the the HCC study area | Haikuou/Kaikuou<br>Kainapuaa<br>Kapalama |
| 1051:2 | Kanakaole | Two ʻāpana; houselot, two taro patches, kula and fishpond, .87 acre | | Haikuou<br>Kapalama<br>Kainapuaa<br>Kumupali |
| 4889:2 | Kalimaiki | Two ʻāpana, house site and two loʻi, at Ahaikuou ʻili; two loʻi on north side of Niuhelewai Stream; 0.69 acre | Kalimaiki died c. 1850 and left land to wife, Kahuhu and children Keoni, Kaneikele, Kahaole and Kualii | Ahaikuou/Ahikuou<br>Kapalama<br>Nauala<br>Niuhelewai<br>Kauhuahale<br>Kainapuaa |
| Por: 11056 | Mauli | One ʻāpana; some taro loʻi; 0.67 acre | | Kaukahoku<br>Kapalama |
| ** | Kamehameha IV to J. Dawson (Ld Ct App 286) | 0.947 acre | Map of Ld Ct App 286 (1913) shows O.R.&L Co. Kalihi Branch railroad line crossing directly over manowai at Niuhelewai Stream | Kumupali<br>Kapalama |
| 1053 | Kahenawai/Kanahenawai | One ʻāpana, three patches and irrigation ditch; .42 acre | Houselot claimed at Koholala, Honolulu but no award for houselot | Nauala<br>Koholala |
| Por: 8179 | Halulu | ½ Nauwala | Authorized by A.G. | Nauwala |

| Land Commission Award | Claimant | Description & Resources | Notes | Place Names |
|---|---|---|---|---|
| | | [Nauala]; houselot with grass hut | Thurston, Secretary of the Interior Dept.; no loʻi or other land use mentioned | Kapalama<br>Kainapuaa |
| 1050:2 | Kaikaai | Two ʻāpana; four patches and irrigation ditch at Maili, land of Nauala; houselot at Haikuou; .98 acre | Land from Halulu; Halulu probably konohiki or lesser aliʻi of some sort | Maili<br>Nauala<br>Kapalama<br>Haikuou<br>Kumupali |
| 8504:2&3 | George Holmes | Three ʻāpana; Part I, Mauka piece-10 or more kalo patches & house lot having one house; Part 2 is 8 kalo patches; Part 3, makai lot—One kalo patch and a pond | Within study area, 8 kalo patches in proposed building site and 1 kalo patch and one pond in second parcel at south border of campus; Reference to A.G. Thurston map | Kumuulu<br>Palama |
| 1084:1 | Nuuanu for Kanaina | One ʻāpana; seven patches, kula and houselot, 0.38 acre | | Kealia<br>Kananakila<br>Kapalama |
| 1101:1 | Kaha | Two ʻāpana, three small patches and one house lot; 1.44 acres | Claim contested by Halulu and Kanoa | Nauala<br>Kainapuaa |
| 1034 and 8400:4 | Kapauhi | One ʻāpana, house lot with four houses; 0.54 acre | Kapauhi says that A. Keliiahonui objected to claim and was charging payment for living at land | Iwilei |
| Por: 591:4 | John Meek | Kalo land; fence | | Kuwili |

# APPENDIX C

Traffic Assessment

*Julian Ng, Inc.*

## Existing Transportation Conditions

The main portion of the Honolulu Community College campus is located within the large block bounded by Dillingham Boulevard, North King Street, and Kokea Street. Dillingham Boulevard is to the southwest (*makai* direction) of the campus and Kokea Street to the northwest (*ewa* direction). Access to several parking lots on campus is along driveways connected to these streets.

A traffic report* prepared in 2006 for the Honolulu Community College development plans described existing conditions in the area. Traffic patterns and conditions generally have not changed. The 2006 report showed acceptable peak hour conditions at the intersections of North King Street and Kokea Street, Dillingham Boulevard and Kokea Street, and Dillingham Boulevard and Kohou Street. Very long delays and over-capacity conditions, however, were found at the intersection of Dillingham Boulevard and Ala Kawa Street.

Field observations and peak period turning movement counts of the Dillingham Boulevard intersections with Ala Kawa Street and with Kokea Street were done in March 2010 to update the findings of existing conditions. Analysis of the peak hour traffic assignments based on the counts were done and the results are compared with those presented in the 2006 traffic report in the table below.

| 2006 Intersection V/C | AM Peak Hour | | | | PM Peak Hour | | | |
|---|---|---|---|---|---|---|---|---|
| | report[1] 2010 update[2] | | | | 2006 report | | 2010 update | |
| | V/C[3] | LOS[4] | V/C | LOS | V/C | LOS | V/C | LOS |
| Dillingham Boulevard at Alakawa Street | 0.94 | D | 0.60 | C | 1.19 | F | 0.67 | C |
| Dillingham Boulevard at Kokea Street | 0.66 | B | 0.79 | C | 0.84 | B | 0.87 | C |

NOTES:
1. Phillip Rowell and Associates, *Traffic Impact Analysis Report for Honolulu Community College Short Range and Long Range Development Plans,* August 1, 2006.
2. Julian Ng Inc.
3. V/C denotes ratio of volume to capacity.
4. LOS denotes Level-of-Service calculated using the planning method described in *Highway Capacity Manual*. LOS is based on the volume-to-capacity ratio.

Both intersections operated at acceptable conditions during the peak hours in 2010.

Public bus service is available along Dillingham Boulevard. Local and suburban buses use Dillingham Boulevard; daytime weekday service consists of approximately 12 buses per hour. Bus users can disembark or board westbound buses at bus stops located near the southeast end of campus, near Ala Kawa Street, and near Kokea Street. Bus stops serving eastbound buses are located across the street at the same locations.

* Phillip Rowell and Associates, *Traffic Impact Analysis Report for Honolulu Community College Short Range and Long Range Development Plans,* August 1, 2006.

**Transportation Impacts of Short-range Development Plan**

The proposed project will implement part of the short-range development plan, which was described previously[**] to include these components:

| Component De | scription |
|---|---|
| New Kokea Training Center | Two new buildings with a total new floor area is 1,490 square feet. |
| New Kapalama Incinerator Site Surface Parking Lot | The parking lot does not generate new trips but will cause redistribution of existing trip into and out of the parking lots |
| New Science Building | Consolidates existing facilities into a new building. No new trips will be generated. |
| New A/C Building | Will not generate additional traffic. |
| Renovate Existing A/C Building | Will not generate additional traffic. |

The only component expected to generate new traffic is the Kokea Training Center, with the number of peak hour trips generated being less than 5 vehicles per hour in each of the AM Peak Hour and the PM Peak Hour. The new science building will not generate any additional peak hour traffic.

[**] Phillip Rowell and Associates, *Traffic Impact Analysis Report for Honolulu Community College Short Range and Long Range Development Plans,* August 1, 2006, p. 24

**Transportation Impacts with Long-range Plan**

In the longer term, the proposed project is expected to have a greater impact and the increase in the number of students that the campus will serve will result in increased transportation demand. A portion of this increased demand can be expected to be served by increased vehicular traffic and parking demand on the campus. Completion of and use of the additional facilities have been estimated*** to increase traffic volume by 1,135 vehicles per hour in the AM Peak Hour (835 approaching the campus and 300 leaving the campus). Estimated impact during the PM Peak Hour is 960 vehicles per hour (410 approaching and 550 leaving). These increases were estimated without consideration of the additional transportation options provided by the Honolulu High-Capacity Transit Corridor Project, which is presently being pursued by the City and County of Honolulu. The results of the analyses of these increases provided the following conclusions****:

| | AM Peak Hour | | | | PM Peak Hour | | | |
|---|---|---|---|---|---|---|---|---|
| | Without Project | | With Project | | Without Project | | With Project | |
| Intersection V/C | (1) LOS (2) | | V/C | LOS | V/C | LOS | V/C | LOS |
| Dillingham Boulevard at Alakawa Street | 1.125 | F | 1.286 | F | 1.353 | F | 1.477 | F |
| Dillingham Boulevard at Kokea Street | 1.041 | F | 1.241 | F | 1.051 | F | 1.192 | F |
| Dillingham Boulevard at Kohou Street | 0.859 | E | 0.960 | E | 1.171 | F | 1.259 | F |
| North King Street at Kokea Street | 0.597 | B | 0.662 | C | 1.008 | F | 1.064 | F |

NOTES:
1. V/C denotes ratio of volume to capacity.
2. LOS denotes Level-of-Service calculated using the planning method described in *Highway Capacity Manual*. LOS is based on the volume-to-capacity ratio.

While detailed traffic analyses for future conditons based on the 2010 traffic data were not redone, the following quick evaluation shows that the conclusions in the 2006 traffic report are still valid, and over-capacity conditions during peak hours would still be expected.

| | Dillingham Blvd. at Alakawa Street | | | | Dillingham Blvd. at Kokea Street | | | |
|---|---|---|---|---|---|---|---|---|
| | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| Condition V/C | (1) LOS (2) | | V/C | LOS | V/C | LOS | V/C | LOS |
| Existing (2005 counts) (3) (A) | 0.94 | D | 1.19 | F | 0.66 | B | 0.84 | B |
| Existing (2010 counts) (B) | 0.60 | C | 0.67 | C | 0.79 | C | 0.87 | C |
| C = A–B = Difference in V/C | -0.34 | -0.42 | | +0.13 | | +0.03 | | |
| Future conditions with project (3) (D) | 1.29 | 1.48 | | 1.24 | | 1.19 | | |
| **E = C+D = Future conditions with project** | **0.95** | | **1.06** | | **1.37** | | **1.16** | |

NOTES:
1. V/C denotes ratio of volume to capacity.
2. LOS denotes Level-of-Service.
3. Phillip Rowell and Associates, *Traffic Impact Analysis Report for Honolulu Community College Short Range and Long Range Development Plans,* August 1, 2006.

Mitigation of the over-capacity conditions will require that traffic demand be lessened by managing the growth in peak hour traffic volumes. This situation occurs throughout Honolulu and the long-range transportation plans include the addition of improved transit service through central Honolulu, which includes the area surrounding the Honolulu Community College campus.

*** Phillip Rowell and Associates, *Traffic Impact Analysis Report for Honolulu Community College Short Range and Long Range Development Plans,* August 1, 2006, Table 7.

**** Phillip Rowell and Associates, *Traffic Impact Analysis Report for Honolulu Community College Short Range and Long Range Development Plans,* August 1, 2006, Table 13

Within the twenty-year time frame of implementation of the campus long-range plan, Honolulu will see a change in transit services with the implementation of the Honolulu High-Capacity Transit Corridor Project, which is expected to be in service through this area. Initially, the service will extend from East Kapolei in leeward Oahu through downtown Honolulu to Ala Moana Center, with a total of 19 stations over a distance of 19 miles.

The proposed alignment will run above Dillingham Boulevard along the southwest edge of the Honolulu Community College campus. The Kapalama transit station (the 13th station, counting from the west end of the line in East Kapolei) is planned for a location near Kohou Street and it will have direct pedestrian access from the campus. The Iwilei Station (#14) will be located near the intersection of Dillingham Boulevard and Kaaahi Street, approximately 700 feet east of the east end of the campus; pedestrian movements between the Iwilei station and the campus will require the crossing of Dillingham Boulevard in a crosswalk at an existing signalized intersection. The new transit service will provide an alternative mode to access the campus, and it is expected to help ease the increase in traffic demand on the nearby streets.

# APPENDIX D

Pre-Assessment and Draft EA Consultation Correspondence

# APPENDIX D.1

Pre-Assessment Consultation Correspondence

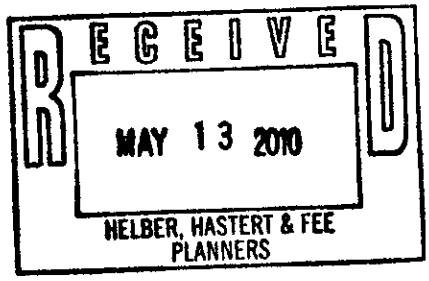
**DEPARTMENT OF THE ARMY**
U.S. ARMY CORPS OF ENGINEERS, HONOLULU DISTRICT
FORT SHAFTER, HAWAII 96858-5440

REPLY TO
ATTENTION OF:

May 11, 2010

Regulatory Branch

POH-2010-00106




Gail Renard
Helber, Hastert & Fee Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Renard:

We have received your letter dated April 29, 2010 requesting our comments for the draft Environmental Assessment (EA) for the Honolulu Community College New Advanced Technology and Training Center Facility proposed in Honolulu, Island of Oahu, Hawaii (TMKs: (1) 1-5-018:001, 002, 003, 004). The U.S. Army Corps of Engineers (Corps) has authority to regulate activities pursuant to Section 10 of the Rivers and Harbors Act of 1899 (Section 10) and Section 404 of the Clean Water Act (Section 404).

Section 10 requires that a Department of the Army (DA) permit be obtained for certain structures or work in or affecting navigable waters of the United States (U.S.), prior to conducting the work (33 U.S.C. 403). Section 404 requires that a DA permit be obtained for the placement or discharge of dredged and/or fill material into waters of the U.S., including wetlands, prior to conducting the work (33 U.S.C. 1344). The parcel proposed for development does not contain any navigable waters or other waters of the U.S.; therefore a Section 10 and/or Section 404 permit is not required.

While a DA permit is not required for this project, we recommend a Best Management Plan be proposed to minimize any runoff from the construction site which could enter the Kapalama Drainage Canal and eventually the Pacific Ocean. Any construction in, or discharge into, the Kapalama Drainage Canal as part of the project would require a DA permit under Section 10 and/or Section 404. Please note that we do not wish to receive a copy of the draft EA for this project unless an alternative course of action is chosen which would result in the need for a DA permit.

This letter contains an approved JD for the property in question. If you object to this determination, you may request an Administrative Appeal under Corps regulations at 33 Code of Federal Regulations (CFR) Part 331. We have enclosed a Notification of Appeal Process and Request For Appeal (NAP/RFA) form. If you request to appeal this determination you must submit a completed RFA form to the Corps' Pacific Ocean Division office at following address:

Thom Lichte, Appeals Review Officer
U.S. Army Corps of Engineers
Pacific Ocean Division, ATTN: CEPOD-PDC
Building 525
Fort Shafter, HI 96858-5440

In order for an NAP/RFA to be accepted by the Corps, the Corps must determine that the RFA is complete, that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division office within 60 days of the date of the NAP/RFA sheet. If you decide to submit an NAP/RFA form, it must be received at the above address by July 11, 2010. It is not necessary to submit an NAP/RFA form to the Division office if you do not object to the determination in this letter.

This jurisdiction determination is valid for a period of five (5) years from the date of this letter unless new information warrants revision of the delineation before the expiration date.

Thank you for giving us the opportunity to review this proposal and for your cooperation with our regulatory program. Please be advised you can provide comments on your experience with the Honolulu District Regulatory Branch by accessing our web-based customer survey form at http://per2.nwp.usace.army.mil/survey.html.

Thank you for giving us the opportunity to review this proposal. Should you have any questions, please contact Mr. Robert Deroche of this office at the above address or telephone 808-438-2039 (FAX: 808-438-4060) or by E-Mail at robert.d.deroche2@usace.army.mil. Please refer to File No. POH-2010-00106 in all future communications with this office regarding this or other projects at this location.

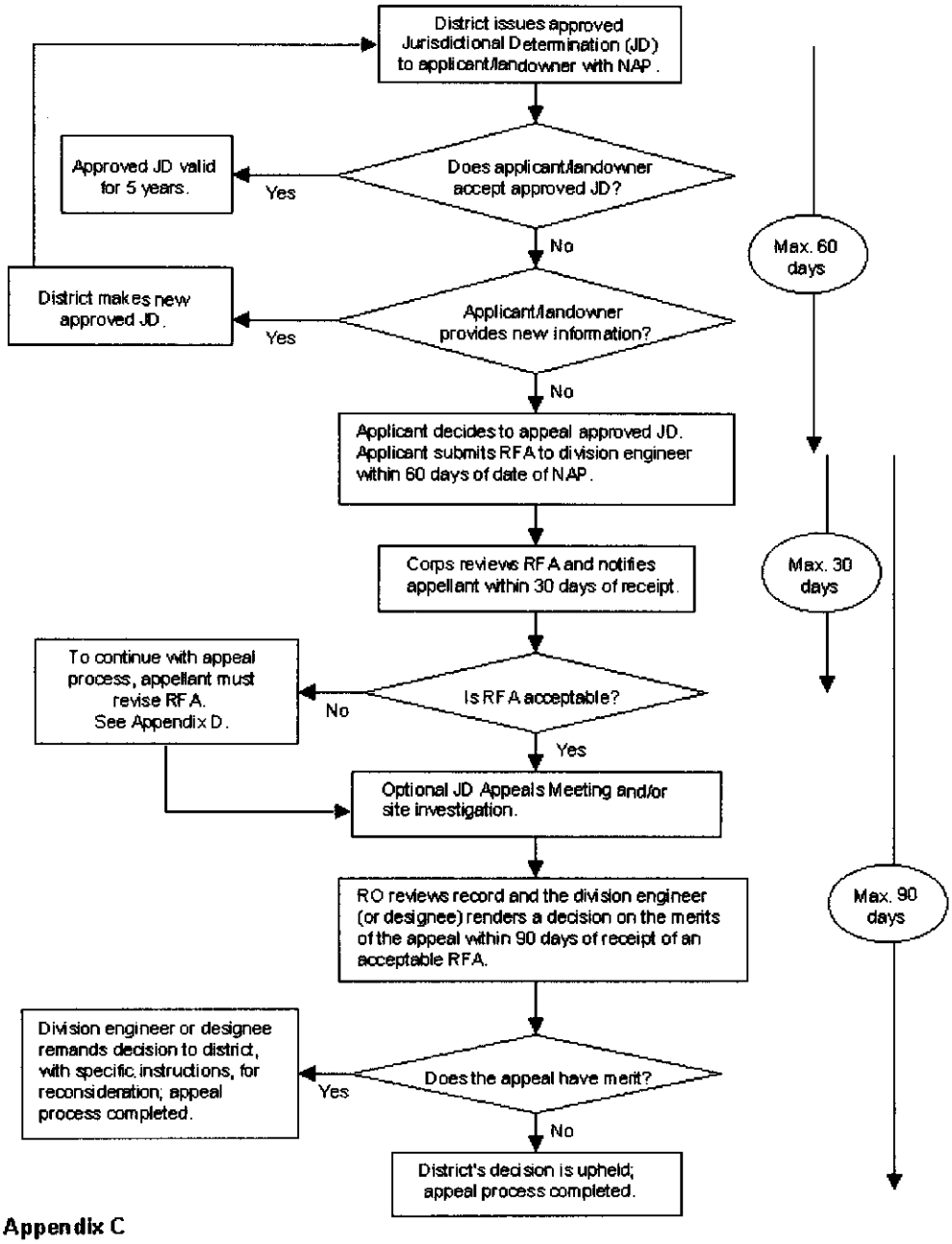
Sincerely,

George P. Young, P.E.
Chief, Regulatory Branch

Enclosures

Flowchart
RFA Document
Final JD Form

## Administrative Appeal Process for Approved Jurisdictional Determinations




**Appendix C**

| Applicant: University of Hawaii, Honolulu Community College | File Number: POH-2010-00106 | Date: May 11, 2010 |
|---|---|---|
| Attached is: | | See Section below |
| | INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission) | A |
| | PROFFERED PERMIT (Standard Permit or Letter of permission) | B |
| | PERMIT DENIAL | C |
| XX | APPROVED JURISDICTIONAL DETERMINATION | D |
| | PRELIMINARY JURISDICTIONAL DETERMINATION | E |

SECTION I - The following (describes your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/inet/functions/cw/cecwo/reg or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

**SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT**

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

**POINT OF CONTACT FOR QUESTIONS OR INFORMATION:**

| If you have questions regarding this decision and/or the appeal process you may contact: | If you only have questions regarding the appeal process you may also contact: |
|---|---|
| Robert D. Deroche<br>U.S. Army Corps of Engineers<br>Honolulu District, ATTN: CEPOH-EC-R<br>Building 230<br>Fort Shafter, HI 96858-5440<br><br>Tel. (808) 438-2039 | Thom Lichte, Appeal Review Officer<br>Pacific Ocean Division<br>ATTN: CEPOD-PDC<br>Building 525<br>Fort Shafter, HI 96858-5440<br><br>Tel. (808) 438-0397 |

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

| | Date: | Telephone number: |
|---|---|---|
| _____<br>Signature of appellant or agent. | | |

**APPROVED JURISDICTIONAL DETERMINATION FORM**
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): May 11, 2010**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER: CEPOH-EC-R Honolulu Community College Training Center POH-2010-00106**

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:** 874 Dillingham Boulevard
State: Hawaii County/parish/borough: Honolulu City: Honolulu
Center coordinates of site (lat/long in degree decimal format): Lat. 21.32207° N, Long. -157.8713° W.
Universal Transverse Mercator: 4
Name of nearest waterbody: Kapalama Drainage Canal
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Pacific Ocean
Name of watershed or Hydrologic Unit Code (HUC): 20060000
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**
☒ Office (Desk) Determination. Date: May 11, 2010
☐ Field Determination. Date(s):

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☒ Waters subject to the ebb and flow of the tide.
☒ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: Kapalama Drainage Canal is an artificial designation of an arm of the Pacific Ocean, the influence of the ebb and tide of which extend mauka of the project site. The Pacific Ocean has, since pre-historic times, been documented for use for subsistence, recreational, and commercial navigation to international ports.

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☒ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: 500 linear feet: 100 width (ft) and/or acres.
      Wetlands: acres.

   c. **Limits (boundaries) of jurisdiction** based on: **Established by mean (average) high waters.**
      Elevation of established OHWM (if known):

2. **Non-regulated waters/wetlands (check if applicable):**[3]

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
Explain: .

## SECTION III: CWA ANALYSIS

### A. TNWs AND WETLANDS ADJACENT TO TNWs

**The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.**

1. **TNW**
   Identify TNW: **Kapalama Drainage Canal/Pacific Ocean.**

   Summarize rationale supporting determination: Kapalama Drainage Canal is an artificial designation of an arm of the Pacific Ocean, the influence of the ebb and tide of which extend mauka of the project site. The Pacific Ocean has, since pre-historic times, been documented for use for subsistence, recreational, and commercial navigation to international ports.

2. **Wetland adjacent to TNW**
   Summarize rationale supporting conclusion that wetland is "adjacent": .

### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

**This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.**

**The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.**

**A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.**

**If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.**

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

   **(i) General Area Conditions:**
   Watershed size: Pick List
   Drainage area: Pick List
   Average annual rainfall: inches
   Average annual snowfall: inches

   **(ii) Physical Characteristics:**
   (a) Relationship with TNW:
   ☐ Tributary flows directly into TNW.
   ☐ Tributary flows through Pick List tributaries before entering TNW.

   Project waters are Pick List river miles from TNW.
   Project waters are Pick List river miles from RPW.
   Project waters are Pick List aerial (straight) miles from TNW.
   Project waters are Pick List aerial (straight) miles from RPW.
   Project waters cross or serve as state boundaries. Explain: .

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Identify flow route to TNW[5]: .
Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):
**Tributary** is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

**Tributary** properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: Pick List.

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: Pick List
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: Pick List
Estimate average number of flow events in review area/year: Pick List
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: Pick List. Characteristics: .

Subsurface flow: Pick List. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):
☒ High Tide Line indicated by: ☒ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects ☐ survey to available datum;
☐ fine shell or debris deposits (foreshore) ☐ physical markings;
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
☐ tidal gauges
☐ other (list):

**(iii) Chemical Characteristics:**
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: .
Identify specific pollutants, if known: .

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.
[6] A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7] Ibid.

**(iv) Biological Characteristics. Channel supports (check all that apply):**

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

**2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

**(i) Physical Characteristics:**

(a) General Wetland Characteristics:
Properties:
Wetland size: acres
Wetland type. Explain: .
Wetland quality. Explain: .
Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:
Flow is: Pick List. Explain: .

Surface flow is: Pick List
Characteristics: .

Subsurface flow: Pick List. Explain findings: .
- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:
- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW
Project wetlands are Pick List river miles from TNW.
Project waters are Pick List aerial (straight) miles from TNW.
Flow is from: Pick List.
Estimate approximate location of wetland as within the Pick List floodplain.

**(ii) Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .
Identify specific pollutants, if known: .

**(iii) Biological Characteristics. Wetland supports (check all that apply):**

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

**3. Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: Pick List
Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

| Directly abuts? (Y/N) | Size (in acres) | Directly abuts? (Y/N) | Size (in acres) |
|---|---|---|---|

Summarize overall biological, chemical and physical functions being performed:

## C. SIGNIFICANT NEXUS DETERMINATION

**A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.**

**Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:**

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

## D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):
- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
   - ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional waters within the review area (check all that apply):
   - ☐ Tributary waters: linear feet width (ft).
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
   - ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
     - ☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .
     - ☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
   - ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
   - ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
   As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
   - ☐ Demonstrate that impoundment was created from "waters of the U.S.," or
   - ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
   - ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]**
- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☐ which are or could be used for industrial purposes by industries in interstate commerce.
- ☐ Interstate isolated waters. Explain: .
- ☐ Other factors. Explain: .

**Identify water body and summarize rationale supporting determination:** .

---

[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

Provide estimates for jurisdictional waters in the review area (check all that apply):
- ☒ Tributary waters: linear feet width (ft).
- ☒ Other non-wetland waters: acres.
  - Identify type(s) of waters: .
- ☒ Wetlands: acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**
- ☒ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - ☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- ☒ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
- ☒ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
- ☒ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☒ Lakes/ponds: acres.
- ☒ Other non-wetland waters: acres. List type of aquatic resource: .
- ☒ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
- ☒ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- ☒ Lakes/ponds: acres.
- ☒ Other non-wetland waters: acres. List type of aquatic resource: .
- ☒ Wetlands: acres.

## SECTION IV: DATA SOURCES.

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply** - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☒ Data sheets prepared by the Corps: .
- ☒ Corps navigable waters' study: .
- ☒ U.S. Geological Survey Hydrologic Atlas: .
  - ☐ USGS NHD data.
  - ☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: 1:24K SAMALGA ISLAND D-2.
- ☒ USDA Natural Resources Conservation Service Soil Survey. Citation: .
- ☒ National wetlands inventory map(s). Cite name: .
- ☒ State/Local wetland inventory map(s): .
- ☒ FEMA/FIRM maps: .
- ☒ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- ☒ Photographs: ☒ Aerial (Name & Date): Google 2010.
  - or ☐ Other (Name & Date): .
- ☒ Previous determination(s). File no. and date of response letter: .
- ☒ Applicable/supporting case law: .
- ☒ Applicable/supporting scientific literature: .
- ☒ Other information (please specify): Project Manager's Personal knowledge of site.

**B. ADDITIONAL COMMENTS TO SUPPORT JD:** .

**Helber Hastert & Fee**
*Planners, Inc.*

August 25, 2010

Mr. George P. Young, P.E., Chief
Regulatory Branch, CEPOH-EC-R
U.S. Army Engineer District, Honolulu
Fort Shafter, HI 96858-5440

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, Oʻahu, Hawaiʻi**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Mr. Young,

Thank you for providing comments in your letter dated May 11, 2010 (POH-2010-00106) regarding the subject environmental assessment (EA). We offer the following responses.

We acknowledge that you provided an approved Jurisdictional Determination that there are navigable waters of the U.S. in the review area (Kapālama Drainage Canal). We also acknowledge your comment that the parcel proposed for development does not contain any navigable waters or other waters of the U.S.; therefore a Section 10 of the Rivers and Harbors Act of 1899 permit and/or a Section 404 of the Clean Water Act permit are not required. We note your recommendation that a Best Management Plan be prepared to minimize any runoff from the construction site which could enter the Pacific Ocean, via the Kapālama Drainage Canal. Mitigation measures to minimize stormwater runoff and associated pollutants from impacting the Kapālama Drainage Canal will be discussed in the EA.

Per your request, we will remove your agency from the Draft EA distribution.

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Draft EA.

Sincerely,

HELBER, HASTERT AND FEE, PLANNERS

Sincerely,

Thomas A. Fee, AICP, LEED AP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

LINDA LINGLE
GOVERNOR

RUSS K. SAITO
COMPTROLLER

SANDRA L. YAHIRO
DEPUTY COMPTROLLER

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

(P)1104.0

MAY 10 2010

RECEIVED
MAY 12 2010
HELBER, HASTERT & FEE PLANNERS

Ms. Gail Renard
Helber, Hastert & Fee Planners
733 Bishop Street, Suite 2590
Honolulu, HI 96813

Dear Ms. Renard:

Subject: Draft Environmental Assessment Pre-Assessment Consultation
Honolulu Community College New Advanced Technology and Training Center
Honolulu District, Island of Oahu, Hawaii
TMK (1) 1-5-18:001, 002, 003, 004

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

If you have any questions regarding the above, please have your staff call Mr. David DePonte of the Planning Branch at 586-0492.

Sincerely,

ERNEST Y. W. LAU
Public Work Administrator

DD:lnn

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
DIVISION OF PUBLIC WORKS
P.O. BOX 119
HONOLULU, HAWAII 96810


Ms. Gail Renard
Helber, Hastert & Fee Planners
733 Bishop Street, Suite 2590
Honolulu, HI 96813

**Helber Hastert & Fee**
*Planners, Inc.*

August 25, 2010

Mr. Ernest Y.W. Lau
Public Works Administrator
State of Hawaii
Department of Accounting and General Services
P.O. Box 119
Honolulu, HI 96810

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, O'ahu, Hawai'i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Mr. Lau,

Thank you for your letter dated May 10, 2010 (P)1104.0 regarding the subject environmental assessment (EA). We acknowledge your comment that the proposed project does not impact any of the Department of Accounting and General Services' projects and existing facilities.

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Draft EA.

Sincerely,

HELBER, HASTERT AND FEE, PLANNERS

Sincerely,

Thomas A. Fee, AICP, LEED AP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

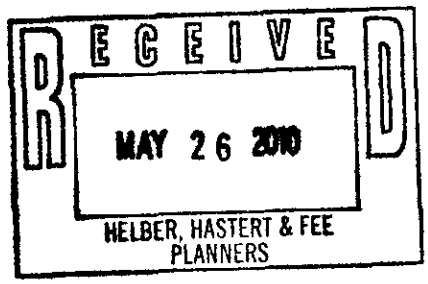
LINDA LINGLE
GOVERNOR

MAJOR GENERAL ROBERT G. F. LEE
DIRECTOR OF CIVIL DEFENSE

EDWARD T. TEIXEIRA
VICE DIRECTOR OF CIVIL DEFENSE

PHONE (808) 733-4300
FAX (808) 733-4287

**STATE OF HAWAII**
**DEPARTMENT OF DEFENSE**
**OFFICE OF THE DIRECTOR OF CIVIL DEFENSE**
3949 DIAMOND HEAD ROAD
HONOLULU, HAWAII 96816-4495




May 24, 2010

Ms. Gail Renard
Helber, Hastert and Fee Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Renard:

Honolulu Community College
New Advanced Technology and Training Center Facility
Draft Environmental Assessment Pre-Assessment Consultation

Thank you for the opportunity to comment on this development. We are concerned about the impact on cultural, historical, and archeological resources and anticipate that the Draft Environmental Assessment (DEA) will address potential impacts as these are identified.

We look forward to reviewing the DEA when it is finished.

If you have any questions, please call Havinne Okamura, State Civil Defense Hazard Mitigation Planner, at (808)733-4300, ext. 556.

Sincerely,

EDWARD T. TEIXEIRA
Vice Director of Civil Defense

**Helber Hastert & Fee**
*Planners, Inc.*

August 25, 2010

Mr. Edward T. Teixeira
Vice Director of Civil Defense
State of Hawaii
Department of Defense
3949 Diamond Head Road
Honolulu, HI 96816-4495

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, O'ahu, Hawai'i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Mr. Teixeira,

Thank you for your letter dated May 24, 2010 regarding the subject environmental assessment (EA). We note your concerns about the project's impact on cultural, historic, and archaeological impacts. Appropriate studies have been undertaken addressing these resources and their results will be reported in the Draft EA.

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Draft EA.

Sincerely,

HELBER, HASTERT AND FEE, PLANNERS

Sincerely,

Thomas A. Fee, AICP, LEED AP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

LINDA LINGLE
GOVERNOR OF HAWAII

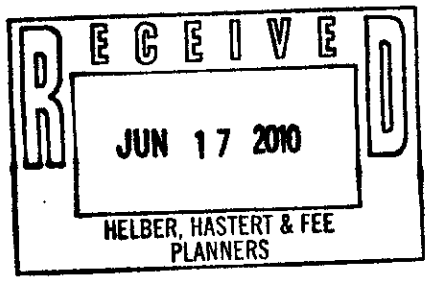
CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
EMD / CWB

06046PJF.10

June 16, 2010




Ms. Gail Renard
Helber, Hastert & Fee Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Renard:

**SUBJECT: Honolulu College New Advanced Technology and Training Center Facility**
**Draft Environmental Assessment (DEA) Pre-Assessment Consultation**
**Honolulu, Island of Oahu, Hawaii**
**TMK: (1) 1-5-018:001, 002, 003, 004**

The Department of Health, Clean Water Branch (CWB), has reviewed the subject document and offers these comments on your project.

Please note that our review is based solely on the information provided in the subject document and its compliance with the Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at: http://www.hawaii.gov/health/environmental/env-planning/landuse/CWB-standardcomment.pdf.

1. Any project and its potential impacts to State waters must meet the following criteria:

   a. Antidegradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.

   b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.

   c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).

2. You may be required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55). For the following types of discharges into Class A or Class 2 State waters, you may apply for an NPDES general permit coverage by submitting a Notice of Intent (NOI) form:

   a. Storm water associated with construction activities, including clearing, grading, and excavation, that result in the disturbance of equal to or greater than one (1) acre of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. An NPDES permit is required before the start of the construction activities.

   b. Hydrotesting water.

   c. Construction dewatering effluent.

   You must submit a separate NOI form for each type of discharge at least 30 calendar days prior to the start of the discharge activity, except when applying for coverage for discharges of storm water associated with construction activity. For this type of discharge, the NOI must be submitted 30 calendar days before to the start of construction activities. The NOI forms may be picked up at our office or downloaded from our website at: http://www.hawaii.gov/health/environmental/water/cleanwater/forms/genl-index.html.

3. For types of wastewater not listed in Item No. 2 above or wastewater discharging into Class 1 or Class AA waters, you may need an NPDES individual permit. An application for an NPDES individual permit must be submitted at least 180 calendar days before the commencement of the discharge. The NPDES application forms may be picked up at our office or downloaded from our website at: http://www.hawaii.gov/health/environmental/water/cleanwater/forms/indiv-index.html.

4. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage is required, must comply with the State's Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of $25,000 per day per violation.

If you have any questions, please visit our website at: http://www.hawaii.gov/health/environmental/water/cleanwater/index.html, or contact the Engineering Section, CWB, at 586-4309.

Sincerely,

ALEC WONG, P.E., CHIEF
Clean Water Branch

JF:ml

c: DOH-EPO #I-3172 [via email only]

# Clean Water Branch
# Standard Comments

August 22, 2008

## Clean Water Branch

The Clean Water Branch (CWB) protects the public health of residents and tourists who enjoy playing in and around Hawaii's coastal and inland water resources. The CWB also protects and restores inland and coastal waters for marine life and wildlife. This is accomplished through statewide coastal water surveillance and watershed-based environmental management through a combination of permit issuance, monitoring, enforcement, sponsorship of polluted runoff control projects, and public education.

### Permit Issuance

- Any project and its potential impacts to State waters must meet the State's:
  1) Antidegradation policy, which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected; 2) Designated uses, as determined by the classification of the receiving State waters; and 3) water quality criteria (Hawaii Administrative Rules (HAR), Chapter 11-54).

- The Army Corps of Engineers should be contacted at (808) 438-9258 to see if this project requires a Department of the Army (DA) permit. Permits may be required for work performed in, over, and under navigable waters of the United States. Projects requiring a DA permit also require a Section 401 Water Quality Certification (WQC) from our office.

- National Pollutant Discharge Elimination System (NPDES) permits are required for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55). For the following types of discharges into Class A or Class 2 State waters, NPDES general permit coverage may be applied for by submitting a Notice of Intent (NOI) form: 1) storm water associated with industrial activities, as defined in Title 40, Code of Federal Regulations, Sections 122.26(b)(14)(i) through 122.26(b)(14)(ix) and 122.26(b)(14)(xi); 2) storm water associated with construction activities, including excavation, grading, clearing, demolition, uprooting of vegetation, equipment staging, and storage areas that result in the disturbance of equal to or greater than one (1) acre of total land area*; 3) treated effluent from leaking underground storage tank remedial activities; 4) once through cooling water less than one (1) million gallons per day; 5) hydrotesting water; 6) dewatering effluent; 7) treated effluent from petroleum bulk stations and terminals; 8) treated effluent from well drilling activities; 9) treated effluent from recycled water distribution systems; 10) storm water and certain non-storm water from a small municipal separate storm sewer system; and 11) circulation water from decorative ponds or tanks.

  **The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. An NPDES permit is required before the start of the construction activities.*

- A separate NOI form for each type of discharge must be submitted at least 30 calendar days prior to the start of the discharge activity, except when applying for coverage for discharges of storm water associated with construction activity. For this type of discharge, the NOI must be submitted 30 calendar days before to the start of construction activities. The NOI forms may be picked up at our office or downloaded from our website at http://www.hawaii.gov/health/environmental/water/cleanwater/forms/genl-index.html.

- For types of wastewater discharges not listed above or wastewater discharging into Class 1 or Class AA waters, you may need to obtain an NPDES individual permit. Class 1 waters include, but is not limited to, all State waters in natural reserves, preserves, sanctuaries, and refuges established by the Department of Land and Natural Resources (DLNR) under Hawaii Revised Statutes (HRS), Chapter 195, or similar reserves for the protection of aquatic life established under HRS, Chapter 195.

- An application for an NPDES individual permit must be submitted at least 180 calendar days before the commencement of the discharge or start of construction activities. The NPDES application forms may be picked up at our office or downloaded from our website at http://www.hawaii.gov/health/environmental/water/cleanwater/forms/indiv-index.html.

- You must also submit a copy of the NOI or NPDES permit application to the State DLNR, State Historic Preservation Division (SHPD), or demonstrate to the satisfaction of the CWB that SHPD has or is in the process of evaluating your project. Please submit a copy of your request for review by SHPD or SHPD's determination letter for the project along with your NOI or NPDES permit application, as applicable.

- Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 WQC are required, must comply with the State's Water Quality Standards.

**Monitoring**

- Effluent discharge and/or receiving water monitoring may be required as conditions of Section 401Water Quality Certifications and NPDES General and Individual permits.

**Enforcement**

- Noncompliance with water quality requirements contained in HAR, Chapter 11-54 and/or permitting requirements specified in HAR, Chapter 11-55 may be subject to penalties of $25,000 per day per violation.

**Polluted Runoff Control Projects**

- Projects addressing activities related to polluted runoff control as outlined in the State's Coastal Nonpoint Pollution Control Management Plan and/or Hawaii's Implementation Plan for Polluted Runoff Control may qualify for federal grants administered by our office.

- At a minimum, grant funds must be matched 100% with match funding or in-kind contributions from non-federal sources and are subject to the requirements of EPA 40 CFR Chapter 1 (7-1-98 Edition), Section 31.24 Matching or Cost Sharing.

- Request for Proposals to solicit qualified projects for grant funding are issued on an annual basis and interested parties can request to be placed on a mailing list to receive a copy of the RFP when it is issued. The deadline for submittal of a proposal is usually one (1) month from the date of the RFP. For more information, please read our website at: http://www.hawaii.gov/health/environmental/water/cleanwater/about/prc/index.html.

**Helber Hastert & Fee**
*Planners, Inc.*

August 25, 2010

Mr. Alec Wong, P.E., Chief
Clean Water Branch
State of Hawaii
Department of Health
P.O. Box 3378
Honolulu, HI 96801-3378

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, O'ahu, Hawai'i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Mr. Wong,

Thank you for your comments dated June 16, 2010 (06046PJF.10) regarding the subject environmental assessment (EA). We offer the following responses.

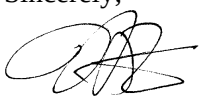
The Draft EA will note that the project will require a National Pollutant Discharge Elimination System (NPDES) permit and project construction will comply with all NPDES permit requirements.

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Draft EA.

Sincerely,

HELBER, HASTERT AND FEE, PLANNERS

Sincerely,



Thomas A. Fee, AICP, LEED AP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
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



May 27, 2010

Hellber, Hastert & Fee Planners
733 Bishop Street Suite 2590
Honolulu, Hawaii 96813

Attention: Ms. Gail Renard

Ladies and Gentlemen:

Subject: Pre-Assessment Consultation for Draft Environmental Assessment for Honolulu Community College New Advanced Technology & Training Center Facility

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR), Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comment.

Other than the comments from Engineering Division, Land Division-Oahu District, the Department of Land and Natural Resources has no other comments to offer on the subject matter. Should you have any questions, please feel free to call our office at 587-0433. Thank you.

Sincerely,

for Morris M. Atta
Acting Administrator

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
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

May 4, 2010

MEMORANDUM

TO: **DLNR Agencies:**
x Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
x Engineering Division
__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: Charlene Unoki, Assistant Administrator

SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment for Honolulu Community College New Advanced Technology & Training Center Facility

LOCATION: Island of Oahu

APPLICANT: Helber, Hastert & Fee Planners on behalf of UH Honolulu Community College

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by May 25, 2010.

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 my office at 587-0433. Thank you.

Attachments

( ) We have no objections.
(✓) We have no comments.
( ) Comments are attached.

Signed: _____
Date: 5/5/10

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

'10 MAY 04 P05:59

**STATE OF HAWAII**
**DEPARTMENT OF LAND AND NATURAL RESOURCES**
**LAND DIVISION**

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

May 4, 2010

MEMORANDUM

TO: **DLNR Agencies:**
x Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
x Engineering Division
__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: Charlene Unoki, Assistant Administrator C. Unoki

SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment for Honolulu Community College New Advanced Technology & Training Center Facility

LOCATION: Island of Oahu

APPLICANT: Helber, Hastert & Fee Planners on behalf of UH Honolulu Community College

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by May 25, 2010.

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 my office at 587-0433. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
(X) Comments are attached.

Signed: _____
Date: 5/25/10

RECEIVED
LAND DIVISION
2010 MAY 25 P 3:41
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

**DEPARTMENT OF LAND AND NATURAL RESOURCES**
**ENGINEERING DIVISION**

**LD/CharleneUnoki**
**RE: DEAHELCOPowerLineAccessRd**
**Oahu.769**

**COMMENTS**

( ) We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone ___.

**(X) Please take note that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone X. The Flood Insurance Program does not have any regulations for developments within Flood Zone X.**

( ) Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ___.

( ) Please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.

Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

( ) Mr. Robert Sumitomo at (808) 768-8097 or Mr. Mario Siu Li at (808) 768-8098 of the City and County of Honolulu, Department of Planning and Permitting.

( ) Mr. Frank DeMarco at (808) 961-8042 of the County of Hawaii, Department of Public Works.

( ) Mr. Francis Cerizo at (808) 270-7771 of the County of Maui, Department of Planning.

( ) Mr. Mario Antonio at (808) 241-6620 of the County of Kauai, Department of Public Works.

( ) The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.

( ) The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.

( ) Additional Comments: _____

_____

( ) Other: _____

_____

Should you have any questions, please call Ms. Suzie S. Agraan of the Planning Branch at 587-0258.

Signed: _____
CARTY S. CHANG, ACTING CHIEF ENGINEER

Date: 5/25/10

**Helber Hastert & Fee**
*Planners, Inc.*

August 25, 2010

Mr. Morris M. Atta, Administrator
State of Hawaii
Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, HI 96809

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, O'ahu, Hawai'i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Mr. Atta,

Thank you for your comments dated May 27, 2010 regarding the subject environmental assessment (EA). We note your Engineering Division's comment that the project site is within Flood Zone X. The Draft EA will include information on the project area's flood zone.

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Draft EA.

Sincerely,

HELBER, HASTERT AND FEE, PLANNERS

Sincerely,

Thomas A. Fee, AICP, LEED AP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

LINDA LINGLE
GOVERNOR

BRENNON T. MORIOKA
DIRECTOR

Deputy Directors
MICHAEL D. FORMBY
FRANCIS PAUL KEENO
BRIAN H. SEKIGUCHI
JIRO A. SUMADA

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

IN REPLY REFER TO:

STP 8.0124

June 8, 2010



Ms. Gail Renard
Helber, Hastert & Fee Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Renard:

Subject: Honolulu Community College (HCC) Advanced Technology and Training Center Facility – Draft Environmental Assessment (DEA) Pre-Assessment Consultation

Thank you for requesting the State Department of Transportation's (DOT) review of the subject project to construct a six-story, 90,000 square feet facility.

While it's not anticipated that the subject project will have a significant impact on State transportation facilities in the area, DOT's comments in its letter STP 8.2432 dated March 19, 2007 (copy attached) regarding the overall development of the HCC campus remain valid.

DOT appreciates the opportunity to provide comments and requests four (4) copies of the DEA when it is completed. If there are any questions, please contact Mr. David Shimokawa of the DOT Statewide Transportation Planning Office at telephone number (808) 587-2356.

Very truly yours,

Francis Paul Keeno

for BRENNON T. MORIOKA, Ph.D., P.E.
Director of Transportation

Attach.

LINDA LINGLE
GOVERNOR

BARRY FUKUNAGA
INTERIM DIRECTOR

Deputy Directors
FRANCIS PAUL KEENO
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

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

IN REPLY REFER TO:
DIR 0060
STP 8.2432

March 19, 2007

Mr. Gerald Park
Urban Planner Gerald Park
1221 Kapiolani Boulevard, Suite 211
Honolulu, Hawaii 96814

Dear Mr. Park:

Subject: Draft Environmental Assessment (DEA)
Long Range Development Plan – Honolulu Community College,
Main Campus and Kokea Campus

We apologize for the delay in our comments on the Draft EA. Our Highways Division staff has not concluded its full technical review of the traffic impact analysis report (TIAR).

The build-out and development of Honolulu Community College (HCC) will contribute traffic to the cumulative impact from the surrounding local roads intersecting with our highways. While the degree of impact directly from HCC may not be significant or adverse, the collective effects from the development of other projects in the area and the growth of HCC will need to be monitored.

If HCC has any specific questions regarding the review of the TIAR, please contact our Highways Planning Branch.

We also request that HCC keep our Highways Division, through the Highways Planning Branch, apprised of development projects and growth (enrollment and staffing) at the two subject campuses when any part of the long-range plan is to be implemented.

We appreciate the opportunity to provide our comments.

Very truly yours,

BARRY FUKUNAGA
Interim Director of Transportation

**Helber Hastert & Fee**
*Planners, Inc.*

August 25, 2010

Mr. Brennon T. Morioka, Ph.D., P.E.
Director
State of Hawai‘i
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813-5097

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, O‘ahu, Hawai‘i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Dr. Morioka,

Thank you for your comments dated June 8, 2010 (STP 8.0124) regarding the subject environmental assessment (EA). We offer the following responses.

We acknowledge that your department does not anticipate that the project will have a significant impact on State transportation facilities in the area. We also acknowledge that your department’s comments regarding the implementation of HCC’s Long Range Development Plan are still valid (letter dated March 19, 2007, DIR 0060, STP 8.2432).

The Draft EA will include an updated traffic assessment based on recent traffic counts and observations.

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Draft EA.

Sincerely,

HELBER, HASTERT AND FEE, PLANNERS

Sincerely,

Thomas A. Fee, AICP, LEED AP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

**BOARD OF WATER SUPPLY**

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843



May 19, 2010


Ms. Gail Renard
Helber, Hastert & Fee Planners
733 Bishop Street, Suite 2590
Honolulu, HI 96813

Dear Ms. Renard:

Subject: Letter Dated April 29, 2010 Requesting Comments on the Draft Environmental Assessment Pre-Assessment Consultation for Honolulu Community College New Advanced Technology and Training Center Facility, TMK: 1-5-18: 1 to 4

Thank you for the opportunity to comment on the proposed Advanced Technology and Training Center Facility for Honolulu Community College.

The existing water system is presently adequate to accommodate the proposed development. However, please be advised that this information is based upon current data and, therefore, the Board of Water Supply reserves the right to change any position or information stated herein up until the final approval of your building permit application. The final decision on the availability of water will be confirmed when the building permit application is submitted for approval.

When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission and daily storage.

The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau on the Honolulu Fire Department.

The proposed project is subject to Board of Water Supply Cross-Connection Control and Backflow Prevention requirements prior to the issuance of the Building Permit Applications.

If you have any questions, please contact Robert Chun at 748-5443.

Very truly yours,

PAUL S. KIKUCHI
Chief Financial Officer
Customer Care Division

**Helber Hastert & Fee**
*Planners, Inc.*

August 25, 2010

Mr. Paul Kikuchi, Chief Financial Officer
Customer Care Division
City and County of Honolulu
Board of Water Supply
630 South Beretania Street
Honolulu, HI 96813

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, O‘ahu, Hawai‘i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Mr. Kikuchi,

Thank you for your comments dated May 19, 2010 regarding the subject environmental assessment (EA). Your comments are acknowledged and will be included in the discussion of potable water in the Draft EA.

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Draft EA.

Sincerely,

HELBER, HASTERT AND FEE, PLANNERS

Sincerely,

Thomas A. Fee, AICP, LEED AP
President

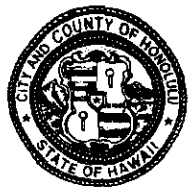
cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

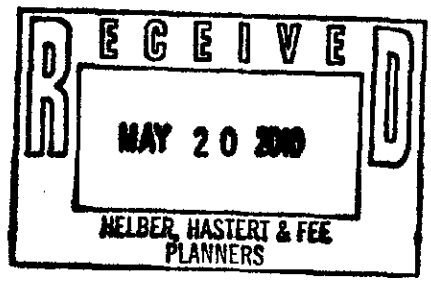
**DEPARTMENT OF DESIGN AND CONSTRUCTION**
**CITY AND COUNTY OF HONOLULU**
650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8480 • Fax: (808) 768-4567
Web site: www.honolulu.gov

MUFI HANNEMANN
MAYOR

CRAIG I. NISHIMURA, P.E.
DIRECTOR

COLLINS D. LAM, P.E.
DEPUTY DIRECTOR




May 18, 2010

Mr. Thomas A. Fee, AICP
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Mr. Fee:

Subject: Honolulu Community College New Advanced Technology and Training Center Facility Draft Environmental Assessment Pre- Assessment Consultation Honolulu District, O'ahu, Hawaii TMK (1) 1-5-18: 001,002,003,004

Thank you for inviting us to review the Draft Environmental Assessment Pre-Assessment Consultation.

The applicant should check with the Department of Planning and Permitting, Wastewater Branch for the adequacy of sewers.

Should you have any questions, please contact Jay Hamai at 768- 8750.

Very truly yours,

Collins D. Lam

Craig I. Nishimura, P.E.
FOR Director

CN:pg(364449)

**Helber Hastert & Fee**
*Planners, Inc.*

August 25, 2010

Mr. Craig I. Nishimura, P.E., Director
City and County of Honolulu
Department of Design and Construction
650 South King Street, 11th Floor
Honolulu, HI 96813

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, O'ahu, Hawai'i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Mr. Nishimura,

Thank you for your comments dated May 18, 2010 regarding the subject environmental assessment (EA). The applicant will consult with the Department of Planning and Permitting, Wastewater Branch for the adequacy of sewers during the design process.

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Draft EA.

Sincerely,

HELBER, HASTERT AND FEE, PLANNERS

Sincerely,

Thomas A. Fee, AICP, LEED AP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

DEPARTMENT OF FACILITY MAINTENANCE

**CITY AND COUNTY OF HONOLULU**

1000 Uluohia Street, Suite 215, Kapolei, Hawaii 96707
Phone: (808) 768-3343 • Fax: (808) 768-3381
Website: www.honolulu.gov



MUFI HANNEMANN
MAYOR

JEOFFREY S. CUDIAMAT, P.E.
DIRECTOR AND CHIEF ENGINEER

GEORGE "KEOKI" MIYAMOTO
DEPUTY DIRECTOR

IN REPLY REFER TO:
DRM 10-445

June 2, 2010

Mr. Thomas A. Fee, AICP
Herbert, Hastert & Fee Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Mr. Fee:

Subject: Honolulu Community College New Advanced Technology and Training Center Facility
Draft Environmental Assessment (DEA)
Pre-Assessment Consultation

Thank you for the opportunity to review and comment on the pre-assessment for the DEA for the proposed advanced technology and training center at the Honolulu Community College.

We have no comments to offer as the proposed facility will be within State-owned land and will have negligible impact on our facilities and operations.

Any associated improvements within the right of way of City-owned Dillingham Boulevard and Kokea Street should be constructed in accordance with City and County of Honolulu Standard Details.

Should you have any questions, please call Charles Pignataro of the Division of Road Maintenance, at 768-3697.

Sincerely,

Jeoffrey S. Cudiamat, P.E.
Director and Chief Engineer

**Helber Hastert & Fee**
*Planners, Inc.*

August 25, 2010

Mr. Jeoffrey S. Cudiamat, P.E.
Director and Chief Engineer
City and County of Honolulu
Department of Facility Maintenance
1000 Uluohia Street, Suite 215
Kapolei, HI 96707

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, Oʻahu, Hawaiʻi**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Mr. Cudiamat,

Thank you for your comments dated June 2, 2010 (DRM 10-445) regarding the subject environmental assessment (EA). We acknowledge that you have no comments on the proposed facility, and that any associated improvements within the right of way of Dillingham Boulevard and Kōkea Street should be constructed in accordance with City and County Standard Details. This will be noted in the Draft EA.

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Draft EA.

Sincerely,

HELBER, HASTERT AND FEE, PLANNERS

Sincerely,

Thomas A. Fee, AICP, LEED AP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

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

650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
TELEPHONE: (808) 768-8000 • FAX: (808) 768-6041
DEPT. WEB SITE: www.honoluludpp.org • CITY WEB SITE: www.honolulu.gov

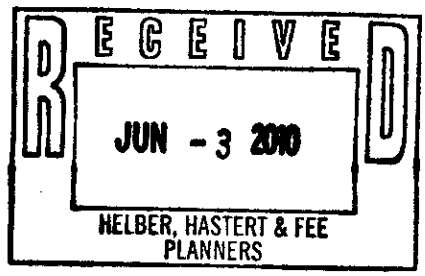
MUFI HANNEMANN
MAYOR

DAVID K. TANOUE
DIRECTOR

ROBERT M. SUMITOMO
DEPUTY DIRECTOR

2010/ELOG-886(lw)

June 2, 2010




Ms. Gail Renard
Helber, Hastert & Fee, Planners Inc.
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Renard:

Subject: Pre-Assessment Consultation for Draft Environmental Assessment
New Advanced Technology and Training Center Facility
Honolulu Community College
874 Dillingham Boulevard - Kapalama
Tax Map Key 1-5-18: 1 - 4

This responds to your request for comments regarding the preparation of the Draft Environmental Assessment (EA) for the above project.

As you are aware, a Plan Review Use (PRU) Permit is required for the existing uses and any major additions and/or alterations to the Honolulu Community College (HCC), including the proposed Advanced Technology and Training Center (ATTC) facility. The HCC campus does not have a PRU Permit, and to date the Department of Planning and Permitting (DPP) has not received a completed PRU application for the HCC. As such, it is considered a nonconforming use pursuant to Section 21-4.110 [c] of the Land Use Ordinance (LUO). The proposed project is a significant addition to the HCC campus and should be reviewed as part of a PRU Permit application for the campus.

Based on the summary information and location map you submitted, we offer the following preliminary comments:

1. Clarify what is meant by "PRU Resolutions: Pending" noted in the project summary. Specify when the HCC will pursue a PRU Permit, and include a schedule for anticipated submittal and completion of the application process, in the Draft EA.

2. The HCC campus, as shown on the location map, includes 14 parcels; but only four parcels are identified in the proposal. The Draft EA should include a site plan (drawn-to-scale) showing the boundaries of the four identified parcels, and the location of the proposed structure relative to the existing structures and parking areas within the project site. The site plan should also identify the required yard setbacks, site access, and internal circulation within the vicinity.

Our records show a 44-foot road-widening setback mainly along portions of Parcel 3, and 2 feet along Parcels 2 and 4 adjacent to Parcel 3. Please consult with our Traffic Review Branch (TRB) regarding the above and address it in the Draft EA accordingly.

Is the proposed ATTC structure one of the proposed structures identified in the Final EA (dated September 2007) for the HCC campus? How does it tie in with the other existing and proposed structures and parking areas in the vicinity, and with the long-range development plan for the HCC? Pending further review of more detailed information in the subject Draft EA, please be advised that if it is determined that the proposed project involve substantive changes in size, scope and intensity or if it involve significant effect which were not disclosed in the Final EA (dated September 2007), a Supplemental EA for the PRU Permit application may be required.

3. The project description should include details on the projected number of students, faculty, and other employees, for the proposed facility, relative to the total projections for the HCC campus. How will the proposed facility increase student enrollment at the campus? Was the estimated increase, if any, in student and staff for the proposed facility included in the total projections in the long-range plan for HCC? Similarly, information on the proposed floor area, building area, and height for the proposed facility should be discussed within the context of the HCC campus.

4. The proposed structure appears to be within an existing parking area. Therefore, the number of existing parking spaces to be removed, and the number and location of the replacement stalls should be provided. Include in the Draft EA a discussion on the overall existing off-street parking and loading conditions on campus, and provide summary tables and a parking plan showing the number and location of on-site parking and loading spaces. Provide calculations on parking and loading requirements, including a breakdown of the calculations for all separate uses (e.g., classrooms, administrative offices, accessory uses, etc.) for the proposed project, relative to the projected total number of parking and loading spaces required for the entire campus.

5. In addition to a discussion on the potential traffic impacts and/or proposed mitigative measures, include a discussion on how the proposed project ties in with the proposed rail transit station and associated Transit Oriented Development (TOD) opportunities in the Draft EA.

6. Include a discussion on how the proposed project is consistent with the pertinent sections of the General Plan and the Primary Urban Center Development Plan, and surrounding zoning in the Draft EA. Explain how the proposed project will comply with the LUO development standards for the underlying district, or include a discussion on the variations from the development standards the applicant will be requesting for the proposed project, as permitted under a PRU Permit.

7. The DPP Wastewater Branch notes that there is limited excess sewer capacity in the 36-inch sewer line on Dillingham Blvd. A Site Development Master Application for Sewer Connection and an Industrial Wastewater Discharge Permit will be required for the project. Please contact our Wastewater Branch if you have any questions concerning the above comments, and address it in the Draft EA accordingly.

If you have any questions, please contact Lin Wong of our staff at 768-8033.

Very truly yours,

David K. Tanoue, Director
Department of Planning and Permitting

DKT:nw

Doc.775543

**Helber Hastert & Fee**
*Planners, Inc.*

August 25, 2010

Mr. David K. Tanoue, Director
City and County of Honolulu
Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, HI 96813

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, O'ahu, Hawai'i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Mr. Tanoue,

Thank you for your comments dated June 2, 2010 (2010/ELOG-886(LW)) regarding the subject environmental assessment (EA). We offer the following responses.

1. Subsequent to our early consultation letter, your department accepted the HCC Plan Review Use (PRU) permit application for processing on July 15, 2010. This will be reflected in the Draft EA.

2. The proposed ATTC is currently undergoing design and the Draft EA will reflect the most current conceptual design available at time of publication. The detailed drawings requested in your letter may not be available at the time of EA publication. However, the proposed facilities will meet the City's Land Use Ordinance requirements in terms of yard setbacks and site access. The Draft EA will describe the general internal circulation within and adjacent to the proposed ATTC.

   The PRU application currently being processed by your department addresses the road-widening setbacks along Parcels 2, 3, and 4 mentioned in your letter. The proposed ATTC will not affect these parcels or their respective setbacks.

   The ATTC was represented in the Final EA/FONSI for HCC's Long Range Development Plan (LRDP) (dated September 2007) as the "science building," then located *mauka* of the library (Building 7) on Lot 1C. We believe the recently submitted PRU application is consistent with the 2007 FEA/FONSI, and that a supplemental EA is not required for that permit application.

3. The EA will include a discussion of HCC enrollment projections and general information on proposed ATTC floor area and height (see response to comment 2 above). The proposed ATTC is not projected to increase HCC student, faculty or employee populations because it is intended to address existing overcrowding situation in substandard facilities. Changes to these populations due to the long-term implementation of the LRDP will be addressed under cumulative impacts in the Draft EA.

4. The Draft EA will discuss HCC's existing the off-street parking supply, and how it will be impacted by the proposed ATTC. As noted above in #2, the project is in the design stages and specific drawings and calculations of parking and loading requirements may not be available at the time of EA publication.

5. The Draft EA will include a discussion of how the project relates to the proposed Kapālama rail transit station and associated transit oriented development opportunities.

6. The Draft EA will include a discussion of how the proposed action is consistent with the pertinent sections of the General Plan and Primary Urban Center Development Plan, as well as with the surrounding zoning. The Draft EA will include a general description of how the proposed action will comply with the LUO development standards.

7. The two permits noted in your comment will be listed the Draft EA as required permits and approvals, as will the information on the 36-inch sewer line in Dillingham Boulevard.

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Draft EA.

Sincerely,

HELBER, HASTERT AND FEE, PLANNERS

Sincerely,

Thomas A. Fee, AICP, LEED AP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

DEPARTMENT OF PARKS AND RECREATION
**CITY AND COUNTY OF HONOLULU**
1000 ULUOHIA STREET, SUITE 309 • KAPOLEI, HAWAII 96707
TELEPHONE: (808) 768-3003 • FAX: (808) 768-3053 • CITY WEB SITE: www.honolulu.gov

MUFI HANNEMANN
MAYOR

LESTER K. C. CHANG
DIRECTOR

RICHARD HARU
DEPUTY DIRECTOR

May 7, 2010



Mr. Thomas A. Fee, AICP
Helber, Hastert & Fee Planners, Inc.
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Mr. Fee:

Subject: Draft Environmental Assessment - Pre-Assessment Consultation
Honolulu Community College New Advanced Technology and Training Center Facility: TMK (1) 1-5-18:001, 002, 003, 004

Thank you for the opportunity to review and comment at the Pre-Assessment Consultation Stage of the Draft Environmental Assessment for the Honolulu Community College New Advanced Technology and Training Center Facility.

The Department of Parks and Recreation has no comment as the proposed project will not impact any program or facility of the department. You may remove us as a consulted party to the balance of the EIS process.

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

Sincerely,

LESTER K. C. CHANG
Director

LKCC:jr
(364453)

**Helber Hastert & Fee**
*Planners, Inc.*

August 25, 2010

Mr. Lester K.C. Chang, Director
City and County of Honolulu
Department of Parks and Recreation
1000 Uluohia Street, Suite 309
Kapolei, HI 96707

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, O'ahu, Hawai'i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Mr. Chang,

Thank you for your comments dated May 7, 2010 regarding the subject environmental assessment (EA). We acknowledge that you do not have comments on the project because it will not impact any program or facility of the department. We will remove your department as a consulted party in the EA process.

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Draft EA.

Sincerely,

HELBER, HASTERT AND FEE, PLANNERS

Sincerely,

Thomas A. Fee, AICP, LEED AP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

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

MUFI HANNEMANN
MAYOR

WAYNE YOSHIOKA
DIRECTOR

SHARON ANN THOM
DEPUTY DIRECTOR

TP4/10-364532R

May 25, 2010

RECEIVED
MAY 26 2010
HELBER, HASTERT & FEE
PLANNERS

Ms. Gail Renard
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Renard:

Subject: Honolulu Community College Advanced Technology and Training Center Facility Pre-Assessment Consultation

This responds to your April 29, 2010, letter requesting consultation and comments on the preparation of a draft environmental assessment (DEA) for the subject project.

The DEA should discuss long-term traffic impacts on the area's street network. The report should also address on-street and off-street parking needs and demand. During and after construction of the campus improvements, traffic mitigation measures should be proposed and adopted.

Our Rapid Transit Division (RTD) has determined that the site for the proposed building is acceptable, as it is just mauka of the planned Kapalama Transit Station. However, RTD is concerned about the potential for construction traffic conflicts with its project. Therefore, the DEA should include a construction schedule for the new facility.

During construction, this project may affect bus routes, bus stops, and paratransit operations. The DEA should include a paragraph that states: "The Contractor will notify the Department of Transportation Services, Public Transit Division at 768-8396 and Oahu Transit Services, Inc. (bus operations: 848-4578 or 848-6016 and paratransit operations: 454-5041 or 454-5020) of the scope of work, location, proposed closure of any street, traffic lane, sidewalk, or bus stop and duration of project at least two weeks prior to construction."

Thank you for the opportunity to review this matter. Our department reserves further comment on the project until the release of the traffic impact study mentioned above. Should you have any further questions on the matter, you may contact Mr. Brian Suzuki of my staff at 768-8349.

Very truly yours,

WAYNE Y. YOSHIOKA
Director

**Helber Hastert & Fee**
*Planners, Inc.*

August 25, 2010

Mr. Wayne Y. Yoshioka, Director
City and County of Honolulu
Department of Transportation Services
650 South King Street, 3rd Floor
Honolulu, HI 96813

**Honolulu Community College Advanced Technology and Training Center (ATTC)**
**Draft Environmental Assessment**
**Honolulu District, O'ahu, Hawai'i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Mr. Yoshioka,

Thank you for your comments dated May 19, 2010 (TP4/10-364532R) regarding the subject environmental assessment (EA). We offer the following responses.

The Draft EA will discuss long-term traffic impacts on the area's street network, including impacts of implementing Honolulu Community College's Long Range Development Plan. The Draft EA will also address off-street parking demand and availability. On-street parking demand is outside the scope and control of the project and of HCC.

We note your comment that your Rapid Transit Division determined that the site of the proposed ATTC is acceptable, but that there is potential for construction traffic conflicts with its Kapālama Transit Station project. As you recommend, the Draft EA will include a general project construction timeframe.

As you suggest, the Draft EA will include a paragraph that states "The construction contractor will notify O'ahu Transit Services, Inc. of the scope of work, location, proposed closure of any street, traffic lane, sidewalk, or bus stop and duration of project at least two weeks prior to construction."

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Draft EA.

Sincerely,

HELBER, HASTERT AND FEE, PLANNERS

Sincerely,

Thomas A. Fee, AICP, LEED AP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

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

MUFI HANNEMANN
MAYOR

KENNETH G. SILVA
FIRE CHIEF

ROLLAND J. HARVEST
DEPUTY FIRE CHIEF

May 19, 2010



Ms. Gail Renard
Helber Hastert & Fee Planners, Inc.
Pacific Guardian Center
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Renard:

Subject: Draft Environmental Assessment Preassessment Consultation
Honolulu Community College New Advanced Technology and Training Center Facility
Tax Map Keys: 1-5-018: 001, 002, 003, and 004

In response to a letter from Thomas Fee dated April 29, 2010, regarding the above-mentioned subject, the Honolulu Fire Department (HFD) reviewed the material provided and requires that the following be complied with:

1. Provide a fire apparatus access road for every facility, building, or portion of a building hereafter constructed or moved into or within the jurisdiction when any portion of the facility or any portion of an exterior wall of the first story of the building is located more than 150 feet (45 720 mm) from a fire apparatus access road as measured by an approved route around the exterior of the building or facility. (1997 Uniform Fire Code, Section 902.2.1.)

2. Provide a water supply, approved by the county, capable of supplying the required fire flow for fire protection to all premises upon which facilities or buildings, or portions thereof, are hereafter constructed or moved into or within the county.

   On-site fire hydrants and mains capable of supplying the required fire flow shall be provided when any portion of the facility or building is in

excess of 150 feet (45 720 mm) from a water supply on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building. (1997 Uniform Fire Code, Section 903.2, as amended.)

3. Submit civil drawings to the HFD for review and approval.

Should you have any questions, please call Battalion Chief Socrates Bratakos of our Fire Prevention Bureau at 723-7151.

Sincerely,

ROLLAND J. HARVEST
Acting Fire Chief

RJH/SY:bh

**Helber Hastert & Fee**
*Planners, Inc.*

August 25, 2010

Mr. Rolland J. Harvest, Acting Fire Chief
City and County of Honolulu
Honolulu Fire Department
636 South Street
Honolulu, HI 96813-5007

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, O'ahu, Hawai'i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Chief Harvest,

Thank you for your comments dated May 19, 2010 regarding the subject environmental assessment (EA). We acknowledge your comments regarding the requirements to provide a fire apparatus access road; approved water supply; and on-site fire hydrants and mains; as well as submitting civil drawings to your department for review. These comments will be incorporated into the discussion of fire protection in the Draft EA.

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Draft EA.

Sincerely,

HELBER, HASTERT AND FEE, PLANNERS

Sincerely,

Thomas A. Fee, AICP, LEED AP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

POLICE DEPARTMENT

**CITY AND COUNTY OF HONOLULU**

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

MUFI HANNEMANN
MAYOR

LOUIS M. KEALOHA
CHIEF

DELBERT T. TATSUYAMA
RANDAL K. MACADANGDANG
DEPUTY CHIEFS

OUR REFERENCE DAT-DK

May 6, 2010

RECEIVED
MAY 10 2010
HELBER, HASTERT & FEE PLANNERS

Ms. Gail Renard
Project Planner
Helber, Hastert & Fee Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Renard:

This is in response to your letter of April 29, 2010, requesting comments on a Draft Environmental Assessment, Pre-Assessment Consultation, for the Honolulu Community College New Advanced Technology and Training Center Facility at its Dillingham Boulevard Campus.

This project will not have an impact on the services provided by the Honolulu Police Department after it is completed. However, we do anticipate an overall impact on traffic during its construction phase.

If there are any questions, please call Major William Chur of District 5 (Kalihi) at 723-8202.

Thank you for the opportunity to comment.

Sincerely,

LOUIS M. KEALOHA
Chief of Police

By
DEBORA A. TANDAL
Assistant Chief of Police
Support Services Bureau

POLICE DEPARTMENT
**CITY AND COUNTY OF HONOLULU**
HONOLULU, HAWAII 96813
Website: http://www.honolulupd.org

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Ms. Gail Renard
Project Planner
Helber, Hastert & Fee Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

36813+4016

**Helber Hastert & Fee**
*Planners, Inc.*

August 25, 2010

Mr. Louis M. Kealoha, Chief of Police
City and County of Honolulu
Police Department
801 South Beretania Street
Honolulu, HI 96813

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, O'ahu, Hawai'i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Chief Kealoha,

Thank you for your comments dated June 10, 2010 (DAT-DK) regarding the subject environmental assessment (EA). We acknowledge your comments that, after its completion, the project will not impact the services provided by your department, but that construction period traffic impacts are expected. Your comments will be incorporated in the discussion of police protection in the Draft EA.

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Draft EA.

Sincerely,

HELBER, HASTERT AND FEE, PLANNERS

Sincerely,

Thomas A. Fee, AICP, LEED AP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

# APPENDIX D.2

Draft EA Consultation Correspondence

LINDA LINGLE
GOVERNOR

RUSS K. SAITO
COMPTROLLER

**STATE OF HAWAI'I**
**DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES**
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

(P)1265.0

OCT 27 2010

RECEIVED
OCT 28 2010
HELBER, HASTERT & FEE
PLANNERS

Mr. Thomas A. Fee, AICP
Helber, Haster, & Fee
733 Bishop Street, Suite 2590
Honolulu, Hawai'i 96813

Dear Mr. Fee:

Subject: Draft Environmental Assessment for
Honolulu Community College Advanced Technology Training Center
Honolulu, Oahu, Hawai'i

Thank you for the opportunity to comment on the subject project. The proposed project does not impact any of the Department of Accounting and General Services' projects or existing facilities and we have no comments to offer at this time.

If you have any questions, please have your staff call Ms. Gayle Takasaki of the Planning Branch at 586-0584.

Sincerely,

ERNEST Y. W. LAU
Public Works Administrator

GT:mo

Helber Hastert & Fee
*Planners, Inc.*

December 6, 2010

Mr. Ernest Y.W. Lau
Public Works Administrator
State of Hawaii
Department of Accounting and General Services
P.O. Box 119
Honolulu, HI 96810-0119

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, O‘ahu, Hawai‘i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Mr. Lau:

Thank you for your comments dated October 27, 2010 (P 1265.0) regarding the subject environmental assessment (EA). We note your comment that the proposed project does not impact any of your department’s projects or existing facilities and that you have no comments at this time.

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Final EA.

Sincerely yours,

HELBER HASTERT & FEE, PLANNERS, INC.

Thomas A. Fee, AICP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

LINDA LINGLE
GOVERNOR OF HAWAII

CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
EMD / CWB

11015PJF.10

November 5, 2010



Mr. Brian Minaai
Associate Vice President
Office of Capital Improvements
University of Hawaii
1960 East West Road, Biomedical Sciences, B-102
Honolulu, Hawaii 96822

Dear Mr. Minaai:

**SUBJECT: Draft Environmental Assessment (DEA) for Honolulu Community College Advanced Technology Training Center**
**Honolulu, Island of Oahu, Hawaii**
**TMK: (1) 1-5-017:006 and (1) 1-5-018:001**

The Department of Health, Clean Water Branch (CWB), has reviewed the subject document and offers these comments on your project.

Please note that our review is based solely on the information provided in the subject document and its compliance with the Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at: http://www.hawaii.gov/health/environmental/env-planning/landuse/CWB-standardcomment.pdf.

1. Any project and its potential impacts to State waters must meet the following criteria:

   a. Antidegradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.

   b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.

   c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).

2. You are required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55). For the following types of discharges into Class A or Class 2 State waters, you may apply for an NPDES general permit coverage by submitting a Notice of Intent (NOI) form:

   a. Storm water associated with construction activities, including clearing, grading, and excavation, that result in the disturbance of equal to or greater than one (1) acre of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. An NPDES permit is required before the start of the construction activities.

   b. Construction dewatering effluent.

   You must submit a separate NOI form for each type of discharge at least 30 calendar days prior to the start of the discharge activity, except when applying for coverage for discharges of storm water associated with construction activity. For this type of discharge, the NOI must be submitted 30 calendar days before to the start of construction activities. The NOI forms may be picked up at our office or downloaded from our website at: http://www.hawaii.gov/health/environmental/water/cleanwater/forms/genl-index.html.

3. For types of wastewater not listed in Item No. 2 above or wastewater discharging into Class 1 or Class AA waters, you may need an NPDES individual permit. An application for an NPDES individual permit must be submitted at least 180 calendar days before the commencement of the discharge. The NPDES application forms may be picked up at our office or downloaded from our website at: http://www.hawaii.gov/health/environmental/water/cleanwater/forms/indiv-index.html.

4. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 Water Quality Certification are required, must comply with the State's Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of $25,000 per day per violation.

If you have any questions, please visit our website at: http://www.hawaii.gov/health/environmental/water/cleanwater/index.html, or contact the Engineering Section, CWB, at (808) 586-4309.

Sincerely,

ALEC WONG, P.E., CHIEF
Clean Water Branch

JF:ml

c: DOH-EPO #I-3330 [via email only]
Mr. Gail Renard, Helber Hastert & Fee, Planners

LINDA LINGLE
GOVERNOR OF HAWAII

CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
File:



November 08, 2010

TO: Mr. Brian Minaai
University of Hawaii, Office of Capital Improvements

FROM: Russell S. Takata, Program Manager
Indoor and Radiological Health Branch

**SUBJECT: Draft Environmental Assessment (EA) for Honolulu Community College Advanced Technology Training Center, Honolulu District, Oahu, Hawaii; TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por 001**

Our comments should be printed as follows:

"Project activities shall comply with the Administrative Rules of the Department of Health:

- Chapter 11-46 Community Noise Control.

Should there be any questions, please contact me at 586-4701.

cc: Gail Renard, Helber Hastert & Fee, Planners

Helber Hastert & Fee
*Planners, Inc.*

December 6, 2010

Chiyome L. Fukino, M.D.
Director of Health
State of Hawaii
Department of Health
P.O. Box 3378
Honolulu, HI 96801-3378

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, O'ahu, Hawai'i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Dr. Fukino:

We received comments regarding the subject environmental assessment (EA) after the end of the public comment period from your Clean Water Branch (November 5, 2010 Ref. EMD/CWB 11015PJF.10) and your Indoor and Radiological Health Branch (November 8, 2010). We offer the following responses to these comments.

Clean Water Branch

1. The project will comply with HAR Chapters 11-54 regarding discharges to State receiving waters.
2. An NPDES permit will be obtained for construction activities.
3. An NPDES Individual Permit is not anticipated to be required for this project because Kapālama Canal is not considered Class 1 or Class AA waters. A Municipal Separate Storm Sewer System (MS4) permit will be obtained for the discharge of stormwater from the project area into the City's municipal drainage system.
4. The project will comply with the State's Water Quality Standards, as noted in your comments.

Indoor and Radiological Health Branch

The final EA will include the following statement, per your comments: "Project activities shall comply with the Administrative Rules of the State Department of Health, including Chapter 11-46, Community Noise Control."

Pacific Guardian Center, Makai Tower | 733 Bishop Street, Suite 2590 | Honolulu, Hawaii 96813
Telephone: 808.545.2055 | Facsimile: 808.545.2050 | www.hhf.com | e-mail: info@hhf.com

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Final EA.

Sincerely yours,

HELBER HASTERT & FEE, PLANNERS, INC.

Thomas A. Fee, AICP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 7, 2010



Mr. Brian Minaai
Associate Vice President for Capital Improvements
University of Hawaii
Office of Capital Improvements
1960 East West Road, Biomedical Sciences, B-102
Honolulu, Hawaii 96822

Dear Mr. Minaai:

Subject: Draft Environmental Assessment for the Honolulu Community College Advanced Technology Training Center

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR), Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comment.

Other than the comments from Land Division-Oahu District, Engineering Division, the Department of Land and Natural Resources has no other comments to offer on the subject matter. Historic Preservation will be submitting comments through a separate letter. Should you have any questions, please feel free to call our office at 587-0414. Thank you.

Sincerely,

Russell Y. Tsuji
Administrator

cc: Helber Hastert & Fee, Planners

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

# STATE OF HAWAII
## DEPARTMENT OF LAND AND NATURAL RESOURCES
### LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

September 8, 2010

RECEIVED
LAND DIVISION
2010 SEP 14 A 9:18
DEPT. OF LAND & NATURAL RESOURCES STATE OF HAWAII

MEMORANDUM

TO: **DLNR Agencies:**
- x Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- x Engineering Division
- Div. of Forestry & Wildlife
- Div. of State Parks
- x Commission on Water Resource Management
- Office of Conservation & Coastal Lands
- x Land Division –Oahu District/Gary

FROM: Charlene Unoki, Assistant Administrator
SUBJECT: Draft Environmental Assessment for Honolulu Community College Advanced Technology Training Center
LOCATION: Island of Oahu
APPLICANT: Helber Hastert & Fee, Planners on behalf of University of Hawaii, Office of Capital Improvements

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by October 6, 2010.

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 my office at 587-0433. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
(✓) Comments are attached.

Signed:
Date: 9/13/10

**DEPARTMENT OF LAND AND NATURAL RESOURCES**
**ENGINEERING DIVISION**

**LD/ Charlene Unoki**
**REF: DEA for HCC Advanced Technology Training Center**
**Oahu.017**

**COMMENTS**

(X) **We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zone X. The National Flood Insurance Program (NFIP) does not regulate developments within Zone X.**

( ) Please take note that the project site according to the Flood Insurance Rate Map (FIRM), is located in Zone ___.

( ) Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ___.

( ) Please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.

Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

( ) Mr. Robert Sumimoto at (808) 523-4254 or Mr. Mario Siu Li at (808) 523-4247 of the City and County of Honolulu, Department of Planning and Permitting.

( ) Mr. Frank DeMarco at (808) 961-8042 of the County of Hawaii, Department of Public Works.

( ) Mr. Francis Cerizo at (808) 270-7771 of the County of Maui, Department of Planning.

( ) Mr. Mario Antonio at (808) 241-6620 of the County of Kauai, Department of Public Works.

(X) **The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.**

( ) The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.

(X) **Additional Comments: Project site is located in the area covered by Flood Insurance Rate Map Community Panel Number 150003 C0353F only, and not both Flood Insurance Rate Map Community Panel Numbers 150003 C0353F nnd 150003 C0354.**

( ) Other: _____

Should you have any questions, please call Mr. Dennis Imada of the Planning Branch at 587-0257.

Signed: _____
CARTY S. CHANG, ACTING CHIEF ENGINEER

Date: 9/13/10

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

# STATE OF HAWAII
## DEPARTMENT OF LAND AND NATURAL RESOURCES
### LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

September 8, 2010

MEMORANDUM

TO: TR: **DLNR Agencies:**
x Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
x Engineering Division
__Div. of Forestry & Wildlife
__Div. of State Parks
x Commission on Water Resource Management
__Office of Conservation & Coastal Lands
x Land Division –Oahu District/Gary

FROM: Charlene Unoki, Assistant Administrator
SUBJECT: Draft Environmental Assessment for Honolulu Community College Advanced Technology Training Center
LOCATION: Island of Oahu
APPLICANT: Helber Hastert & Fee, Planners on behalf of University of Hawaii, Office of Capital Improvements

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by October 6, 2010.

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 my office at 587-0433. Thank you.

Attachments

( ) We have no objections.
(X) We have no comments.
( ) Comments are attached.

Signed: T. Chee
Date: 9/13/2010

Per Gary, he's working on a lease to UH re the subject site. ODLO does not have comments on the DEA.

BC

Helber Hastert & Fee
*Planners, Inc.*

December 6, 2010

Mr. Russell Y. Tsuji, Administrator
Land Division
State of Hawai‘i
Department of Land and Natural Resources
P.O. Box 621
Honolulu, HI 96809

Dear Mr. Tsuji:

**Honolulu Community College Advanced Technology and Training Center (ATTC)**
**Draft Environmental Assessment**
**Honolulu District, O‘ahu, Hawai‘i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Mr. Tsuji,

Thank you for your comments dated October 7, 2010 regarding the subject environmental assessment (EA). We offer the following responses to comments provided by your Engineering Division:

Comment: The project site is confirmed to be within Flood Zone X.
*Response:* *The Draft EA included this information on the project area’s flood zone.*

Comment: The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.
*Response:* *According to the Draft Project Development Report for the ATTC (October 6, 2010), existing water systems at the Honolulu Community College shall supply the ATTC’s requirements. The project civil engineer will provide the project’s water demands at an appropriate time in the development and entitlement process. The Final EA will note that the project will need to obtain water allocation credits from DLNR’s Engineering Division prior to receiving a building permit and/or water meter.*

Comment: Project site is located in the area covered by Flood Insurance Rate Map Community Panel Number 150003 CO353F only, and not both Flood

Insurance Rate Map Community Panel Numbers 150003 CO353F and 150003 CO354.

*Response:* *Reference to Flood Insurance Rate Map Community Panel Number 150003 CO354 will be deleted in the Final EA.*

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Final EA.

Sincerely yours,

HELBER HASTERT & FEE, PLANNERS, INC.

Thomas A. Fee, AICP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

PAUL J. CONRY
ACTING FIRST DEPUTY

LENORE N. OHYE
ACTING DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

# STATE OF HAWAII
## DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
601 KAMOKILA BOULEVARD, ROOM 555
KAPOLEI, HAWAII 96707

**DATE:** November 1, 2010 **LOG:** 2010.3185
**DOC:** 1010RS36

**TO:** Helber, Hastert & Fee
733 Bishop Street, Unit 2590
Honolulu, HI 96813

**SUBJECT:** **Section 6E-8 Historic Preservation Review / Draft EA, Honolulu Community College (HCC) Advanced Technology Training Center (ATTC)**
**Permit #** (None)
**Building Owner:** University of Hawaii
**Location:** 874 Dillingham Blvd., Kapalama
**Tax Map Key:** (1) 1-5-017:006 and (1) 1-5-018:001

---

This letter is in response to submission *of Advanced Technology Training Center Draft Environmental Assessment, Honolulu Community College*, August 2010, by Helber, Hastert, & Fee. The project proposes to construct a new facility of up to 6 stories and 125,000 square feet using concrete and steel. The building would be located Ewa of Building 2 (Library Building) and mauka of the campus mall. It would contain instructional laboratories, a general auditorium, and classrooms. The area of potential effect would be the existing Ewa parking lot and Kokea Street immediately adjacent.

Figure 3 of the report shows fourteen trees whose locations are to be covered by the proposed new building footprint. The report mentions that of these fourteen, eleven are mature mahogany trees and one a large Chinese Banyan. The report proposes to replant seven of the mahogany trees along Kokea Street.

Figure 5 of the report shows extension of the existing pedestrian mall in the Ewa direction to Kokea Street and access to the existing back Cafeteria lot realigned to Dillingham Boulevard.

Figure 6 of the report contains preliminary drawings of the proposed new ATTC that show both vertical and horizontal surfaces. The project will use Leadership in Energy and Environmental Design (popularly known as LEED) guidelines to lessen dependence upon fossil fuels, including such features as photovoltaic panels for generating power and lighting systems that automatically turn off illumination when a room is not in use.

Historically, one of the major problems faced by planners in creating an identity for the HCC campus was its eclectic (read multiple forms of) architecture, a creation of differing programs and budgeting, that has been only reinforced by the commuter nature of the school. The mall was one major effort to provide cohesion to the campus. In this vein, we suggest that the mall be improved based upon the area's past as a dry land forest and constant, intense sunlight.

- Plant more trees such as those found at the Ewa parking lot along the center of the mall. For decades, the two most popular areas of campus for students to congregate have been on the Ewa and Diamond Head sides of the mall because these areas had the largest overhead canopies (i.e. trees) shielding them from the sun. Trees like those found at the Ewa parking lot should be planted more densely along the center part of the mall to provide shade for both pedestrians and the adjacent buildings.
- The mall extension should be constructed as part of the ATTC project -- not later. The mall in this area should be small enough to provide proper growth areas for large trees (similar to those in the existing parking lot) out to Kokea Street.

- The ATTC building should be designed as much as possible with a vertical focus. This would match the design criteria of the adjacent Buildings 7 and 2, and set the standard for the projected future rebuilding of the campus.

All three of these suggestions are based upon reinforcing a sense of place for HCC. We hope that you will include them in your planning.

Overall, we are enthusiastic about the above project. We determine that **the project will not affect historic property.**

Any questions should be addressed to Ross W. Stephenson, SHPD Historian, at (808) 692-8028 (office), (808) 497-2233 (cell) or ross.w.stephenson@hawaii.gov.

Mahalo for the opportunity to comment.

Pua Aiu
Administrator

In the event that historic resources, including human skeletal remains, lava tubes, and lava blisters/bubbles are identified during construction activities, all work should cease in the immediate vicinity of the find, the find should be protected from additional disturbance, and the State Historic Preservation Division should be contacted immediately at (808) 692-8015.

Helber Hastert & Fee
*Planners, Inc.*

December 6, 2010

30th ANNIVERSARY 1980 - 2010

Pua Aiu, Ph.D.
Administrator
State Historic Preservation Division
State of Hawaii
Department of Land and Natural Resources
601 Kamokila Boulevard, Room 555
Kapolei, HI 96707

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, O'ahu, Hawai'i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Dr. Aiu:

Thank you for your comments dated November 1, 2010 (LOG: 2010.3184/ DOC: 1010RS36) regarding the subject environmental assessment (EA). We acknowledge your determination that the project will not affect historic properties. This will be noted in the Final EA.

Your comments suggest the following three improvements to the campus mall adjacent to the project area. Our responses follow your comments.

1. Plant more trees such as those found at the Ewa parking lot along the center of the mall. For decades, the two most popular areas of campus for students to congregate have been on the Ewa and Diamond Head sides of the mall because these areas had the largest overhead canopies (i.e. trees) shielding them from the sun. Trees like those found at the Ewa parking lot should be planted more densely along the center part of the mall to provide shade for both pedestrians and the adjacent buildings.

2. The mall extension should be constructed as part of the ATTC project -- not later. The mall in this area should be small enough to provide proper growth areas for large trees (similar to those in the existing parking lot) out to Kokea Street.

*Response: As noted in Section 2.2.1 of the Draft EA, gateway/mall improvements are planned as part of Phase I of the HCC Main Campus Master Plan. Although we agree that the planned mall improvements are important to improving this unifying campus feature, they are independent of the ATTC project, and will be funded and constructed separately. The ATTC EA addresses the foreseeable projects, such as the mall*

*improvements, as part of the cumulative impacts of the project. The specific campus mall design and landscape features are part of HCC's forthcoming Long Range Development Plan.*

3. The ATTC building should be designed as much as possible with a vertical focus. This would match the design criteria of the adjacent Buildings 7 and 2, and set the standard for the projected future rebuilding of the campus.

*Response: Planned at over 100 feet tall (excluding roof-mounted wind turbines), the proposed ATTC building will have scale and massing similar to neighboring Buildings 7 and 2.*

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Final EA.

Sincerely yours,

HELBER HASTERT & FEE, PLANNERS, INC.

Thomas A. Fee, AICP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

LINDA LINGLE
GOVERNOR

MICHAEL D. FORMBY
INTERIM DIRECTOR

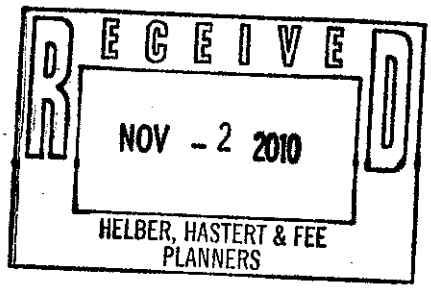
Deputy Directors
FRANCIS PAUL KEENO
JIRO A. SUMADA

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

IN REPLY REFER TO:

STP 8.0266

October 25, 2010




Mr. Brian Minaai
Associate Vice President for Capital Improvements
1960 East West Road, Biomedical Sciences, B-102
Honolulu, Hawaii 96822

Dear Mr. Minaai:

Subject: Honolulu Community College (HCC), Advanced Technology Training Center
Draft Environmental Assessment (DEA)

The State Department of Transportation (DOT) previously commented on the subject case during the early consultation period in its letter STP 8.0124 dated June 8, 2010 (attached).

The DOT Highways Division Planning Branch is still reviewing the subject project. Until this review is completed, DOT's prior comments remain valid.

DOT appreciates the opportunity to provide comments. If there are any other questions, including the need to meet with DOT Highways Division staff, please contact Mr. David Shimokawa of the DOT Statewide Transportation Planning Office at (808) 831-7976.

Very truly yours,

Francis Paul Keeno

for MICHAEL D. FORMBY
Interim Director of Transportation

Attach.

c: Gail Renard, Helber Hastert & Fee, Planners

DOTCMS

LINDA LINGLE
GOVERNOR

BRENNON T. MORIOKA
DIRECTOR

Deputy Directors
MICHAEL D. FORMBY
FRANCIS PAUL KEENO
BRIAN H. SEKIGUCHI
JIRO A. SUMADA

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

IN REPLY REFER TO:
DIR 0577
STP 8.0124

June 8, 2010

Ms. Gail Renard
Helber, Hastert & Fee Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Renard:

Subject: Honolulu Community College (HCC) Advanced Technology and Training Center Facility – Draft Environmental Assessment (DEA) Pre-Assessment Consultation

Thank you for requesting the State Department of Transportation's (DOT) review of the subject project to construct a six-story, 90,000 square feet facility.

While it's not anticipated that the subject project will have a significant impact on State transportation facilities in the area, DOT's comments in its letter STP 8.2432 dated March 19, 2007 (copy attached) regarding the overall development of the HCC campus remain valid.

DOT appreciates the opportunity to provide comments and requests four (4) copies of the DEA when it is completed. If there are any questions, please contact Mr. David Shimokawa of the DOT Statewide Transportation Planning Office at telephone number (808) 587-2356.

Very truly yours,

Francis Paul Keeno

for BRENNON T. MORIOKA, Ph.D., P.E.
Director of Transportation

Attach.

SLP:km
bc: HWY- P (w/incoming), STP(SLP)

Helber Hastert & Fee
*Planners, Inc.*

December 6, 2010

30th ANNIVERSARY 1980 - 2010

Mr. Michael D. Formby
Interim Director
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813-5097

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, O‘ahu, Hawai‘i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Mr. Formby:

Thank you for your comments dated October 25, 2010 (STP 8.0266) regarding the subject environmental assessment (EA). We note that your Highways Division Planning Branch is still reviewing the subject project and that your department’s comments provided during the project’s early consultation period (STP 8.0124 dated June 8, 2010) are still valid. These comments were addressed in the projects Draft EA.

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Final EA.

Sincerely yours,

HELBER HASTERT & FEE, PLANNERS, INC.

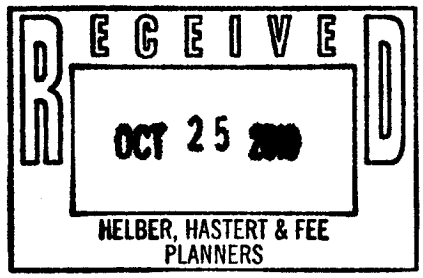
Thomas A. Fee, AICP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

Pacific Guardian Center, Makai Tower | 733 Bishop Street, Suite 2590 | Honolulu, Hawaii 96813
Telephone: 808.545.2055 | Facsimile: 808.545.2050 | www.hhf.com | e-mail: info@hhf.com

Water Resources Research Center
Environmental Center

UNIVERSITY of HAWAI'I
MĀNOA




October 08, 2010
EA: 00319

Brian Minaai, Associate Vice President for Capital Improvements
University of Hawaii Office of Capital Improvements
1960 East West Road, Biomedical Sciences B-102
Honolulu HI 96822

Dear Mr. Minaai,

Draft Environmental Assessment
Honolulu Community College Advanced Technology Training Center

Honolulu Community College (HCC) proposes to construct a new Advanced Technology Training Center (ATTC) building on 1.5 acres of the Main Campus. The new building would (1) replace the functions in the existing science building, and (2) consolidate various technology programs that are scattered throughout the main campus. Although the new building is not expected to directly increase employment or enrollment, it is one of four near-term development priorities that HCC plans to initiate within a five-year timeframe. The other three projects are Kapalama Transit Station, gateway/mall improvements, and parking lot improvements. The environmental effects of a facility similar to the proposed ATTC, and of broader campus development impacts, were addressed in the 2007 Final Environmental Assessment - Long-Range Development Plan for Honolulu Community College. The impacts of the Kapalama Transit Station are analyzed in the City & County of Honolulu's Rail Transit Project Final EIS.

These comments were drafted with the assistance of Mark Alapaki Luke, Hawaiian Studies, Hawaiian Language, and Geography/Honolulu Community College; Jeannin Russo, William S. Richardson School of Law; Eric Yamashita, Urban and Regional Planning/University of Hawaii at Manoa; and Peter Rappa and David Penn, Environmental Center.

**General Comments**

**LEED Certification**

We were disappointed by the lack of detail about the environmentally sensitive and energy savings characteristics of this building. Although the University of Hawaii is designing the building for Leadership in Energy & Environmental Design (LEED) certification as a Green Building, there is a disconcerting lack of detail about how it will qualify. On page 33, in the section on Probable Impacts and Mitigations for Electrical Power and Telecommunications, there

2500 Dole Street, Krauss Annex 19 Honolulu, Hawai'i 96822
Telephone: (808) 956-7361 Fax: (808) 956-3980

is a note that sustainable technologies were described earlier in Section 2.2.2. When we went back to the earlier section, we could not find a discussion on the use of sustainable technologies.

In section 3.4.6 on electrical power, we see that the generation of on-site alternative energy through PV panels and wind turbines may be included, but then again it may not. Yet, in the mitigation section that follows, there is a claim that a roof-mounted PV is proposed. Is there going to be energy provided by PV panels and wind turbines or not? It is difficult to fathom from reading this DEA. We laud the University for its leadership in determining that its new building should be LEED certified, but we would like to see more detail on how the University will go about achieving the certification.

**Cumulative Effects**

The assessment of the cumulative effects of the proposed action (Section 3.7) is perfunctory and confusing. It basically concludes that because each individual project would have only minor temporary or incremental effects, the projects collectively would not have a significant cumulative impact. In fact, cumulative impact is the synergistic result of cascading, interacting temporary and incremental effects, and should not necessarily be dismissed just because each individual effect is small or inconsequential on its own. In order to help sort this all out in the Final EA, it would be helpful to include complete citations, and internet links, for HCC's 1996 Long Range Development Plan, and to include, or at least cite/link to, the PRU Master Plan and application. We also suggest that the Final EA clarify the extent to which these documents, and the 2007 FEA, address the impacts of the proposed gateway/mall improvements and parking lot improvements. Finally, we urge the University to adopt a more sophisticated approach to cumulative impact assessment for the forthcoming HCC Long Range Development Plan (for example, see page 32, "HCC is awaiting the recommendations of its forthcoming Long Range Development Plan").

Certainly the new ATTC building will be more attractive to potential students than the current facilities, and is likely to contribute to any future increases in enrollment. Therefore, it would be helpful to know what portion of the campus population is currently engaged in activities that would take place in the new building, in order to benchmark the building's future contribution to campus population growth. HCC's 2009-2010 total student enrollment headcount was about 7,700 students and is projected to reach 8,000 by 2015 (Section 2.2, p. 7). For comparison with Section 3.7, this headcount must be expressed as full time equivalent student enrollment. Moreover, we suggest that faculty, staff, and pre-school population numbers should be added to student enrollment, and that the resulting total campus headcount be used in assessing cumulative effects. Although we have no reason to quarrel with HCC's student enrollment projections, it would be helpful to assess the accuracy of past projections as an indicator of the potential error range of the current projections.

Finally, please note that "Assessment" is misspelled on the cover pages of the document. We suggest that correct spelling be used in order to avoid first impressions of a lack of thoroughness or proofreading within the entire document.

In addition to our general comments, we have a few specific comments:

**Archaeological and Cultural Resources** (pp. 23-25, Appendix A, Appendix B)

**Ancestral Remains (*iwi kūpuna*)**

The Draft EA states that "[b]urials have been reported from the vicinity . . . and more burial finds might be expected." Proper monitoring and care for ancestral remains should always be a top priority for University of Hawaii projects, and any treatment of the remains is an "irreversible and irretrievable commitment of resources" to be identified in Section 6.0. However, because the University has only completed surface archaeological assessments, it has not adequately identified the potential impacts of finding burials during construction, and does not appear to be adequately prepared to mitigate those impacts. Therefore, we suggest that the University complete a more thorough archaeological assessment/inventory, including subsurface sampling that is representative of the areas and depths where construction excavation would occur.

It is very important to identify the *iwi* on-site before construction, because that will allow for the Oahu Island Burial Council to determine relocation or preservation in place. If the Burial Council decides to preserve in place, then the University may need to alter its construction plans.

If the University does not conduct a more thorough assessment, and *iwi* are inadvertently discovered during construction, then the State of Hawaii Historic Preservation Division (SHPD) will gain control of them. SHPD is a "museum" under the Native American Grave Protection and Repatriation Act (NAGPRA), and will have to follow procedures declared by NAGPRA when treating inadvertently discovered *iwi*. This will force all construction to halt for a minimum of 30 days until the process is complete (notification of all claimants, repatriation plan, inventory, and repatriation). Halting construction for 30 days or more will cause unnecessary expense, waste of time, and cultural tension that could be ameliorated or prevented through (1) pre-construction, sub-surface testing and (2) the referral of subsequent finds to the Oahu Island Burial Council. "Inadvertent discovery" seems to be the default goal in many construction projects, and we suggest that the University strive to be transparent in its decision on this issue.

**Other Resources**

The Draft EA includes descriptions of the historic cultural landscape, notes the possibility of on-site sub-surface cultural deposits and surface cultural features, and lauds "a great potential for the preservation of this history through the increased awareness and perpetuation of the

cultural resources and practices that were once common and still part of living memory in the area." (Appendix A, pp 76 & 77). How does the University plan to take advantage of this potential, particularly within the context of its educational mission?

For example, page 21 identifies a wetland-aquaculture feature that "may have been abandoned *lo'i* (taro patch)." Is there a potential to use this site again for wetland-aquaculture (please see Water Resources, below)? Was the *lo'i* truly "abandoned," implying that people voluntarily left on their own, or were people involuntarily displaced from the area by coercion, death, disease, force, fraud, land tenure change, etc.? How will the University compensate for any lost opportunities for site discovery, interpretation, and preservation?

The Draft EA states that the surface archaeological survey report is still under review by the State Historic Preservation Division (SHPD). As a matter of practice, wouldn't it be prudent to wait for SHPD to complete this review before publishing the Draft EA?

**Physical Environment**

**Natural Hazards** (p. 22)

The University participated in study of a risk and vulnerability from multiple hazards, for which a loss estimation and building analysis was conducted on existing structures. This analysis could provide some insight into dealing with natural hazards in the construction of new buildings when dealing with natural hazards (flooding, hurricane, tsunami, and earthquake). Contact: Cheryl Anderson, Social Science Research Institute.

There is no mention of the 100 year flood zone, only the 500 year flood zone. Is the building within the 100 year flood zone? There is also no mention of hurricane wind speed effects on the building, caused by topographic effects or wind tunnel effects from the surrounding environment. Would the building be a suitable shelter from such events?

**Potable Water** (p. 30)

While it is nice that the University is contemplating the "use of non-potable water for irrigation," shouldn't it just go ahead and plan to do it? The University of Hawaii is a large water user with a lot of water resource management expertise, and should be a leader in finding ways to reduce its water use. As new buildings are designed and constructed, ways to achieve savings in water and energy use should be built into the design up-front, not added on later. A rainwater catchment system could be useful in irrigating the landscape that will be created around the new building and accompanying mall.

**Surface and Ground Water** (pp. 21, 24)

Although the Draft EA states that "there are no streams, wetlands or other surface waters on the project area," all of these surface waters previously existed on the project site. It would be difficult to restore the site to previous "wetland-aquaculture" use because of the diversion of Niuhelewai Stream into Kapalama Canal. However, we suggest that consideration of such previous activity should be a priority whenever there is further alteration of already-disturbed site, in order to minimize further disruption to water resources.

Paragraph 3 states "The project site is underlain by a shallow basal, unconfined sedimentary aquifer and a deeper basal, confined, flank aquifer . . . The shallow aquifer is expected to occur at approximate mean sea level (4-18-ft depth). It is currently used . . . is considered replaceable [,] and has a high vulnerability to contamination." Who is using this shallow aquifer and for what purposes? How will the foundations for a new building be stabilized within a site that has a shallow basal aquifer underlying its project site, and how will the runoff be minimized? Why is the site vulnerable to contamination? Given the description of the affected environment, and the nature of the proposed construction and post-construction activities, it is easy to doubt the conclusion that "[t]he proposed action is not expected to have significant impacts to surface and ground water . . . ."

The last sentence on page 24 is unclear. If it intends to state that "Niuhelewai Stream . . . was filled sometime in the mid-20th century," then the sentence is not true, because Niuhelewai Stream still exists, and flows, in its upper reaches. If the sentence intends to state that "the study area . . . was filled sometime in the mid-20th century," then we suggest that the wording and punctuation be changed to clarify this meaning.

**Storm Drainage** (p. 31)

There is something wrong with the first sentence of this section. "[I]nlets located campus at localized low points" makes no sense.

Although HCC applied in February 2008 for a permit to discharge stormwater from a Small Municipal Separate Storm Sewer System (MS4), the Department of Health website indicates that the permit has not been issued. We suggest that HCC obtain this permit coverage, and complete the Storm Water Management Plan required by the permit, before commencing any construction activity on campus. Note that the Small MS4 permit is not the same as a permit to discharge stormwater associated with construction activity, which will be required for the proposed project. See emdweb.doh.hawaii.gov/cleanwaterbranch/PublicNotices/append.aspx.

The Draft EA fails to mention or consider two critical characteristics of Kapalama Canal, the waterbody that receives HCC storm drainage. The canal is listed as an impaired waterbody

under section 303(d) of the Clean Water Act, and is the subject of a fish consumption advisory issued for urban streams on Oahu. Therefore, we suggest that the preparers of the Final EA:

(1) consult the standard comments provided by the Environmental Planning Office, State of Hawaii Department of Health (hawaii.gov/health/environmental/env-planning/landuse/landuse.html/EPO-standardcomment.pdf) and provide additional, quantitative information in the Final EA about pre- and post-project pollutant loading dynamics; and

(2) note the fish consumption advisory for urban streams on Oahu, and employ language that is less encouraging of "subsistence crabbing in the waterway" (pp. 25-26) and more directed at reducing pollutant loads, improving water quality, and repairing damaged ecosystems. The City & County of Honolulu Department of Environmental Services, and the Hawaii Stream Research Center at the University of Hawaii Center for Conservation Research & Training, may have more information about the biological, chemical, and physical integrity of Kapalama Canal waters.

**Required Permits and Approvals** (p. 5)

Table 1.4, Required Permits and Approvals, appears to be formatted improperly. For example, the State of Hawaii Department of Health does not issue permits for "Building permit Storm Drain Connection" or "Sewer Connection."

**Transportation** (pp. 26-29)

In Table 1, the meaning of the Level of Service (LOS) parameters ("b," "c," and "d") is not shown. Please add the appropriate explanatory note to the table.

An added parking structure that replaces current parking displacement is likely to cause increases in traffic. Will there be more business or industry construction within the area in the future? If so, how will that change the LOS? Between 2006 and 2010, the LOS and the Volume to Capacity Ratio (V/C) decreased for the intersection of Dillingham at Alakawa, and increased for the intersection of Dillingham at Kokea. How do you explain this phenomenon, and what might it imply for future traffic characteristics?

Thank you for the opportunity to comment on this Draft Environmental Assessment (DEA). When the Final EA is distributed, please send two printed copies to the Environmental Center.

Sincerely,

John Cusick
Assistant Specialist, Environmental Center

cc: State of Hawaii Office of Environmental Quality Control (OEQC)
Chittaranjan Ray, Interim Director, Water Resources Research Center, UH Manoa
Gail Renard, Helber Hastert & Fee, Planners, Inc.
Mark Alapaki Luke
Jeannin Russo
Eric Yamashita
Peter Rappa
David Penn

Helber Hastert & Fee
*Planners, Inc.*

December 6, 2010

Mr. John Cusick, Assistant Specialist
Environmental Center
Water Resources Research Center
University of Hawaii at Manoa
2500 Dole Street, Krauss Annex 19
Honolulu, HI 96822

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, O'ahu, Hawai'i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Mr. Cusick:

Thank you for your comments dated October 8, 2010 (EA: 00319) regarding the subject environmental assessment (EA). We offer the following responses to your comments.

**General Comments**

LEED Certification

As you are aware, obtaining LEED certification requires earning "points" through implementing design techniques in seven LEED scorecard categories. The project design description contained in the Draft EA represented a preliminary design, as is typical at this point in the design process. Since the publication of the Draft EA, the project design has progressed further, and the project's preliminary LEED checklist will be included in the Final EA. It should be noted that the specific strategies included in the preliminary LEED scorecard may change as the detailed design process proceeds, and project stakeholders' priorities are coordinated. In any case, the project's design objective will remain to obtain a minimum of 50 points as required for LEED Silver certification.

A description of the known sustainable technologies to be implemented in the project was provided in the Draft EA (Section 2.2.3). The reference made to this section will be corrected in the Final EA.

Cumulative Effects

The Final EA will provide greater detail and rationale for its conclusions on the project's cumulative effects. The citation for the 1996 HCC Long Range Development Plan will

be included in the Final EA. The public may review the PRU Master Plan and application at the City Department of Planning and Permitting.

We disagree with your conclusion that the ATTC building in itself will contribute to future increases in enrollment. There are many factors that influence student enrollment, and, as recent history has shown, general economic conditions probably have a greater influence on student enrollment than facility availability. The intent of the ATTC project, as described in the Draft EA, is to enable HCC to continue its role as the premier technological training center of the Pacific by providing consolidated and modernized facilities for existing programs that are overcrowded and in outdated, scattered facilities. HCC overall enrollment and headcount will grow over time as new facilities come on line, programs are expanded or added, and faculty increased. This project in and of itself is not expected or intended to precipitate that growth.

We also disagree with your statement that HCC's student headcount must be translated into full-time equivalent (FTE) enrollment to be useful for EA analyses purposes. The University of Hawai'i's Institutional Research Office (IRO) provides the enrollment projections for HCC, and, for reasons specific to the types of classes offered at HCC and students enrolled (e.g., short-term, evening apprenticeship programs, part-time students, etc.), uses headcount rather than FTE as its data set for projection purposes. This approach provides a conservative, consistent method for evaluating student population on-campus. Although actual year-to-year headcount may vary due to a number of factors (such as economic reasons mentioned above), we feel that the IRO's projections are the best available data, as well as the University's official data set. Determining the potential error range of the IRO's projections is not within the scope of this EA.

Miscellaneous

The misspelling on the EA cover will be corrected in the Final EA.

**Archaeological and Cultural Resources**

Ancestral Remains (*iwi kūpuna*)

Although the Archaeological Literature Review and Field Investigation (LR/FI) report excerpted in your letter states that human burials have been found in the vicinity, none have been reported within the HCC Main Campus. The State Historic Preservation Division (SHPD) reviewed the Draft EA and concluded that the project will not affect historic properties (correspondence dated November 1, 2010). The SHPD did not request that subsurface testing be conducted; the University of Hawai'i will proceed with the

preparation of an archaeological monitoring plan if required by SHPD. We acknowledge your comments on the inadvertent discovery of *iwi* during construction.

Other Resources

Your letter excerpts a single line from the project's LR/FI report: "*There is great potential for the preservation of this history through the increased awareness and perpetuation of the cultural resources and practices once common and still part of living memory in the area*." Taken in its intended context, this statement characterizes the greater Kapālama area and not specifically the project area. The Draft EA discloses the impacts of the proposed action; the archaeological and cultural impacts studies prepared in support of the project adds to the overall body of knowledge of the Kapālama ahupua'a. The information requested in your letter, while potentially important in other contexts (e.g., potential to re-create wetland aquaculture, research on specific land tenure transfers), is outside the scope of the EA.

The LR/FI was submitted to SHPD in late July 2010. The project's Draft EA was published in early September 2010. While it would be preferable to conclude all consultations prior to publication of the Draft EA, due to the backlog of reports being reviewed at SHPD, it is not uncommon to publish Draft EAs prior to SHPD completing its review.

**Physical Environment**

Natural Hazards

Information provided in your letter regarding the study of risk and vulnerability from multiple hazards has been provided to the project's designers.

Regarding the 100-year flood zone: It is generally understood that areas that are outside the 500-year flood (i.e., 0.2% annual chance floodplain) are also outside the 100-year flood (i.e., 1% annual chance floodplain). This will be clarified in the Final EA.

The new building will be designed to resist 105 mph windspeeds in accordance with the 2006 International Building Code (IBC). According to the project structural engineer, there is no wind topographic effect at this site. This information will be included in the Final EA. Unless the State designates this project as a designated hurricane shelter, the project will be designed according to the applicable building code (IBC 2006), with local amendments. We are not aware of any such designation at this time.

Potable Water

LEED certification requires achieving advanced levels of water efficiency, which can be accomplished using a variety of measures. Specific measures are being identified, including connecting landscape irrigation lines to reclaimed water lines (i.e., using water harvested from the building's roof).

Surface and Ground Water

Thank you for your suggestion to consider the previous activities on the land a priority when altering already-disturbed sites. As you also note, it would be difficult to restore the site to a previous wetland-aquaculture use due to the altered hydrological conditions within the ahupua'a.

The shallow aquifer that underlie the project site is generically designated as "used" by Mink and Lau 1990, which means that there are permitted users of the aquifer. The users are unknown, and the reason it is vulnerable to contamination is because it is at a shallow depth below grade. This aquifer is not a source of drinking water (versus the deeper aquifer which is also described in the Draft EA). Currently, most of the project area is paved, with the exception of the landscaped areas within and around Lot 1. The proposed action is not expected to significantly change (either increase or decrease) the amount of permeable surfaces on the site. The proposed action will not introduce new sources of contaminants to the site that could leach through the soils to the underlying shallow, non-potable aquifer.

The ATTC building will be supported on a pile foundation. As stated in the Draft EA, stormwater runoff from the site will be collected and directed to on-site water quality units prior to discharge into Kapālama Canal via the City's municipal storm drainage system. The project will also include grass swales to minimize stormwater runoff to receiving waters. Therefore, the Final EA will retain the conclusion that the project is not expected to have significant impacts on either surface or groundwater.

The sentence you refer to regarding Niuhelewai Stream will be revised in the Final EA to clarify that the portions that formerly fed taro terraces within the study area were filled in the 20th century.

Storm Drainage

The first sentence of Section 3.4.5 will be revised to clarify the statement.

Regarding your suggestion that HCC obtain a MS4 permit from the State Department of Health (DOH) prior to beginning construction on campus: According to the University

of Hawai‘i, the permit application, along with a Draft Storm Water Management Program (SWMP) for HCC, has been under review at the DOH since 2008; the University is currently awaiting action by the DOH. Irrespective of the status of the draft SWMP, the project will obtain a MS4 permit from the City and County of Honolulu to connect into the City's municipal stormwater system, as required. This will be noted in the Final EA. We are aware that the Small MS4 permit is not the same as a permit to discharge stormwater associated with construction activity.

The Final EA will note that Kapālama Canal is listed as an impaired waterbody under section 303(d) of the Clean Water Act. Quantitative analysis on the pre- and post-project pollutant loading dynamics will not be conducted for this project; surface runoff from the project site will comply with conditions of permits to be obtained for the discharge of stormwater into the City's municipal stormwater system and for construction activities (e.g., MS4 permit, NPDES permit). The stormwater management system included in the proposed action is likely to improve the quality of runoff into the State's receiving waters from existing conditions, as the project includes water quality units to improve the quality of the runoff entering the City's existing drainage system by capturing and removing pollutants, such as total suspended solids and oils, from storm water runoff at levels that meet LEED requirements. Tests by the manufacturer of water quality units planned for and in use at other UH community colleges (e.g., Windward Community College and UH Maui College) indicate mean removal efficiency rates by these units ranging from 71 to 91 percent for total suspended solids concentrations, depending on the material and rate of flow. The water quality units were tested as having oil capture efficiency rates between 57 and 95 percent, depending on the rate of flow and amount of oil injected during the test.

The Final EA will note that Kapālama Canal is the subject of a fish consumption advisory for urban streams on O‘ahu and the language in Section 3.3.2 referring to subsistence crabbing will be revised to incorporate information that subsistence crabbing is ongoing, despite of the fish consumption advisory that has been identified for urban streams of Honolulu.

The scope of discussion regarding Kapālama Canal that was included in the Draft EA (with the revisions noted above) is appropriate for the Final EA because the proposed action will incorporate engineering and site design measures that will not adversely affect the quality of surface water reaching Kapālama Canal from the project site.

**Required Permits and Approvals**

The table in Section 1.4 will be corrected in the Final EA to note that the project's Building, Storm Drain Connection, and Sewer Connection Permits will be obtained from the City Department of Planning and Permitting.

**Transportation**

The information you requested on the definition of Level of Service (LOS) designations will be added to Table 1 in the Final EA.

The parking structure referenced in your letter is a long-term project that is independent from the proposed ATTC, and therefore, covered in the EA for HCC's Long Range Development Plan (2007). Cumulative impacts are addressed in Section 3.7 of the Draft EA, and include the LRDP Ultimate Plan.

The 2010 traffic analysis used latest information and current observations of the traffic conditions at the intersections of Dillingham Boulevard with Alakawa Street and with Kōkea Street. This led to the differences in the volume-to-capacity and LOS designations reported in Table 1 of the Draft EA.

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Final EA.

Sincerely yours,

HELBER HASTERT & FEE, PLANNERS, INC.

Thomas A. Fee, AICP
President

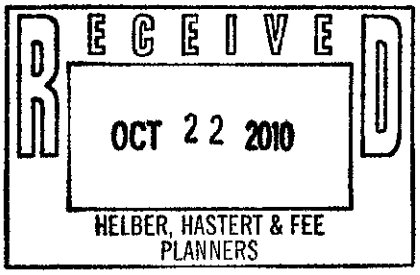
cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

**BOARD OF WATER SUPPLY**

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843



October 15, 2010




Ms. Gail Renard, Project Planner
Helber, Hastert & Fee Planners, Inc.
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Renard:

Subject: Letter Dated September 3, 2010 Requesting Comments on the Draft Environmental Assessment for the Honolulu Community College Advanced Technology Training Center, TMK: 1-5-17:6. 1-5-18:1

Thank you for the opportunity to comment on the proposed project.

The comments in our letter dated May 19, 2010, which is included in the document, are still applicable.

If you have any questions, please contact Robert Chun at 748-5443.

Very truly yours,

PAUL S. KIKUCHI
Chief Financial Officer
Customer Care Division

cc: Mr. Brian Minaai, University of Hawaii

Helber Hastert & Fee
*Planners, Inc.*

December 6, 2010

Mr. Paul Kikuchi
Chief Financial Officer
Customer Care Division
City and County of Honolulu
Board of Water Supply
630 South Beretania Street
Honolulu, HI 96843

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, O'ahu, Hawai'i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Mr. Kikuchi:

Thank you for your comments dated October 15, 2010 regarding the subject environmental assessment (EA). We note that your comments of May 19, 2010, which were included in the Draft EA are still applicable and that no additional comments were offered.

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Final EA.

Sincerely yours,

HELBER HASTERT & FEE, PLANNERS, INC.

Thomas A. Fee, AICP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

Pacific Guardian Center, Makai Tower | 733 Bishop Street, Suite 2590 | Honolulu, Hawaii 96813
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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) 523-4567
Web site: www.honolulu.gov

PETER B. CARLISLE
MAYOR

COLLINS D. LAM, P.E.
ACTING DIRECTOR

DEPUTY DIRECTOR

October 14, 2010


Mr. Thomas A. Fee, AICP
President
Helber Hastert & Fee
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Mr. Fee:

Subject: Honolulu Community College Advanced Technology Training Center

Thank you for the opportunity to review the Draft Environmental Assessment (EA) for the above listed project.

The Department of Design and Construction does not have any comments.

Should you have any questions, please contact me at 768-8480.

Sincerely,

Collins D. Lam, P.E.
Acting Director

CDL/lm (382776)

Helber Hastert & Fee
*Planners, Inc.*

December 6, 2010

Mr. Collins D. Lam, P.E.
Acting Director
City and County of Honolulu
Department of Design and Construction
650 South King Street, 11th Floor
Honolulu, HI 96813

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, O'ahu, Hawai'i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Mr. Lam:

Thank you for your comments dated October 14, 2010 regarding the subject environmental assessment (EA). We note that your department has no comments on the subject project.

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Final EA.

Sincerely yours,

HELBER HASTERT & FEE, PLANNERS, INC.

Thomas A. Fee, AICP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

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DEPARTMENT OF FACILITY MAINTENANCE

**CITY AND COUNTY OF HONOLULU**

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KIRK W. CALDWELL
ACTING MAYOR

JEOFFREY S. CUDIAMAT, P.E.
DIRECTOR AND CHIEF ENGINEER

GEORGE "KEOKI" MIYAMOTO
DEPUTY DIRECTOR

IN REPLY REFER TO:
DRM 10-766



September 30, 2010

Mr. Thomas A. Fee, AICP
Herbert, Hastert & Fee Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Mr. Fee:

Subject: Honolulu Community College Advanced Technology and Training Center Facility Draft Environmental Assessment (DEA)

Thank you for the opportunity to review and comment on the DEA for the proposed Advanced Technology and Training Center at the Honolulu Community College.

We have no comments to offer as the proposed facility will be within State-owned land and will have negligible impact on our facilities and operations.

Should you have any questions, please call Charles Pignataro of the Division of Road Maintenance, at 768-3697.

Sincerely,

Jeoffrey S. Cudiamat, P.E.
Director and Chief Engineer

Helber Hastert & Fee
*Planners, Inc.*

December 6, 2010

Mr. George "Keoki" Miyamoto
Acting Director
City and County of Honolulu
Department of Facility Maintenance
1000 Uluohia Street, Suite 215
Kapolei, HI 96707

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, O'ahu, Hawai'i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Mr. Miyamoto:

Thank you for your agency's comments dated September 30, 2010 (Ref. DRM 10-766) regarding the subject environmental assessment (EA). We note that you have no comments on the Draft EA as the proposed facility will be within State-owned land and have negligible impact on your department's facilities and operations.

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Final EA.

Sincerely yours,

HELBER HASTERT & FEE, PLANNERS, INC.

Thomas A. Fee, AICP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

Pacific Guardian Center, Makai Tower | 733 Bishop Street, Suite 2590 | Honolulu, Hawaii 96813
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DEPARTMENT OF PLANNING AND PERMITTING
**CITY AND COUNTY OF HONOLULU**
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PETER B. CARLISLE
MAYOR

DAVID K. TANOUE
ACTING DIRECTOR

ROBERT M. SUMITOMO
DEPUTY DIRECTOR

2010/ELOG-1873(lw)

October 18, 2010



Ms. Gail Renard
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Renard:

Subject: Draft Environmental Assessment
Advanced Technology Training Center (ATTC),
Honolulu Community College (HCC)
874 Dillingham Boulevard - Kapalama
Tax Map Key 1-5-17: Portion of 6 and 1-5-18: Portion of 1

We have reviewed the Draft Environmental Assessment (DEA) for the above project located on the Kokea Street side of the HCC Main Campus, and offer the following comments:

Planning Division

Honolulu Community College's proposal to construct a new Advanced Technology Training Center (ATTC) on its Main Campus is consistent with the Primary Urban Center Development Plan (PUC DP), which recognizes the important role HCC plays in creating a high quality educational system that increases the attractiveness of the Primary Urban Center as a place to live and work.

Given its immediate adjacency to the planned Kapalama rail transit station at the intersection of Kokea Street and Dillingham Boulevard, the ATTC should be consistent with the general principles of transit-oriented development (TOD) by:

- Providing a rich mix of land uses in an efficient manner;
- Being well-integrated with transit;
- Reducing overall transportation costs;
- Creating vibrant, dynamic pedestrian and bicycle-friendly communities; and
- Demonstrating a high level of design to attract residents, visitors, and workers.

The DEA proposes some positive strategies for accomplishing the above goals, yet there are also several remaining issues that should be addressed in the Final Environmental Assessment (FEA) to better integrate the ATTC with the surrounding Kapalama neighborhood and fulfill the principles of the PUC DP and TOD:

Kokea Street: The HCC PRU Master Plan proposes to embrace the Kokea Street frontage as a very important gateway – a new "front door" – for the Main Campus. This front door will also serve as a gateway to the City's planned rail transit station. In addition to the new sidewalks and gateway/mall improvements described in the DEA, the new ATTC building is a major opportunity to help transform Kokea Street into a more pedestrian-oriented environment.

As currently designed, however, the building turns its back to Kokea Street. There are entrances on the north, east and south sides of the building, but not the west side (Kokea Street). The building should have an orientation toward and an entrance on Kokea to help activate this vital campus edge. Preliminary renderings in the DEA (Figure 6) show inappropriate blank walls along Kokea Street at the ground level. The ground floor should support active student uses that can be seen from the street, such as study areas, a café, group meeting space, etc. Building materials and exterior windows should be transparent, allowing pedestrians to see into these spaces, not just "maximize views from inside the building to improve occupant satisfaction and efficiency" (DEA, p. 12). Additionally, sidewalks should be constructed along the entire Kokea Street frontage of the HCC Main Campus, including in front of Lot 1C. New sidewalks should not end at the ATTC building.

Also, the new campus gateway where the HCC pedestrian mall meets Kokea Street should be a comfortable and active space with ample landscaping and shade. It should include a variety of places to sit, a visual feature such as a sculptural element, wayfinding signage and maps, kiosk opportunities, and educational installations about the Leadership in Energy and Environmental Design (LEED)-certified ATTC building.

Kapalama Stream Pathway: Both the PUC DP and Kalihi-Palama Action Plan call for a streamside pathway along Kapalama Canal as an important neighborhood amenity. The DEA acknowledges this community need in Sections 3.6 and 4.2.2 but does not offer any strategies for helping to realize this longstanding goal. Given the great benefit such a pathway would provide to HCC students and faculty, as well as neighborhood residents and visitors, the FEA should discuss the project's role in providing a path and related improvements on the ewa side of Kokea Street.

Please direct your questions pertaining to the Planning Division comments to Renee Espiau at 768-8050.

Civil Engineering Branch:

1. A trenching permit will be required for work within the City right-of-way. Also, a drain connection license and a dewatering permit may be required.

2. Revise the storm drainage standard from (Honolulu, 2000) to (January 2000).

3. The underground detention basin to mitigate increase runoff is a good idea, but will it be necessary, since the area where the ATTC will be located is relatively impermeable and therefore one would not expect a significant difference in surface runoff volume between the existing and proposed conditions.

4. It was noted in the last tsunami alert that although Hawaii did not see a significant sized tidal wave there was a significant rise in the tidal levels within a short period of time. As seen from Alewa Heights, there was a significant rise and fall of the tide within the Kapalama Canal. Based on the location of the ATTC, it would appear that under an actual tidal wave condition that it may be subject to inundation although this area has not been designated as such. As a proactive measure, we would recommend that you consider pad mounted electrical and mechanical equipment.

Questions pertaining to the Civil Engineering Branch may be directed to Leonard Furukawa at 768-8105 or Don Fujii at 768-8107.

Wastewater Branch:

The Wastewater Branch has the same comments as their comments to the Plan Review Use (PRU) Permit Application (No. 2010/PRU-5) for the HCC. New sewer connection should be made to the 36-inch sewer line on Dillingham Boulevard. The 18-inch sewer line within HCC is not adequate. A Site Development Master Application for sewer connection is required for sewer capacity reservation. Wastewater Facilities Charge shall apply. Submit construction plans for review and approval.

Questions pertaining to the Wastewater Branch may be directed to Tessa Ching at 768-8199.

Urban Design Branch:

The proposed project is being reviewed as part of the PRU Permit Application (No. 2010/PRU-5) for the HCC, and we anticipate that the DPP report, recommendation, and draft resolution on the PRU Permit Application will be transmitted to the City Council in November 2010. Upon City Council's deliberation and approval, the design standards for the site (density, height, yards, parking, loading, landscaping, and signage) prescribed in the PRU Permit shall be applicable to the proposed project.

The ATTC building (revised plans submitted to the DPP on September 17, 2010) proposed in the PRU Permit Application generally reflects the six-story high ATTC structure discussed in the DEA, including its floor area of approximately 125,000 square feet. Please note that, in lieu of a Conditional Use Permit (Minor) normally required for wind machines in the IMX Industrial Mixed Use District, the proposed wind machines may be included in the PRU Permit Application, if they are accessory to the HCC. However, to do that you must submit the required plans for the wind turbines (similar to as shown in Figure 6 of the DEA) to the DPP by October 31, 2010. In the alternative, you may apply for a minor modification to the PRU Permit for the wind turbines at a later date. Also please provide the current building area (lot coverage) calculations for the proposed ATTC, and provide a complete description and/or explanation of the proposed "open-air drying yard" to be used by the oceanography program "to conduct experiments and as a space to dry equipment and experiments."

Should you have any questions regarding the above comments, please contact Lin Wong at 768-8033.

Very truly yours,

for David K. Tanoue, Acting Director
Department of Planning and Permitting

DKT:nw

cc: Mr. Brian Minaai, University of Hawaii, Office of Capital Improvements

Doc. 806914

Helber Hastert & Fee
*Planners, Inc.*

December 6, 2010

Mr. David K. Tanoue, Director
City and County of Honolulu
Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, HI 96813

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, O'ahu, Hawai'i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Mr. Tanoue:

Thank you for your comments dated October 18, 2010 (Ref. 2010/ELOG-1873(lw)) regarding the subject environmental assessment (EA). We offer the following responses to your comments.

**Planning Division**

Kōkea Street

Your comments suggest changes to the west-facing façade of the proposed ATTC, including orientation toward and an entrance on the Kōkea Street side to activate the western edge of the campus, transparent building materials for pedestrians to see into the buildings, and ground floor uses such as study areas, a café, meeting space, etc. The comments also recommend that new sidewalks be constructed along the entire Kōkea Street frontage of the HCC Main Campus, including in front of Parking Lot 1C. Finally, specific landscape elements for the Kōkea Street entrance to the campus are recommended (e.g., landscaping and shade, visual feature, interpretive signage about the building's LEED features, etc.)

As noted in the Draft EA, the rendering shown in Figure 6 was included to indicate the *approximate scale and massing* of the proposed ATTC, and was not intended to convey the final exterior design of the building or its associated landscape plan. Figure 6 also illustrated the building's compliance with existing Land Use Ordinance (LUO) and street setback and building height envelope requirements. As the project moves into a more detailed design phase, specific elements will be incorporated that enhance the pedestrian experience on the Kōkea Street side of the building and support the new campus gateway.

The ATTC's internal functional relationships and space requirements were determined based on an HCC stakeholders' charrette held in August 2010. The outcome of this charrette was a preliminary design that balanced the needs of facility users, the incorporation of sustainable features, functional relationships with the surrounding existing and planned uses, and the practical likelihood of a phased development process. As a result of balancing each of these factors, the primary entry to the facility was located along the campus pedestrian mall. Other secondary entrances are from the mauka parking areas and a walkway passing between the proposed ATTC and the adjacent library building.

Although the campus gateway improvements and the planned transit station are likely to generate higher levels of pedestrian activity along Kōkea Street, campus-related pedestrian activity is more likely to be concentrated to the southwest of the new facility, as students, faculty, and staff approach the campus mall from the transit station and the planned vehicle drop-off area (see Figure 5 of Draft EA). Many students, faculty and staff members are likely to approach the campus from the Kōkea Street gateway to the campus mall on foot due to the planned drop off area and the proximity to the planned rail transit station; moreover, for the majority of these individuals, the ATTC will not be their initial destination on campus. Because the pedestrian mall will eventually provide pedestrian access from Kōkea Street through the length of the campus, it was most logical to provide primary access to the ATTC along this mall. Therefore, the "front door" of the ATTC should be oriented to the campus mall, rather than to Kōkea Street.

The HCC Long Range Development Plan envisions sidewalk improvements along the entire Kōkea Street frontage of HCC's Main Campus. The proposed ATTC project will provide sidewalk improvements along the section of Kōkea Street fronting the project (i.e., from the campus pedestrian mall to the mauka driveway). Improvements to other sections of HCC's Kōkea Street frontage will be undertaken with future improvements adjacent to those sections, such as the campus gateway project, Kōkea Street parking garage, and the planned transit station. According to the City's Rapid Transit Division's plans, the Kapālama rail transit station project will provide sidewalk improvements along the Kōkea Street frontage of the station, between Dillingham Boulevard and the campus mall.

In order to enhance the new campus gateway where the campus mall meets Kōkea Street, the ATTC project will consider ground level site elements such as benches or other amenities for student gathering, shade trees, campus directory and signage, and spaces for public art, and a transparent exterior ground floor wall facing Kōkea Street to visually connect pedestrians along Kōkea Street with the building's interior spaces. (Note: The west-facing glass wall will not extend the full height of the building to reduce interior heat gain and promote sustainability.) The HCC Long Range Development Plan includes

several major gathering places on campus (e.g., the transit mall, the proposed Student Union, the campus quadrangle further to the east along the mall, and the planned "Great Lawn") that will provide public spaces for meeting, socializing, studying, and relaxing, and are envisioned to be the primary informal student activity nodes on campus.

Kapālama Stream Pathway

The proposed ATTC project is intended to meet critical space and functional requirements of HCC's science and technology programs. Limited project funds necessitate a focus on the technical aspects of the facility, as well as on-campus improvements (e.g., site elements described above) to integrate and relate it to primary surrounding features (i.e., campus mall extension, rail transit station). While we agree that a streamside pathway along Kapālama Canal would be an important neighborhood amenity, it is outside the scope and impacts of the proposed action. Therefore, the Final EA will not discuss the project's role in providing the stream pathway on the 'ewa side of Kōkea Street. As noted in your comments, the stream pathway is discussed in Section 4.2.2 of the EA, as a segment identified in the City's Primary Urban Center Development Plan for consideration for (the City's) priority action.

**Civil Engineering Branch**

1. The Final EA will reference the need or potential need for a trenching permit, drain connection license, and dewatering permit.
2. The format of the citation for the City's storm drainage standard is correctly presented in Section 2.2.3 of the Draft EA and the references section cites the date of publication as January 2000. No change will be made in the Final EA.
3. The Final EA will update the description of the storm drainage system. Additional engineering evaluation indicates that the underground detention pond is not likely to be necessary.
4. The electrical and mechanical equipment will be pad mounted and located on higher floors of the facility or on the roof deck.

**Wastewater Branch**

The Final EA will note that new sewer connections should be made to the 36-inch sewer line on Dillingham Boulevard. The Final EA will also note that a Site Development Master Application for sewer connection is required for sewer capacity reservation, a Wastewater Facilities Charge will be applied, and that construction plans will be submitted for your department's review and approval.

**Urban Design Branch**

The Final EA will include the information on the HCC Plan Review Use (PRU) Permit application process provided in your letter. Plans for the proposed roof-mounted, vertical axis wind turbines were submitted to your department for inclusion in HCC's PRU Permit application on November 5, 2010, as recommended in your letter.

The Final EA will include the building area calculations for the proposed ATTC. The "open-air drying yard" described in the Draft EA was eliminated from the ATTC program and reference to it will be deleted in the Final EA.

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Final EA.

Sincerely yours,

HELBER HASTERT & FEE, PLANNERS, INC.

Thomas A. Fee, AICP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

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 W. CALDWELL
ACTING MAYOR

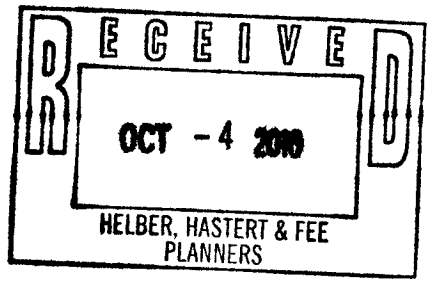
WAYNE Y. YOSHIOKA
DIRECTOR

SHARON ANN THOM
DEPUTY DIRECTOR

KENNETH TORU HAMAYASU, P.E.
DEPUTY DIRECTOR

TP9/10-382718R
TP9/10-364532R

September 30, 2010




Mr. Thomas A. Fee, AICP
President
Helber, Hastert & Fee Planners, Inc.
Pacific Guardian Center
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Mr. Fee:

Subject: Draft Environmental Assessment (DEA) for the Honolulu Community College (HCC) Advanced Technology Training Center

This responds to your letter of September 3, 2010, requesting our comments concerning this proposed project.

Our Rapid Transit Division (RTD) has the following comment:

- RTD anticipates the continuing coordination of the HCC work with the Honolulu High-Capacity Transit Corridor Project. Although, based on current project schedules, there would be no conflict(s) between the construction of the Advanced Technology Training Center (2012 – mid-2014) and the Kapalama Transit Station (2015-2018) at the Kokea-Dillingham corner of the campus, there is a potential for traffic congestion in the vicinity of the HCC as work on the transit guideway along the median of Dillingham Boulevard would be underway commencing 2013.

Thank you for the opportunity to review this matter. Should you have any further questions, please contact Michael Murphy of my staff at 768-8359.

Very truly yours,

WAYNE Y. YOSHIOKA
Director

Helber Hastert & Fee
*Planners, Inc.*

December 6, 2010

Mr. Wayne Y. Yoshioka, Director
City and County of Honolulu
Department of Transportation Services
650 South King Street, 3rd Floor
Honolulu, HI 96813

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, O'ahu, Hawai'i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Mr. Yoshioka:

Thank you for your comments dated September 30, 2010 (Ref. TP9/10-382718R, TP9/10-364532R) regarding the subject environmental assessment (EA). In response to comments by your department's Rapid Transit Division, the Final EA will note that although, based on current project schedules, there would be no conflict(s) between the construction of the Advanced Technology Training Center (2012 to mid-2014) and the Kapalama Transit Station (2015-2018) at the Kokea-Dillingham corner of the campus, there is a potential for traffic congestion in the vicinity of the HCC as work on the City's Honolulu High-Capacity Transit Corridor Project transit guideway along the median of Dillingham Boulevard would be underway commencing 2013.

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Final EA.

Sincerely yours,

HELBER HASTERT & FEE, PLANNERS, INC.

Thomas A. Fee, AICP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

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 W. CALDWELL
ACTING MAYOR

KENNETH G. SILVA
FIRE CHIEF

ROLLAND J. HARVEST
DEPUTY FIRE CHIEF

September 16, 2010



Mr. Thomas Fee, AICP
President
Helber Hastert & Fee Planners, Inc.
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Mr. Fee:

Subject: Honolulu Community College Advanced Technology Training Center
Draft Environmental Assessment
Honolulu, Oahu, Hawaii
Tax Map Keys: 1-5-017: Portion 006 and 1-5-018: Portion 001

In response to your letter of September 3, 2010, regarding the above-mentioned subject, the Honolulu Fire Department (HFD) reviewed the material provided 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 ft (46 m) from fire department access roads as measured by an approved route around the exterior of the building or facility. (National Fire Protection Association [NFPA] 1; Uniform Fire Code [UFC]™, 2006 Edition, Section 18.2.3.2.2.)

   A fire department access road shall extend to within 50 ft (15 m) 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; UFC ™, 2006 Edition, Section 18.2.3.2.1.)

2. A water supply approved by the county, capable of supplying the required fire flow for fire protection, shall be provided to all premises upon which facilities or buildings, or portions thereof, are hereafter constructed, or moved into or within the county. When any portion of

the facility or building is in excess of 150 feet (45 720 mm) from a water supply on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains capable of supplying the required fire flow shall be provided when required by the AHJ [Authority Having Jurisdiction]. (NFPA 1; UFC™, 2006 Edition, Section 18.3.1, as amended.)

3. Submit civil drawings to the HFD for review and approval.

Should you have any questions, please call Battalion Chief Socrates Bratakos of our Fire Prevention Bureau at 723-7151.

Sincerely,

KENNETH G. SILVA
Fire Chief

KGS/SY:bh

Helber Hastert & Fee
*Planners, Inc.*

December 6, 2010

30th ANNIVERSARY 1980 - 2010

Chief Kenneth G. Silva
Fire Chief
City and County of Honolulu
Honolulu Fire Department
636 South Street
Honolulu, HI 96813-5007

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, O'ahu, Hawai'i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Chief Silva:

Thank you for your comments dated September 16, 2010 regarding the subject environmental assessment (EA). We note that your comments are similar, but more detailed than your comments on the project's pre-assessment consultation with your department. The Final EA will include statements similar to the following, in response to your latest comments:

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 ft (46 m) from fire department access roads as measured by an approved route around the exterior of the building or facility. (National Fire Protection Association [NFPA] 1; Uniform Fire Code [UFC]™, 2006 Edition, Section 18.2.3.2.2.)
2. A fire department access road shall extend to within 50 ft (15 m) 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; UFC ™, 2006 Edition, Section 18.2.3.2.1.)
3. A water supply approved by the county, capable of supplying the required fire flow for fire protection, shall be provided to all premises upon which facilities or buildings, or portions thereof, are hereafter constructed, or moved into or within the county. When any portion of the facility or building is in excess of 150 feet (45 720 mm) from a water supply on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains capable of supplying the required fire flow shall be provided when required by the AHJ [Authority Having Jurisdiction]. (NFPA 1; UFC ™, 2006 Edition, Section 18.3.1, as amended.)

Pacific Guardian Center, Makai Tower | 733 Bishop Street, Suite 2590 | Honolulu, Hawaii 96813
Telephone: 808.545.2055 | Facsimile: 808.545.2050 | www.hhf.com | e-mail: info@hhf.com

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Final EA.

Sincerely yours,

HELBER HASTERT & FEE, PLANNERS, INC.

Thomas A. Fee, AICP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

POLICE DEPARTMENT

**CITY AND COUNTY OF HONOLULU**

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

LOUIS M. KEALOHA
CHIEF

DELBERT T. TATSUYAMA
RANDAL K. MACADANGDANG
DEPUTY CHIEFS

OUR REFERENCE DMK-DK

September 16, 2010



Mr. Brian Minaai, Associate Vice President
Office of Capital Improvements
Biomedical Sciences, B-102
University of Hawaii
1960 East West Road
Honolulu, Hawaii 96822

Dear Mr. Minaai:

This is in response to a letter from Helber Hastert & Fee, Planners, requesting comments on a Draft Environmental for the Honolulu Community College Advanced Technology Training Center project.

The Honolulu Police Department has no comments to offer at this time.

If there are any questions, please call Major William Chur of District 5 (Kalihi) at 723-8202.

Sincerely,

LOUIS M. KEALOHA
Chief of Police

By
DAVE M. KAJIHIRO
Assistant Chief of Police
Support Services Bureau

cc: Ms. Gail Renard
Helber Hastert & Fee, Planners

Helber Hastert & Fee
*Planners, Inc.*

December 6, 2010

Chief Louis M. Kealoha
Chief of Police
City and County of Honolulu
Police Department
801 South Beretania Street
Honolulu, HI 96813

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, O‘ahu, Hawai‘i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Chief Kealoha:

Thank you for your comments dated September 16, 2010 (Ref. DMK-DK) regarding the subject environmental assessment (EA). We note that your department has no comments on the subject EA.

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Final EA.

Sincerely yours,

HELBER HASTERT & FEE, PLANNERS, INC.

Thomas A. Fee, AICP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

200 Akamainui Street
Mililani, Hawaii 96789-3999
Tel 808-625-2100
Fax 808-625-5888

OCEANIC TIME WARNER CABLE



September 9, 2010

Helber Hastert & Fee
733 Bishop Street, Suite 2590
Honolulu, Hawaii, 96813

Attention: Thomas A. Fee

Project: Environmental Assessment
Honolulu Community Collage
Advanced Technology Center

Subject: CATV facilities

Mr. Fee,

I have reviewed the Environmental Assessment. Oceanic Time Warner Cable does not have any facilities within the proposed project area. If you have any questions, contact me at #625-8576.

Sincerely,

Lionel Aguiar
OSP Engineer
Oceanic Time Warner Cable

Helber Hastert & Fee
*Planners, Inc.*

December 6, 2010

Mr. Lionel Aguiar
OSP Engineer
Oceanic Time Warner Cable
200 Akamainui Street
Mililani, HI 96789-3999

**Honolulu Community College Advanced Technology and Training Center**
**Draft Environmental Assessment**
**Honolulu District, O'ahu, Hawai'i**
**TMK (1) 1-5-017: por. 006 and (1) 1-5-018: por. 001**

Dear Mr. Aguiar:

Thank you for your comments dated September 9, 2010 regarding the subject environmental assessment (EA). We note that Oceanic Time Warner Cable has no facilities within the project area.

We appreciate your input and participation in the EA process. Your letter and this response will be included in the Final EA.

Sincerely yours,

HELBER HASTERT & FEE, PLANNERS, INC.

Thomas A. Fee, AICP
President

cc: Mr. Ken Kato, HCC Vice Chancellor of Administrative Services (by email)
Mr. Loren Lau, U.H. Office of Capital Improvements (by email)
Mr. Kendall Ellingwood, III, Design Partners, Inc. (by email)

# APPENDIX E

Preliminary LEED Checklist

# LEED 2009 for New Construction and Major Renovation

Project Checklist

Project Name: Advanced technology Training Center

Date: 27 September 2010

| Y | N | ? | | | |
|---|---|---|---|---|---|
| 21 | 4 | 1 | **Sustainable Sites** | Possible Points: | **26** |
| Y | | | Prereq 1 | Construction Activity Pollution Prevention | |
| 1 | | | Credit 1 | Site Selection | 1 |
| 5 | | | Credit 2 | Development Density and Community Connectivity | 5 |
| | | 1 | Credit 3 | Brownfield Redevelopment | 1 |
| 6 | | | Credit 4.1 | Alternative Transportation—Public Transportation Access | 6 |
| 1 | | | Credit 4.2 | Alternative Transportation—Bicycle Storage and Changing Rooms | 1 |
| 3 | | | Credit 4.3 | Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles | 3 |
| 2 | | | Credit 4.4 | Alternative Transportation—Parking Capacity | 2 |
| | 1 | | Credit 5.1 | Site Development—Protect or Restore Habitat | 1 |
| | 1 | | Credit 5.2 | Site Development—Maximize Open Space | 1 |
| | 1 | | Credit 6.1 | Stormwater Design—Quantity Control | 1 |
| 1 | | | Credit 6.2 | Stormwater Design—Quality Control | 1 |
| | 1 | | Credit 7.1 | Heat Island Effect—Non-roof | 1 |
| 1 | | | Credit 7.2 | Heat Island Effect—Roof | 1 |
| 1 | | | Credit 8 | Light Pollution Reduction | 1 |

| Y | N | ? | | | |
|---|---|---|---|---|---|
| 5 | 2 | 0 | **Water Efficiency** | Possible Points: | **10** |
| Y | | | Prereq 1 | Water Use Reduction—20% Reduction | |
| 2 | | | Credit 1 | Water Efficient Landscaping | 2 to 4 |
| | | | 2 | Reduce by 50% | 2 |
| | | | 4 | No Potable Water Use or Irrigation | 4 |
| | 2 | | Credit 2 | Innovative Wastewater Technologies | 2 |
| 3 | | | Credit 3 | Water Use Reduction | 2 to 4 |
| | | | | Reduce by 30% | 2 |
| | | | 3 | Reduce by 35% | 3 |
| | | | | Reduce by 40% | 4 |

| Y | N | ? | | | |
|---|---|---|---|---|---|
| 12 | 10 | 0 | **Energy and Atmosphere** | Possible Points: | **35** |
| Y | | | Prereq 1 | Fundamental Commissioning of Building Energy Systems | |
| Y | | | Prereq 2 | Minimum Energy Performance | |
| Y | | | Prereq 3 | Fundamental Refrigerant Management | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 10 | | | Credit 1 | Optimize Energy Performance | | 1 to 19 |
| | | | | | Improve by 12% for New Buildings or 8% for Existing Building Renovations | 1 |
| | | | | | Improve by 14% for New Buildings or 10% for Existing Building Renovations | 2 |
| | | | | | Improve by 16% for New Buildings or 12% for Existing Building Renovations | 3 |
| | | | | | Improve by 18% for New Buildings or 14% for Existing Building Renovations | 4 |
| | | | | | Improve by 20% for New Buildings or 16% for Existing Building Renovations | 5 |
| | | | | | Improve by 22% for New Buildings or 18% for Existing Building Renovations | 6 |
| | | | | | Improve by 24% for New Buildings or 20% for Existing Building Renovations | 7 |
| | | | | | Improve by 26% for New Buildings or 22% for Existing Building Renovations | 8 |
| | | | | | Improve by 28% for New Buildings or 24% for Existing Building Renovations | 9 |
| | | | | 10 | Improve by 30% for New Buildings or 26% for Existing Building Renovations | 10 |
| | | | | | Improve by 32% for New Buildings or 28% for Existing Building Renovations | 11 |
| | | | | | Improve by 34% for New Buildings or 30% for Existing Building Renovations | 12 |
| | | | | | Improve by 36% for New Buildings or 32% for Existing Building Renovations | 13 |
| | | | | | Improve by 38% for New Buildings or 34% for Existing Building Renovations | 14 |
| | | | | | Improve by 40% for New Buildings or 36% for Existing Building Renovations | 15 |
| | | | | | Improve by 42% for New Buildings or 38% for Existing Building Renovations | 16 |
| | | | | | Improve by 44% for New Buildings or 40% for Existing Building Renovations | 17 |
| | | | | | Improve by 46% for New Buildings or 42% for Existing Building Renovations | 18 |
| | | | | | Improve by 48%+ for New Buildings or 44%+ for Existing Building Renovations | 19 |
| | 1 | | Credit 2 | On-Site Renewable Energy | | 1 to 7 |
| | | | | 1 | 1% Renewable Energy | 1 |
| | | | | | 3% Renewable Energy | 2 |
| | | | | | 5% Renewable Energy | 3 |
| | | | | | 7% Renewable Energy | 4 |
| | | | | | 9% Renewable Energy | 5 |
| | | | | | 11% Renewable Energy | 6 |
| | | | | | 13% Renewable Energy | 7 |
| | 2 | | Credit 3 | Enhanced Commissioning | | 2 |
| 2 | 2 | | Credit 4 | Enhanced Refrigerant Management | | 2 |
| | 3 | | Credit 5 | Measurement and Verification | | 3 |
| | 2 | | Credit 6 | Green Power | | 2 |

| Y | N | ? | | | | |
|---|---|---|---|---|---|---|
| 6 | 6 | 2 | **Materials and Resources** | | Possible Points: | **14** |
| Y | | | Prereq 1 | Storage and Collection of Recyclables | | |
| | 3 | | Credit 1.1 | Building Reuse—Maintain Existing Walls, Floors, and Roof | | 1 to 3 |
| | | | | | Reuse 55% | 1 |
| | | | | | Reuse 75% | 2 |
| | | | | 3 | Reuse 95% | 3 |
| | | 1 | Credit 1.2 | Building Reuse—Maintain 50% of Interior Non-Structural Elements | | 1 |
| 2 | | | Credit 2 | Construction Waste Management | | 1 to 2 |
| | | | | | 50% Recycled or Salvaged | 1 |
| | | | | 2 | 75% Recycled or Salvaged | 2 |
| | 2 | | Credit 3 | Materials Reuse | | 1 to 2 |
| | | | | | Reuse 5% | 1 |
| | | | | 2 | Reuse 10% | 2 |

| | | | | | |
|---|---|---|---|---|---|
| 2 | | | Credit 4 | Recycled Content | 1 to 2 |
| | | 1 | | 10% of Content | 1 |
| | | 1 | | 20% of Content | 1 |
| 1 | | 1 | Credit 5 | Regional Materials | 1 to 2 |
| | | 1 | | 10% of Materials | 1 |
| | | 1 | | 20% of Materials | 1 |
| | 1 | | Credit 6 | Rapidly Renewable Materials | 1 |
| 1 | | | Credit 7 | Certified Wood | 1 |

| | | | | |
|---|---|---|---|---|
| 12 | 2 | 1 | **Indoor Environmental Quality** | Possible Points: **15** |
| Y | N | ? | | |
| Y | | | Prereq 1 | Minimum Indoor Air Quality Performance |
| Y | | | Prereq 2 | Environmental Tobacco Smoke (ETS) Control |
| 1 | | | Credit 1 | Outdoor Air Delivery Monitoring 1 |
| 1 | | | Credit 2 | Increased Ventilation 1 |
| 1 | | | Credit 3.1 | Construction IAQ Management Plan—During Construction 1 |
| 1 | | | Credit 3.2 | Construction IAQ Management Plan—Before Occupancy 1 |
| 1 | | | Credit 4.1 | Low-Emitting Materials—Adhesives and Sealants 1 |
| 1 | | | Credit 4.2 | Low-Emitting Materials—Paints and Coatings 1 |
| 1 | | | Credit 4.3 | Low-Emitting Materials—Flooring Systems 1 |
| 1 | | | Credit 4.4 | Low-Emitting Materials—Composite Wood and Agrifiber Products 1 |
| 1 | | | Credit 5 | Indoor Chemical and Pollutant Source Control 1 |
| 1 | | | Credit 6.1 | Controllability of Systems—Lighting 1 |
| 1 | | | Credit 6.2 | Controllability of Systems—Thermal Comfort 1 |
| 1 | | | Credit 7.1 | Thermal Comfort—Design 1 |
| | | 1 | Credit 7.2 | Thermal Comfort—Verification 1 |
| | 1 | | Credit 8.1 | Daylight and Views—Daylight 1 |
| | 1 | | Credit 8.2 | Daylight and Views—Views 1 |

| | | | | |
|---|---|---|---|---|
| 4 | 0 | 0 | **Innovation and Design Process** | Possible Points: **6** |
| Y | N | ? | | |
| 1 | | | Credit 1.1 | Innovation in Design: Education program - signage and display 1 |
| 1 | | | Credit 1.2 | Innovation in Design: Environmentally-safe custodial practices 1 |
| 1 | | | Credit 1.3 | Innovation in Design: Ester Seed Oil for Transformers 1 |
| | | | Credit 1.4 | 1 |
| | | | Credit 1.5 | 1 |
| 1 | | | Credit 2 | LEED Accredited Professional 1 |

| | | | | |
|---|---|---|---|---|
| 3 | 0 | 1 | **Regional Priority Credits** | Possible Points: **4** |
| Y | N | ? | | |
| 1 | | | Credit 1.1 | Regional Priority: WE credit 1 1 |
| 1 | | | Credit 1.2 | Regional Priority: WE Credit 3 1 |
| 1 | | | Credit 1.3 | Regional Priority: EA Credit 1 1 |
| | | 1 | Credit 1.4 | Regional Priority: 1 |

| | | | | |
|---|---|---|---|---|
| 63 | 24 | 5 | **Total** | Possible Points: **110** |

Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110