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UNIVERSITY of HAWAI'I SYSTEM

MAY 23 2020

Director
State of Hawai'i
Office of Environmental Quality Control
235 South Beretania Street, Room 702
Honolulu, Hawai'i 96813

Subject: Final Environmental Assessment – Finding of No Significant Impact (FEA-FONSI)
University of Hawai'i / University of Hawai'i Foundation
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Keys (TMK): (1) 2-8-016:001
Honolulu, O'ahu, Hawai'i

Dear Sir / Madam:

The University of Hawai'i hereby transmits the attached Final Environmental Assessment and Finding of No Significant Impact (FEA-FONSI) for the subject project. The FEA-FONSI has been prepared pursuant to Chapter 343, Hawai'i Revised Statutes and Chapter 11-200.1, Hawai'i Administrative Rules. Please publish notice of this FEA-FONSI in the upcoming issue of OEQC's *The Environmental Notice*.

Included in the FEA-FONSI are an archeological literature review and field inspection report, historic resources evaluation study, a traffic impact report, and copies of comments received during pre-assessment consultation, along with the corresponding responses, and copies of comments and responses that UH received during the 30-day public comment period on the draft environmental assessment and anticipated finding of no significant impact (DEA-AFONSI).

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

Sincerely,

Jan Gouveia
Vice President for Administration
University of Hawai'i

Kalbert K. Young
Vice President for Budget and Finance/CFO
University of Hawai'i

c: Michael Lam
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An Equal Opportunity/Affirmative Action Institution

20-272

From: webmaster@hawaii.gov
To: HI Office of Environmental Quality Control
Subject: New online submission for The Environmental Notice
Date: Friday, May 15, 2020 3:29:32 PM

Action Name

Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center

Type of Document/Determination

Final environmental assessment and finding of no significant impact (FEA-FONSI)

HRS §343-5(a) Trigger(s)

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

Judicial district

Honolulu, O‘ahu

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

(1) 2-8-016:001

Action type

Agency

Other required permits and approvals

State of Hawaii: Department of Land and Natural Resources: Chapter 6E, HRS State Historic Preservation Law, Department of Health: NPDES, Disability and Communication Access Board, Pollution Control Noise Permit; City and County of Honolulu: Department of Planning and Permitting: Plan Use Review Major Modification, Building Permit, Grading Permit/Trenching Permit, Certificate of Occupancy, Construction Dewatering, Wastewater Sewer Connection, Stormwater Drain Connection, and Excavation and Repair of Streets and Sidewalks; Board of Water Supply: Water Connection; Department of Transportation: Street Usage Permit; Honolulu Fire Department: Plan Review

Proposing/determining agency

University of Hawaii

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Was this submittal prepared by a consultant?

Yes

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Action summary

The University of Hawai‘i Foundation (UHF) has partnered with Hunt Development Group (HDG) to design, build, finance, operate, and maintain a Mixed Use Student Housing Innovation and Entrepreneurship Center on UHF property in lower Mānoa located directly adjacent from the University of Hawai‘i at Mānoa (UHM) campus. The proposed project will consist of approximately 114,000 square feet, with programming that will include student housing and residential common areas, the innovation and entrepreneurship center, project service areas, retail area, and on-site parking.

The proposed project will comprise of the Innovation / Entrepreneurship Center and two six story buildings primarily for student housing. The existing Charles Atherton House will be repurposed as the Innovation Center and house incubator spaces, classrooms, offices, and retail space.

Reasons supporting determination

See Chapter 6 of the FEA

Attached documents (signed agency letter & EA/EIS)

- Final-FEA.pdf
- OEQC-Transmittal-Letter_05-15-20_final.pdf

Shapefile

- The location map for this Final EA is the same as the location map for the associated Draft EA.

Action location map

- Project-Site.zip

Authorized individual

Dalton Beauprez

Authorization

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

Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center

Final Environmental Assessment

May 2020

Prepared For

University of Hawai'i

Prepared By

Wilson Okamoto Corporation

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

TABLE OF CONTENTS

Page

PREFACE P-1

SUMMARY S-1

1. INTRODUCTION 1-1
- 1.1 Background 1-1
- 1.2 Project Location 1-1
- 1.3 Surrounding Uses 1-2
- 1.4 Land Ownership 1-2

2. PROJECT DESCRIPTION 2-1
- 2.1 Purpose and Need 2-1
- 2.2 Project Description 2-1
- 2.3 Development Schedule 2-3
- 2.4 Project Costs 2-3

3. DESCRIPTION OF EXISTING ENVIRONMENT, IMPACTS, AND MITIGATION MEASURES 3-1
- 3.1 Climate & Climate Change 3-1
- 3.2 Physiography 3-2
  - 3.2.1 Geology and Topography 3-2
  - 3.2.2 Soils 3-3
- 3.3 Hydrology 3-4
  - 3.3.1 Surface and Coastal Waters 3-4
  - 3.3.2 Groundwater 3-11
- 3.4 Natural Hazards 3-12
  - 3.4.1 Sea Level Rise 3-12
  - 3.4.2 Flood and Tsunami Hazard 3-12
  - 3.4.3 Hurricane and Wind Hazard 3-15
  - 3.4.4 Seismic Hazard 3-17
- 3.5 Natural Environment 3-17
  - 3.5.1 Flora and Fauna 3-17
- 3.6 Historic and Archaeological Resources 3-18
  - 3.6.1 Historic Architecture 3-22
- 3.7 Cultural Resources and Practices 3-24
- 3.8 Air Quality 3-25
- 3.9 Noise 3-26
- 3.10 Hazardous Materials 3-27
- 3.11 Traffic 3-28
- 3.12 Visual Resources 3-38
- 3.13 Socio-Economic Characteristics 3-38
- 3.14 Public Services and Facilities 3-40
  - 3.14.1 Police, Fire, and Medical Services 3-40
  - 3.14.2 Education 3-41
  - 3.14.3 Recreational Facilities 3-42

TABLE OF CONTENTS (Continued)

Page

3.14.4 Solid Waste Collection and Disposal 3-42
3.15 Infrastructure and Utilities 3-43
3.15.1 Water System 3-43
3.15.2 Wastewater System 3-44
3.15.3 Drainage System 3-45
3.15.4 Electrical and Communications System.....3-46

4. RELATIONSHIP TO PLANS, POLICIES, AND CONTROLS 4-1
4.1 State Land Use Plans and Policies.....4-1
4.1.1 Hawai‘i State Plan.....4-1
4.1.2 State Functional Plans 4-29
4.1.3 State Land Use District 4-32
4.1.4 Hawai’i Coastal Zone Management Program 4-34
4.2 City and County of Honolulu Land Use Plans and Policies 4-39
4.2.1 City and County of Honolulu General Plan 4-39
4.2.2 Primary Urban Center Development Plan.....4-60
4.2.3 City and County of Honolulu Zoning 4-70
4.3 Permits and Approvals.....4-70

5. ALTERNATIVES.....5-1
5.1 No Action Alternative 5-1
5.2 Alternative Design Schemes.....5-1

6. DETERMINATION OF FONSI 6-1

7. CONSULTATION.....7-1
7.1 Pre-Assessment Consultation 7-1
7.2 Draft EA Comments.....7-1

8. REFERENCES.....8-1

LIST OF FIGURES

Page

Figure 1-1 Location Map 1-3
Figure 1-2 TMK Map 1-4
Figure 1-3 Surrounding Uses 1-5

Figure 2-1 Conceptual Artistic Rendering 2-4
Figure 2-2 Project Site Plan 2-5

Figure 3-1 Topography Map....3-5
Figure 3-2 Soil Map....3-6
Figure 3-3 Stream Map 3-7
Figure 3-4 Inland Water Classification Map 3-8
Figure 3-5 Coastal Water Map 3-9
Figure 3-6 Water Quality Classification Map....3-10
Figure 3-8 Sea Leve Rise Exposure Map 3-13
Figure 3-9 Flood Insurance Rate Map 3-14
Figure 3-10 Tsunami Hazard Map 3-16
Figure 3-11 Existing Conditions Map 3-48

Figure 4-1 State Land Uses District 4-33
Figure 4-2 Special Management Area Map 4-40
Figure 4-3 City and County of Honolulu Map....4-72

LIST OF TABLES

Page

Table 3-1 Potential Site and Recommendations....3-22
Table 3-2 Existing and Projected Year 2023 (Without Project) LOS .....
Traffic Operating Conditions....3-33
Table 3-3 Existing and Projected Year 2023 (Without and With Project) LOS Traffic
Operating Conditions....3-34

Table 3-4 Demographic Characteristics....3-39
Table 3-5 UH Atherton Student Housing – Proposed Program Information 3-43
Table 3-6 Existing Wastewater System 3-44

Table 4-1 The Hawaiʻi State Plan 4-1
Table 4-2 Part III: The Hawaiʻi State Plan....4-21
Table 4-3 Hawaiʻi State Functional Plans 4-30
Table 4-4 Hawaiʻi Coastal Zone Management Act....4-34
Table 4-5 City and County of Honolulu: General Plan – Objectives and Policies....4-41
Table 4-6 Primary Urban Center Development Plan 4-60

LIST OF APPENDICES

Appendix A Archaeological Literature Review and Field Inspection, Cultural Surveys Hawaii

Appendix B Historic Resources Evaluation for Atherton Mixed Use Student Housing Environmental Assessment, Mason Architects, Inc.

Appendix C Traffic Impact Report for the Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center, Wilson Okamoto Corporation

Appendix D Civil Engineering Correspondence, Wilson Okamoto Corporation

Appendix E Pre-Assessment Consultation Comment Letters and Responses

Appendix F Draft EA Comment Letters and Responses

PREFACE

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

This EA is required because the proposed project is an “agency action” involving the use of state lands and funds. The proposing agency is the University of Hawai‘i, has files a Finding of No Significant Impact (FONSI).

This EA will support a forthcoming Plan Review Use Modification Application, which will be processed for acceptance and approval by the City and County of Honolulu’s Department of Planning and Permitting (DPP). The subject PRU Modification is intended to assimilate the project site within the bounds of the University of Hawai‘i’s Mānoa Campus.

Studies prepared in conjunction with this EA include an Archaeological Literature Review, a Historic Resources Evaluation Study, a Traffic Impact Analysis Report, and correspondence with City and County agencies to inform the civil and infrastructure analysis. The aforementioned studies are appended to the EA.

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SUMMARY

Proposing and Accepting Agency:	University of Hawai‘i
Location:	Mānoa, O‘ahu, Hawai‘i
Tax Map Keys (TMKs):	(1) 2-8-016:001
Recorded Fee Owner:	UHF Atherton Student Housing LLC
Existing Use:	Presently, the site is occupied by two main structures; the Charles Atherton House, and the Mary Atherton Richards House. The buildings were occupied by Atherton YMCA, that was used as a resident facility for University students, and Banan Hawai‘i.
State Land Use Classification:	Urban
County Zoning Designation:	City and County of Honolulu Department of Planning and Permitting (DPP) zoning data indicates that the project site lies within Residential Zoning Designation (R-5).
Proposed Action:	The University of Hawai‘i Foundation (UHF) has partnered with Hunt Development Group (HDG) to design, build, finance, operate, and maintain a Mixed Use Student Housing Innovation and Entrepreneurship Center on UHF property in lower Mānoa located directly adjacent from the University of Hawai‘i at Mānoa (UHM) campus. The proposed action is envisioned to bring an integrated, live, learn, work, innovation center supporting the innovation and entrepreneurship community at UHM. The proposed project will consist of approximately 114,000 square feet, with programming that will include student housing and residential common areas, the innovation and entrepreneurship center, project service areas, retail area, and on-site parking. The proposed project will comprise of the Innovation / Entrepreneurship Center and two six story buildings primarily for student housing. The existing Charles Atherton House will be repurposed as the Innovation Center and house incubator spaces, classrooms, offices, and retail space.
Impacts:	Potential soil erosion and associated water quality impacts will be mitigated by applying required best management practices to control soil erosion and siltation. No significant impacts on flora and fauna are anticipated as a result of construction or operation

of the project. For the Mary Atherton Richards House the proposed action of demolishing the building and redeveloping a new building adjoined to the existing YMCA building would have an adverse effect due to demolition of the building. The proposed demolition of the rear wings of the Charles H. Atherton house along with the construction of a building that extends adjacent beyond its existing envelope could potentially adversely impact the historic character of the structure as the scale and massing of the new building would visually overwhelm the historic YMCA structure. Air quality, noise and hazardous materials impacts will be mitigated by compliance with applicable Department of Health rules. Traffic operations in the vicinity of the project site are expected to remain similar to conditions without the proposed project. As such, the proposed project is not expected to have a significant impact on surrounding roadways. No significant impacts regarding water, wastewater, drainage, electrical and communications systems are anticipated. Further consultation and coordination with applicable agencies will assure that construction activities can avoid impacts to existing utility lines.

Determination: Finding of No Significant Impact (FONSI)

Parties Consulted During Pre-Assessment:

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

State Legislative Branch
Senator Brian Taniguchi
Senator Les Ihara
Representative Dale Kobayashi
Representative Della Au Belatti

State Agencies
Department of Accounting and General Services
Department of Business, Economic Development and Tourism
Department of Business, Economic Development and Tourism, Energy Office
Department of Business, Economic Development and Tourism, Land Use Commission
Department of Business, Economic Development and Tourism, Office of Planning
Department of Defense
Department of Defense, State Civil Defense

Department of Health
Department of Health, Clean Water Branch
Department of Health, Environmental Management Division
Department of Health, Environmental Planning Office
Department of Land and Natural Resources
Department of Land and Natural Resources, Historic Preservation Division
Department of Transportation
Office of Environmental Quality Control
Office of Hawaiian Affairs

City Council
Councilmember Ann Kobayashi

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

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

Other Interested Parties and Individuals
Diamond Head/Kapahulu/ St. Louis Heights Neighborhood Board No. 5
Mānoa Neighborhood Board No. 7
McCully/Mō‘ili‘ili Neighborhood Board No. 8

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1. INTRODUCTION

1.1 Background

As the availability of State legislative funding is limited, the University of Hawai‘i at Mānoa (UHM) is exploring the use of public-private partnerships (P3) as a financing vehicle for the delivery of a new student and faculty housing facilities on its campus. In general, such P3 processes could result in projects where a developer would build, finance, operate, and maintain project facilities for a long-term period, helping to reduce the cost for construction, operations and maintenance to the University of Hawai‘i (UH). While UH will work closely with a selected developer during the planning, entitlement, design and construction phases of the project, the developer is ultimately responsible for securing the necessary entitlements and permits leading to the construction of each project.

In the case of this the proposed project, the University of Hawai‘i, University of Hawai‘i Foundation (UHF),and Hunt Development Group (HDG) have partnered to design, build, finance, operate, and maintain the Atherton Mixed Use Student Housing Innovation and Entrepreneurship Center (“Proposed Action” or “Project”) on UH/UHF property in lower Mānoa located directly adjacent from the University of Hawai‘i at Mānoa (UHM) campus. The Proposed Action is envisioned to bring an integrated, live, learn, work, innovation center supporting the innovation and entrepreneurship community at UHM.

Established in 1955 to encourage private support for the University of Hawai‘i (UH), the UHF is a private, institutionally related corporation designated as a 501(c)(3), meaning it is a separate legal entity from the UH and other UH affiliates. However, UHF works closely with these organizations as well as others in the community, exclusively for the benefit of UH. Thus this Environmental Assessment (EA) is being prepared as an “Agency Action” and UH will be responsible for processing this EA.

The Proposed Action is one of several projects identified in the forthcoming UHM Long Range Development Plan (LRDP) Update and is in line and supports: a) the Hawai‘i Innovation Initiative as set forth in the University’s 2015-2021 strategic direction and b) the guiding principles of the UHM Framework for the Future established to further the University’s desire to continue to be a leading global research institution.

1.2 Project Location

The proposed project site is located at 1810 University Avenue situated in lower Mānoa on the island of O‘ahu (See Figure 1-1). The subject project site can be further identified by Tax Map Key (TMK) number [1] 2-8-016:001, which currently encompasses 43,107 square feet (See Figure 1-2). The approximately 1-acre parcel currently occupied by two main structures: the 47,425 square-foot Charles Atherton House, and the 15,645 square-foot Mary Atherton Richards House. The parcel also comprises of a parking lot and Banan on the ground floor of the Charles Atherton House.

The site was formerly built in 1932 as student housing and prior to UHF’s purchase, was used by the YMCA of Honolulu which housed the Atherton YMCA Branch which was alternative dormitory option for UHM students. The property was purchased by UHF in

2017 to benefit the University's facility needs. The YMCA of Honolulu has completely vacated the property and has moved its programs onto the UHM campus.

The property is bounded by Metcalf Street to the south, residential homes to the west, Seaview Avenue to the north, and University Avenue to the east.

1.3 Surrounding Uses

The surrounding area of the project site in Lower Mānoa can be generally described as a college community. The project site is surrounded on the south and west by the UHM Campus (and historically has serviced the UHM Campus), however at the time it is not within the UHM Campus. Following the EA process, the property will formally go through the Plan Use Review (PRU) process to bring the project site into UHM's campus boundaries.

UHM's principal physical borders are the Mānoa residential community to the north, Wa'ahila Ridge to the east, H-1 Freeway to the south and Lower Mānoa and Mō'ili'ili/McCully residential communities to the west. In addition to the University, there are several other schools in the area. The University Lab Charter School is located adjacent to the south of the project site. Mid-Pacific Institute is located approximately 0.35 miles to the northeast of the project site. Punahou School is located approximately 0.45 miles to the west of the project site. Maryknoll Grade School and Maryknoll High School are located approximately 0.75 miles from the project site (See Figure 1-3).

1.4 Land Ownership

The subject property was acquired by UHF in 2017 with the purpose to benefit the University's facility needs. Once the project is completed, UH will lease a portion of the academic/commercial space to initiate the Project's programming and the balance of the Project will be purpose built for student housing.

WILSON OKAMOTO CORPORATION

FIGURE 1-1

Project Location Map

Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Honolulu, O‘ahu, Hawai‘i

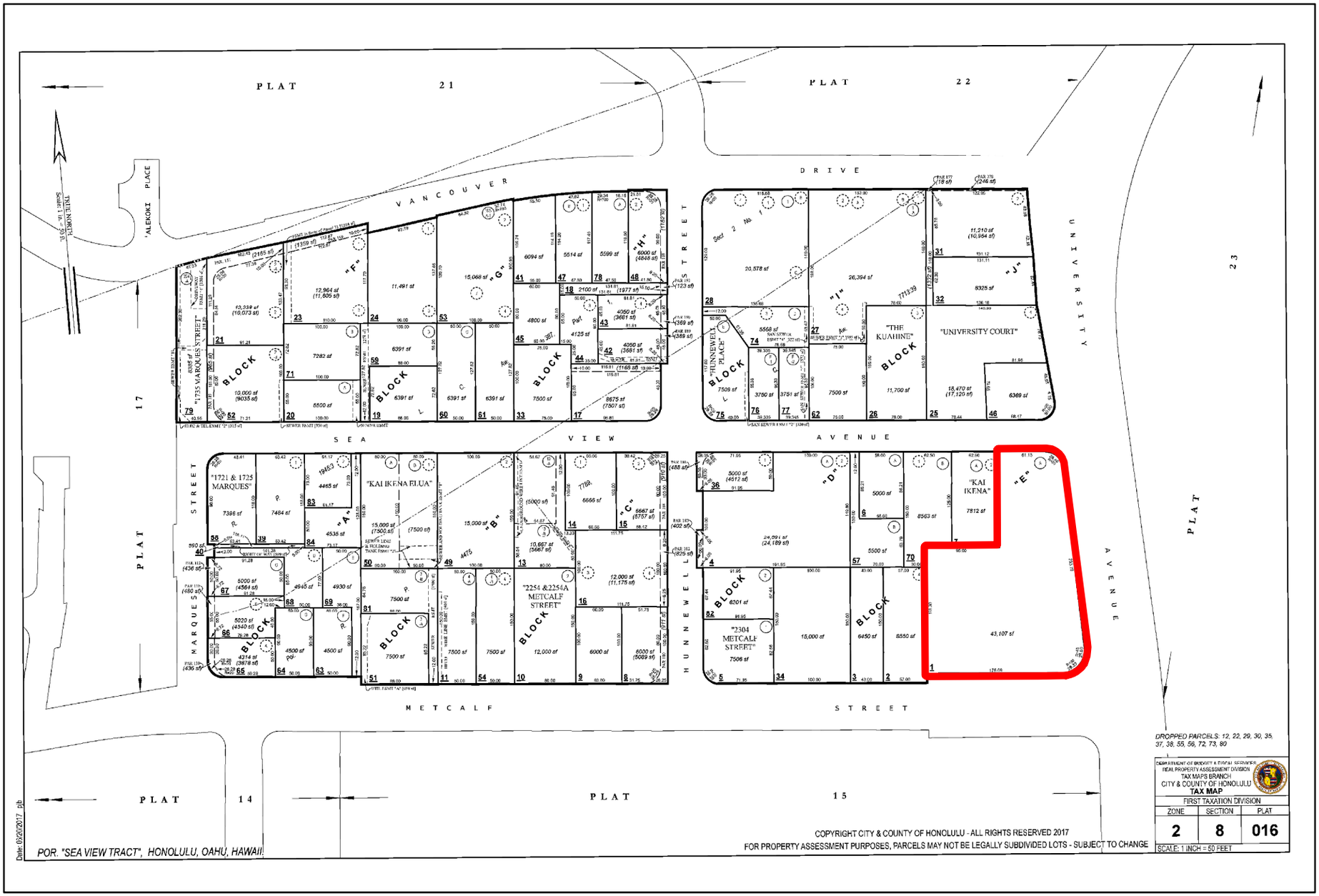

FIGURE 1-2

TMK Map

Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Honolulu, O'ahu, Hawai'i

WILSON OKAMOTO CORPORATION

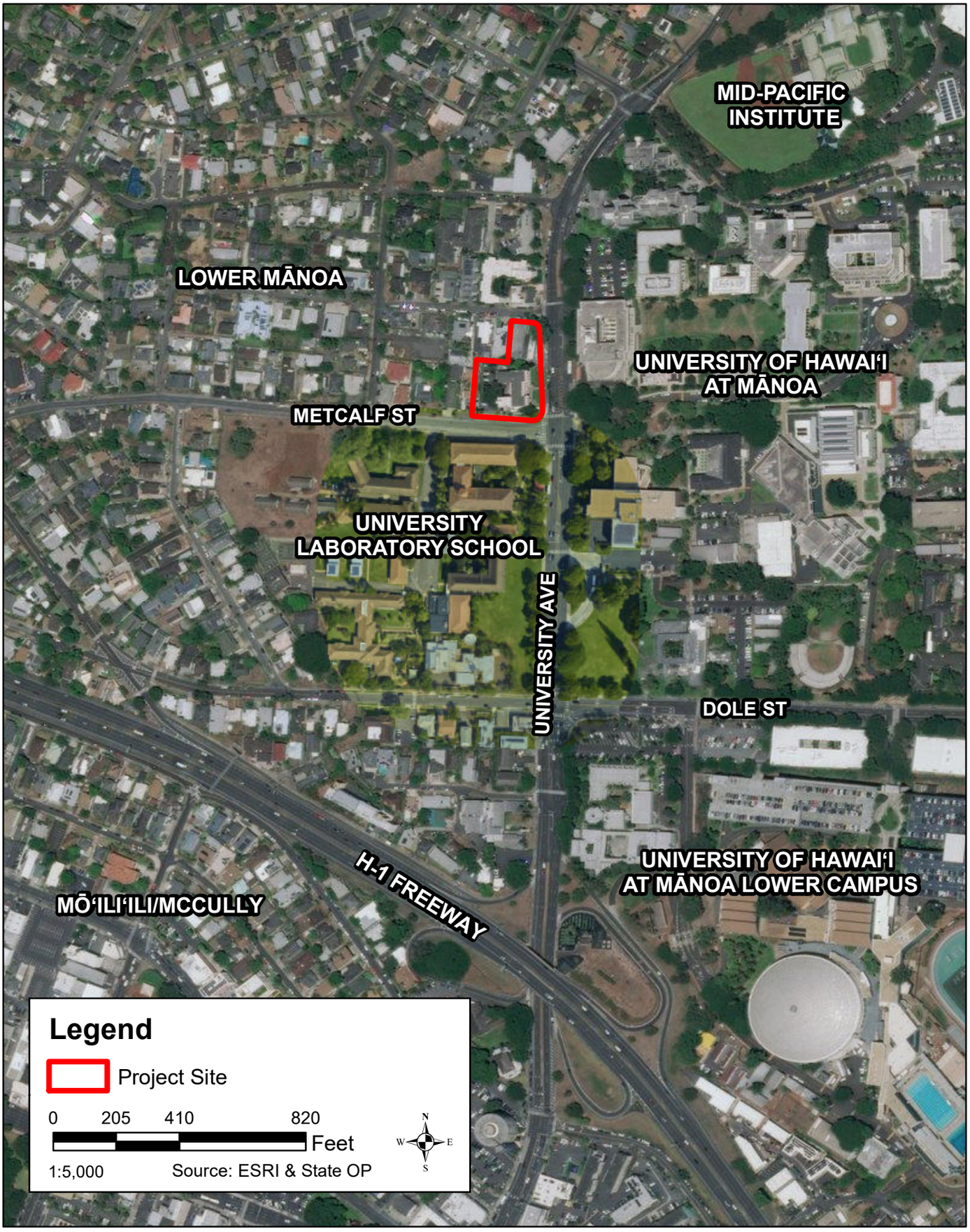

FIGURE 1-3

Surrounding Uses Map

Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Honolulu, Oʻahu, Hawaiʻi

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2. PROJECT DESCRIPTION

2.1 PURPOSE AND NEED

The Proposed Action aligns with the strategic direction outlined in UHM's forthcoming LRDP Update while introducing an innovative P3 project that will strengthen community assets and facilitate economic growth for UH, as well as the State. This partnership, consisting of UH, UHF, and HDG will spearhead the creation of a world-class student housing, innovation and classroom complex, currently unavailable on the UHM Campus. A thriving innovation, research, and education facility (the "Innovation Center") will be situated on the first three floors of the Project and will be managed by the University's Pacific Asian Center for Entrepreneurship (PACE). PACE was founded in 2000 at the Shidler College of Business and is the home for a set of experiential entrepreneurship programs at UHM. PACE currently offers over 20 programs with mentorship, training, and resources to all UH students and faculty, and are designed in such a way to encourage entrepreneurial and innovative thinking across multiple disciplines. The Proposed Project will facilitate entrepreneurial practice and advance the understanding of entrepreneurship in the Pacific Rim.

Moreover, the State of Hawai‘i remains behind the rest of the nation in meeting national benchmarks for innovation indicators (DBEDT, 2010). Innovation is considered to be the process whereby new ideas and new approaches are conceived and introduced into the economy, resulting in new or substantially improved products and services. The concept of innovation as a driver of economic activity has been rooted in economic growth theory for several decades and research has shown that most economic growth throughout the U.S. has been a result of the application of technology and innovation to the economy.

Hawai‘i faces a number of challenges if it is to compete effectively in the more global and technology-driven economy of the 21st century. The State's ability to maintain a prosperous economy and to preserve its quality of life depends on transforming the economy through innovation to compete in the new global economy. Innovation promotes economic diversification by creating higher paying jobs in knowledge intensive firms. But it is not just new industries that benefit from innovation. Traditional and even declining industries can increase their productivity and find new markets for their core competencies through innovation. The overall result of effective innovation is an increased standard of living and a more competitive economy. The Proposed Action is critical to the State's efforts in developing a robust commercial high-technology industry that can support both mature and growing markets.

The academic programming and research support that will be offered at the Innovation Center has the potential to both: a) develop a much needed third major economic sector for the State of Hawai‘i, that will be able to create high-quality living- wage jobs, and b) prepare students to address the challenges and opportunities faced by Hawai‘i, and the world, in a quickly evolving digital century.

2.2 PROJECT DESCRIPTION

The project site is currently occupied by two main structures: the 47,425 square-foot Charles Atherton House, and the 15,645 square-foot Mary Atherton Richards House. The Proposed Action will involve the erection of the Atherton Mixed Use Student Housing

Innovation and Entrepreneurship Center and the demolition of the Mary Atherton Richards House. The Charles Atherton House will be retained and repurposed (See Figure 2-1).

The Proposed Action is planned to consist of approximately 114,000 net square feet (NSF), with programming the project will include the following:

- Student Housing and Residential Common Areas (70,000 SF)
- Innovation and Entrepreneurship Center (30,000 SF)
- Project Service Areas (12,000 SF)
- Retail Area (2,000 SF)
- Approximately 40-50 onsite parking stalls

The Innovation / Entrepreneurship Center's main building, and two (estimated) six-story buildings, will be primarily for student housing. The existing Charles Atherton House will be repurposed as the Innovation Center and house the incubator spaces, classrooms, offices and retail space. The two residential wings will have enough residential rooms to accommodate approximately 350 students, and will be erected on top of on-grade covered parking areas. Parking will include approximately 40-50 covered on-site parking stalls (See Figure 2-2).

Participants will have access to educational programs provided by PACE which also includes free advice by experienced mentors, startup funds, free to low-cost office space, and access to entrepreneurial interns. The academic programs planned for the Innovation Center would support three phases of the startup process:

1) Ideation: Programs and classes to assist students in developing innovative ideas and intellectual property into viable business models. University entrepreneurs, researchers and faculty will find support for the commercialization of their inventions through various resources and programs provided by PACE, the University's iLab, the Office of Technology Transfer and Economic Development (OTTED), and The Research Corporation of the University of Hawai'i (RCUH). Small grants and prizes are awarded upon successful completion of ideation programs;

2) Acceleration: Teams showing promise can apply and if accepted, participate in the University's Accelerator program. Established in 2015, this two-phase process begins with a 16-week, intensive program providing curriculum, operational milestones, mentors and seed financing to transform teams with ideas into startup companies. Phase two continues the companies' build with further oversight providing additional funding dependent on milestones attained. In exchange for this assistance, companies "pay" for services with company equity of between 6-12%; and

3) Incubation: Companies that demonstrate potential after participation in the Accelerator program as well as companies in the startup phase of operations who meet established requirements would be accepted into the UH Incubator. The Incubator provides office administrative support, access to mentors and below-market, tiered office rent for a limited time. These companies would have already received startup funding or are post-revenue. The goal of

incubating companies is for them to become self-supporting within 2-3 years.

Landscaping: The new landscape for the University of Hawai‘i Atherton Student Housing will be modest and fresh. A front lawn will provide an appearance of simple elegance as the foundation to this historic structure. The legacy and mature Tamarind tree (*Tamarindus indica*) will remain a feature at the corner of Metcalf Street and University Avenue.

The lawn also serves as open space and a natural gathering area for the residents and students supported by simple seating areas. The lawn also functions as a natural bio-filter to help cleanse pollutants from stormwater runoff before reaching the storm drains.

Much of the existing assortment of peripheral mature plantings such as palms and miscellaneous trees will be preserved, removed and/or replaced to further enhance the campus environment.

2.3 Development Schedule

The proposed project is anticipated to start site work and demolition work by 2021, and construction in the first quarter of 2022 with an anticipated to be completed by the 3rd quarter of 2023.

2.4 Project Costs

The Proposed Action is anticipated to cost approximately $58.20 million to construct.

FIGURE 2-1

Conceptual Artistic Rendering

Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Honolulu, O‘ahu, Hawai‘i

WILSON OKAMOTO CORPORATION

FIGURE 2-2

Project Site Plan

Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Honolulu, O‘ahu, Hawai‘i

WILSON OKAMOTO CORPORATION

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

3.1 Climate & Climate Change

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

The project is located in the Honolulu area which has a climate typical of the leeward coastal lowlands of Oʻahu. The area is characterized by abundant sunshine, persistent trade winds, relatively constant temperatures, moderate humidity, and the infrequency of severe storms. Northeasterly trade winds prevail throughout the year although its frequency varies.

Average daily minimum and maximum temperatures typically range from the low 60s (degree Fahrenheit) to the low 90s, depending on the time of the day and the season. Daily temperatures vary by about 7 degrees between winter and summer seasons, and 15 to 20 degrees between day and night.

Northeasterly trade winds prevail much of the time throughout the island of Oʻahu. These trade winds vary in frequency. Often times they last for weeks on end. Other times they are virtually absent. This is the general result due to the location of the North Pacific high pressure system. During the spring and summer months, this system is larger, stronger and shifts farther to the north and produces stronger, more persistent trade winds. In the fall and winter months, this high pressure system degrades and shifts to the southeast, at which time the general wind patterns become weaker and more variable. Typical wind velocities range between 8 and 15 miles per hour.

Rainfall in Mānoa varies considerably between the upper and lower areas; therefore the upper-most and lower-most districts of the UHM Campus receive different amounts of rainfall. On average, annual precipitation values of approximately 30 inches can be expected, with most rainfall occurring in conjunction with discrete winter storms between December and April. However, during the spring and summer months, moisture-laden trade winds regularly produce passing showers that contribute significantly to the annual rainfall total.

The State of Hawaiʻi is being impacted by a myriad of climatic changes through rising sea levels, an increase in ocean acidity, changing rainfall patterns, a decrease in stream base flow, changing wind and wave patterns, and changing habitats and species distribution. There is no consensus, however, about the exact nature, magnitude, and timing of how these changes will occur. Generally speaking, there is an expectation of a rise in air and sea surface temperatures, a decrease in the prevailing northeasterly trade winds, a decline in average rainfall resulting in the continued decline in stream base flow, an increase in ocean acidity, and sea level rise. There is an overall consensus that these climate changes are linked to global greenhouse gas (GHG) emissions from anthropogenic sources.

GHGs absorb and "trap" solar radiation instead of reflecting it back into space. Generally speaking, GHGs include carbon dioxide, methane, nitrous oxide, and chlorofluorocarbons. The main sources of GHG emissions resulting from human activity are from the following sectors, in order from most emissions to least: fossil fuel power stations, industrial activity, transportation, agriculture, fossil fuel processing, residential and commercial activity, land use and biomass burning, and waste disposal and treatment. In 2007, the United States was responsible for approximately 20 percent of global carbon dioxide emissions (WRI 2010). Within Hawai'i, the island of O'ahu accounts for approximately 80 percent of the state's total carbon dioxide emissions (ICF 2008). Hawai'i's GHG emissions encompass less than 1 percent of the national total, as of 2007 (Environmental Protection Agency [EPA] 2008).

Impacts and Mitigation Measures

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

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

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

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

3.2 Physiography

3.2.1 Geology and Topography

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

The project area is located adjacent to the UHM Campus in lower Mānoa situated on the southeastern slopes of the extinct Ko'olau Volcano. The valley was a result of a rejuvenated stage of eruptions, known as the Honolulu Volcanic series, over 100,000 years ago.

During the Honolulu Volcano series eruption period, many of the vents erupted through a coral reef that surrounded the island on the south side. The cinder cones of Mount Tantalus, Punchbowl (Pūowaina), and Rocky Hill at Punahou were formed during this period. The other flows that erupted inland were funneled down valleys, such as Mānoa, thereby creating flatter valley floors and bluffs. The flows and ashes of the Honolulu Volcano series have high contents of sodium and potassium and low contents of silica.

The regional topography of the surrounding area gently slopes at less than five degrees in a southwesterly direction toward the ocean (See Figure 3-1). The immediate site is partially influenced by its location at the foot of Mānoa Valley's eastern wall, creating the slight slope toward the west at the project site. Also, due to the large amount of urban development at UHM, the areas surrounding the existing project site have experienced profuse grading activity, as evidenced by the relatively level nature of the building site where the Proposed Action will occur.

Impacts and Mitigation Measures

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

3.2.2 Soils

According to the U.S. Department of Agriculture (USDA), Natural Resource Conservation Service, soils underlying the site are classified as Tantalus silty clay loam (TCC) (See Figure 3-2). Tantalus series consists of well-drained soils on uplands on the island of O'ahu. These soils developed in volcanic ash and material weathered from cinders. They are moderately sloping to very steep. Elevations range from 100 to 2,200 feet. The annual rainfall amounts to 50 to 150 inches. It is well distributed throughout the year. The mean annual soil temperature is 70 degrees Fahrenheit. Tantalus soils are geographically associated with Makīkī soils.

TCC is characterized by slow runoff and a slight erosion hazard. This soil is used for homesites, water supply, and recreation.

Impacts and Mitigation Measures

In the short- and long- term, no significant impacts on soils are anticipated during the construction or operation of the Proposed Action. The project site is a previously developed site within the urban core of Honolulu. The Project would involve some fine grading for new construction activities, as well as excavation for utility lines. The construction of the Proposed Action, however, will not involve any major land disturbing activities involving mass grading or significant revisions to site contours. Applicable best management practices and erosion control measures will be implemented, such as temporary sediment basins, temporary diversion berms and swales to intercept runoff, silt fences, dust fences, slope protection, stabilized construction vehicle entrance, grate inlet protection, truck wash down areas, and use

of compost filter socks. Planting of landscaping also will be done as soon as possible on completed areas to help control erosion. Permanent sediment control measures will be used once construction is completed. Phased construction limit the extent of surface area disturbance during each phase.

Coordination will be undertaken with the appropriate agencies during permitting and construction in order to ensure that the proposed project will not result in significant impacts with regard to soils and erosion. Any discharges related to project construction or operation activities will comply with applicable State Water Quality Standards as specified in HAR, Chapter 11-54 and 11-55 Water Pollution Control, Department of Health. Excavation and grading activities will be regulated by applicable provisions of the County's grading ordinance.

3.3 Hydrology

3.3.1 Surface and Coastal Waters

The nearest surface stream in the vicinity of the project area is Mānoa Stream, which runs from the highest point on the Koʻolau Mountain (3,105 feet), through Mānoa Valley, and discharges into the Ala Wai Canal (See Figure 3-3). Mānoa Stream flows approximately 0.5 miles to the east of the project site. More than half of the middle and lower reaches of Mānoa Stream have been altered for flood control, mostly involving earthen- or concrete-shaped banks (Kido, 2007) and fully concrete-lined channels (AECOS, 2000). In addition to Mānoa Stream, Pālolo, and Makiki streams feed into the Ala Wai canal on leeward, south-central Oʻahu. The Ala Wai Canal discharges into the Ala Wai Boat Harbor and then Māmala Bay.

The middle reach of Mānoa Stream is classified in HAR §11-54-03 as Class 2 inland waters (See Figure 3-4). The objective of Class 2 waters is to protect their use for recreational purposes, the support and propagation of aquatic life, agricultural and industrial water supplies, shipping and navigation. This includes the protection and propagation of fish, shellfish, and wildlife. These waters are banned from receiving waters for any discharge which has not received the best degree of treatment or control compatible with the criteria established for this class of water.

The nearest coastal water offshore from the project site is Māmala Bay at Waikīkī Beach, located approximately 1.7 miles to the south of the Project (See Figure 3-5). Pursuant to HAR Title 11, Chapter 54, Water Quality Standards, the coastal waters in the vicinity of the project area are classified as Class A marine waters (See Figure 3-6). Class A marine waters are recognized as waters to be used for "recreational purposes and aesthetic enjoyment to be protected. These waters shall not act as receiving waters for any discharge which has not received the best degree of treatment or control compatible with the criteria established for this class."

<u>Impacts and Mitigation Measures</u>

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

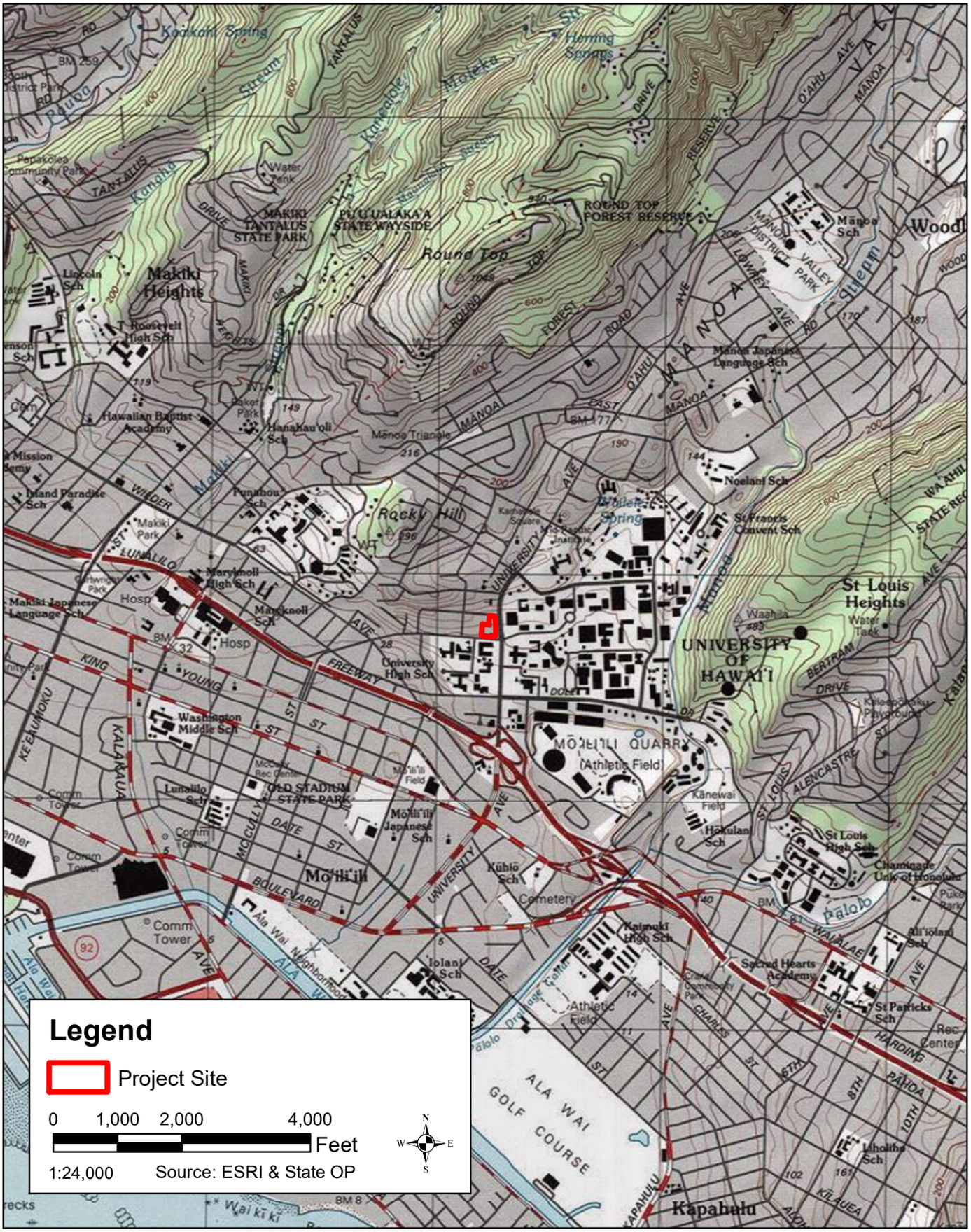

FIGURE 3-1

Topography Map

Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Honolulu, O'ahu, Hawai'i

WILSON OKAMOTO CORPORATION

FIGURE 3-2

Soils Map

Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Honolulu, O‘ahu, Hawai‘i

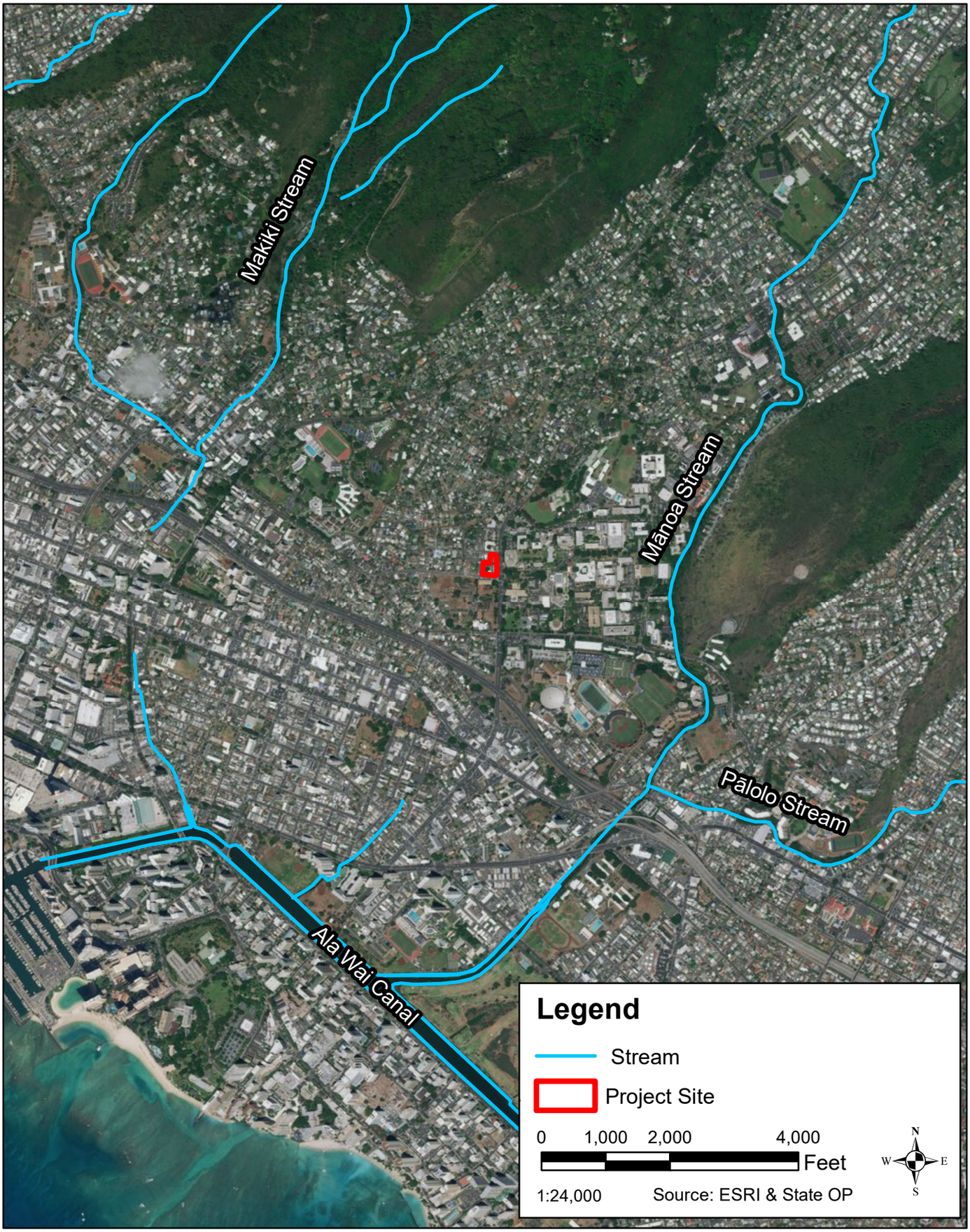

FIGURE 3-3

Stream Map

Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Honolulu, O‘ahu, Hawai‘i

WILSON OKAMOTO CORPORATION

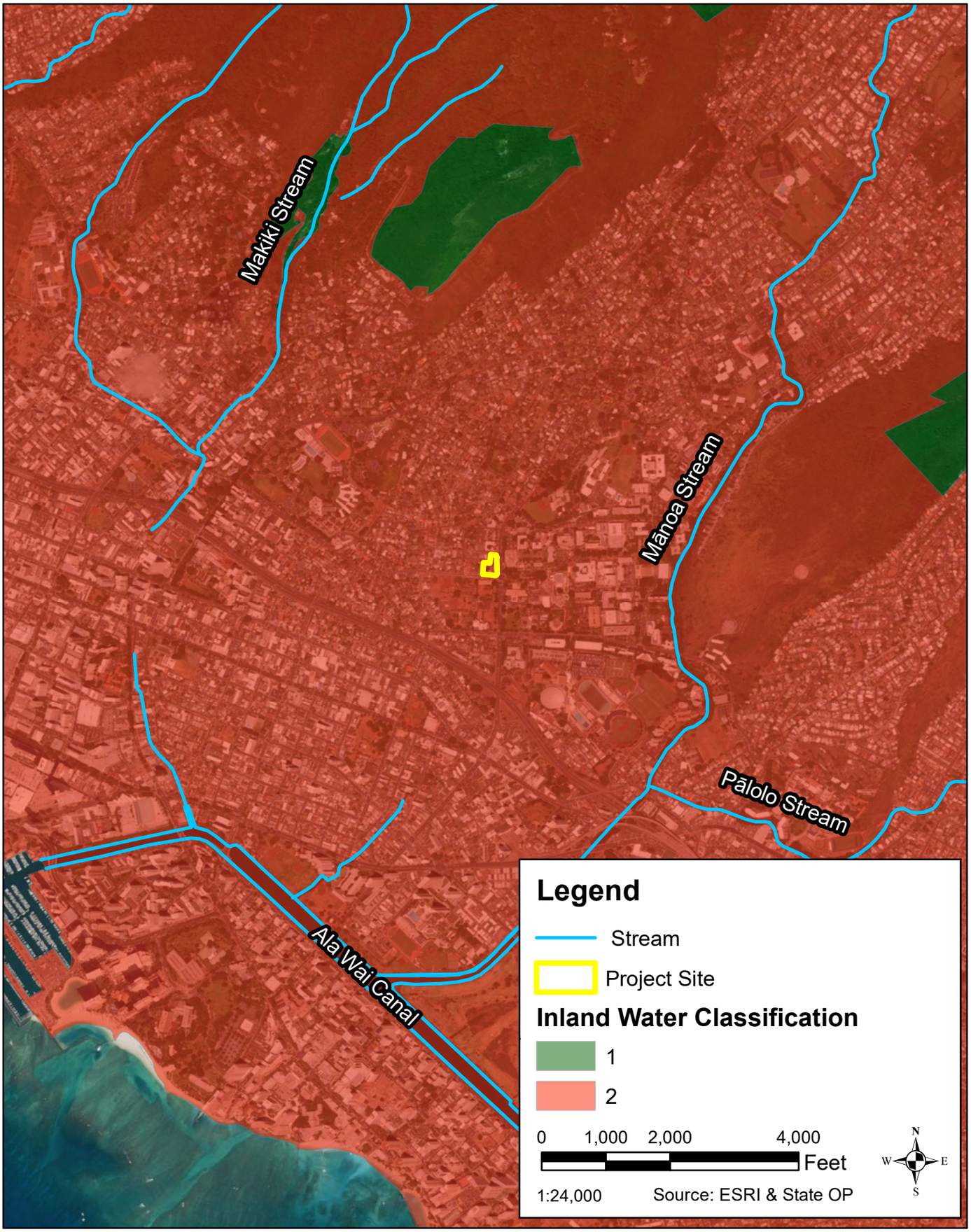

FIGURE 3-4

Inland Water Classification Map

Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Honolulu, O‘ahu, Hawai‘i

WILSON OKAMOTO CORPORATION

FIGURE 3-5

Coastal Waters Map

Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Honolulu, O‘ahu, Hawai‘i

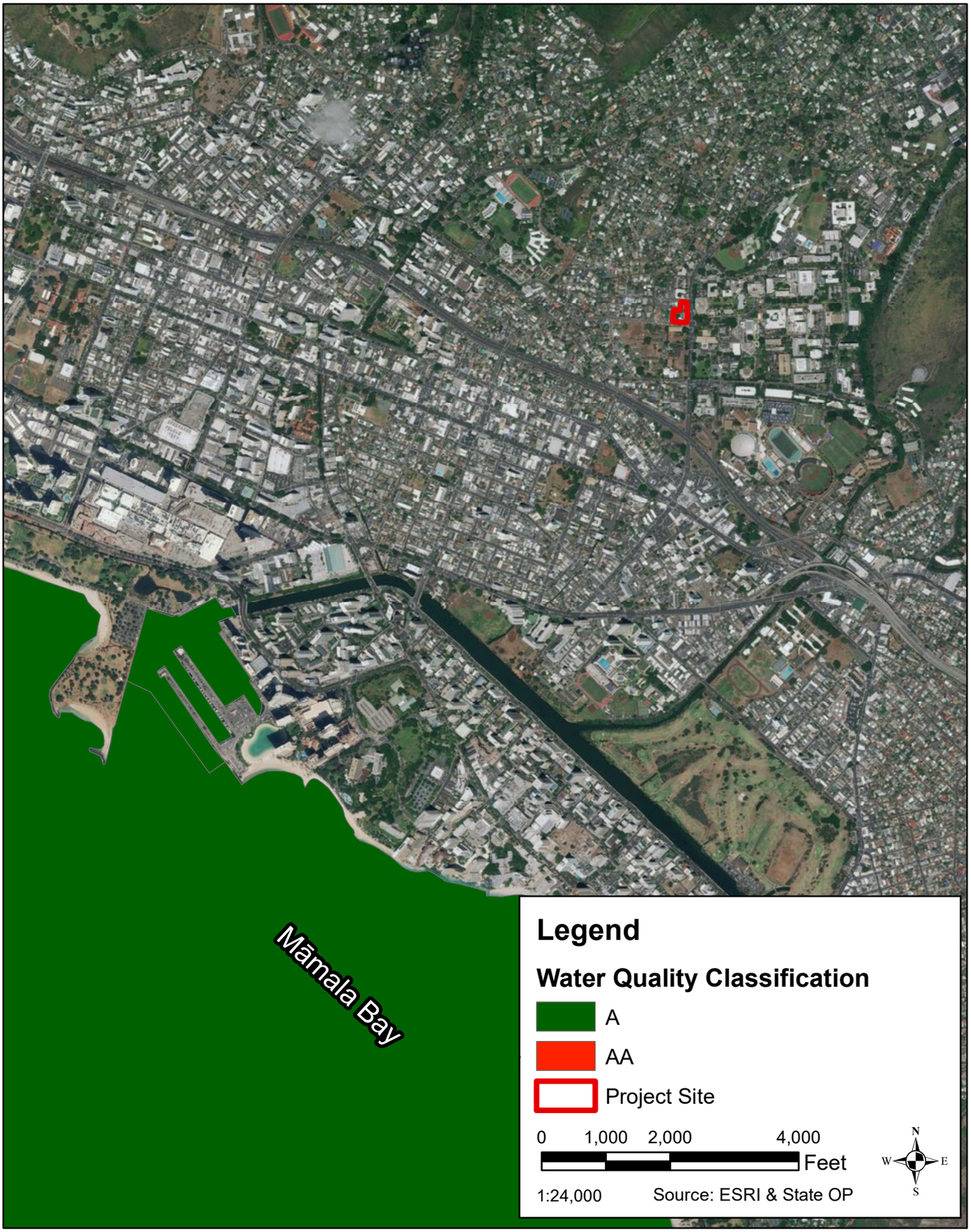

FIGURE 3-6

Water Quality ClassificationMap

Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Honolulu, O‘ahu, Hawai‘i

In the short-term, construction activities will involve land-disturbing activities that may result in some soil erosion, however, mitigation measures will be incorporated into the project's construction plans to minimize soil disturbances and potential stormwater runoff. Excavation and grading activities associated with the construction of the proposed project will be regulated by the County's grading ordinances and possible a NPDES permit administered by the State DOH. Applicable erosion control measures and best management practices will be implemented in order to mitigate any possible adverse effects relating to runoff. As applicable for each phase, these may include but are not be limited to: temporary sediment basins, temporary diversion berms and swales to intercept runoff, silt fences, dust fences, slope protection, stabilized construction vehicle entrance, grate inlet protection, truck wash down areas, and use of compost filter socks. Planting of landscaping also will be done as soon as possible on completed areas to help control erosion. Permanent sediment control measures will be used once construction is completed.

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

3.3.2 Groundwater

The State Department of Land and Natural Resources (DLNR), Commission on Water Resource Management (CWRM) has established a groundwater hydrologic unit and coding system for groundwater resource management. The proposed project area is located within the Honolulu Sector Area which is comprised of six Aquifer System Areas identified as Waiʻalae – East, Waiʻalae – West, Pālolo, Nuʻuanu, Kalihi and Moanalua. The project area is located within the Pālolo Aquifer System (30101) area which has an estimated yield of 5 million gallons per day (mgd) (see Figure 3-7).

Impacts and Mitigation Measures

No short- or long-term significant impacts on groundwater in the project vicinity are anticipated during construction or operation of the proposed project. Water demand for the Project is discussed in detail in Section 3.15.1. The project area lies just mauka of the Underground Injection Control Line and the Honolulu Board of Water Supply's No Pass Zone Line, which demarcate areas where wastewater disposal facilities would potentially affect potable water supplies. However, the Project will not include any wastewater injection wells.

Construction activities are not likely to introduce to, nor release from the soils, any materials that could adversely affect the underlying groundwater. Construction

material wastes will appropriately be disposed of to prevent any leachate from contaminating groundwater.

3.4 Natural Hazards

3.4.1 Sea Level Rise

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

Sea level is rising at increasing rates due to global warming of the atmosphere and oceans and melting of the glaciers and ice sheets. Rising sea level and projections of stronger and more frequent El Nino events and tropical cyclones in water surrounding Hawai'i indicate a growing vulnerability to coastal flooding and erosion. If GHG emissions are maintained at its current rate of increase, the IPCC (2014) predicts up 3.2 feet of global sea level rise by the year 2100. However, recent observations and projections show that this magnitude of sea level rise could occur as early as year 2060 under recently published high-end scenarios (Sweet et al., 2017). There are questions and debate around the exact timing of that rise due largely to uncertainties around the future behavior of the Earth's cryosphere and global GHG emission trajectories.

The project area is not located within the 3.2-foot or 6-foot SLR exposure area as depicted by the National Oceanic and Atmospheric Administration (NOAA) Sea Level Rise data (See Figures 3-8).

Impacts and Mitigation Measures

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

However, the exact nature of how the sea level will rise is unknown. New information will continually need to be incorporated within future assessments to identify where efforts should be focused when developing adaptation strategies to sea level rise.

3.4.2 Flood and Tsunami Hazard

Honolulu is vulnerable to flooding from inland streams, hurricane and tropical storm surge, and seasonal high waves. Honolulu has historically experienced widespread flooding (Fletcher et al. 2002).

According to the Flood Insurance Rate Map (FIRM), prepared by the Federal Emergency Management Agency (FEMA), the project area is designated Zone X, an area determined to be outside of 500 year floodplain, an area of minimal flood hazard, where there is a 0.2 percent annual chance of flooding (See Figure 3-9).

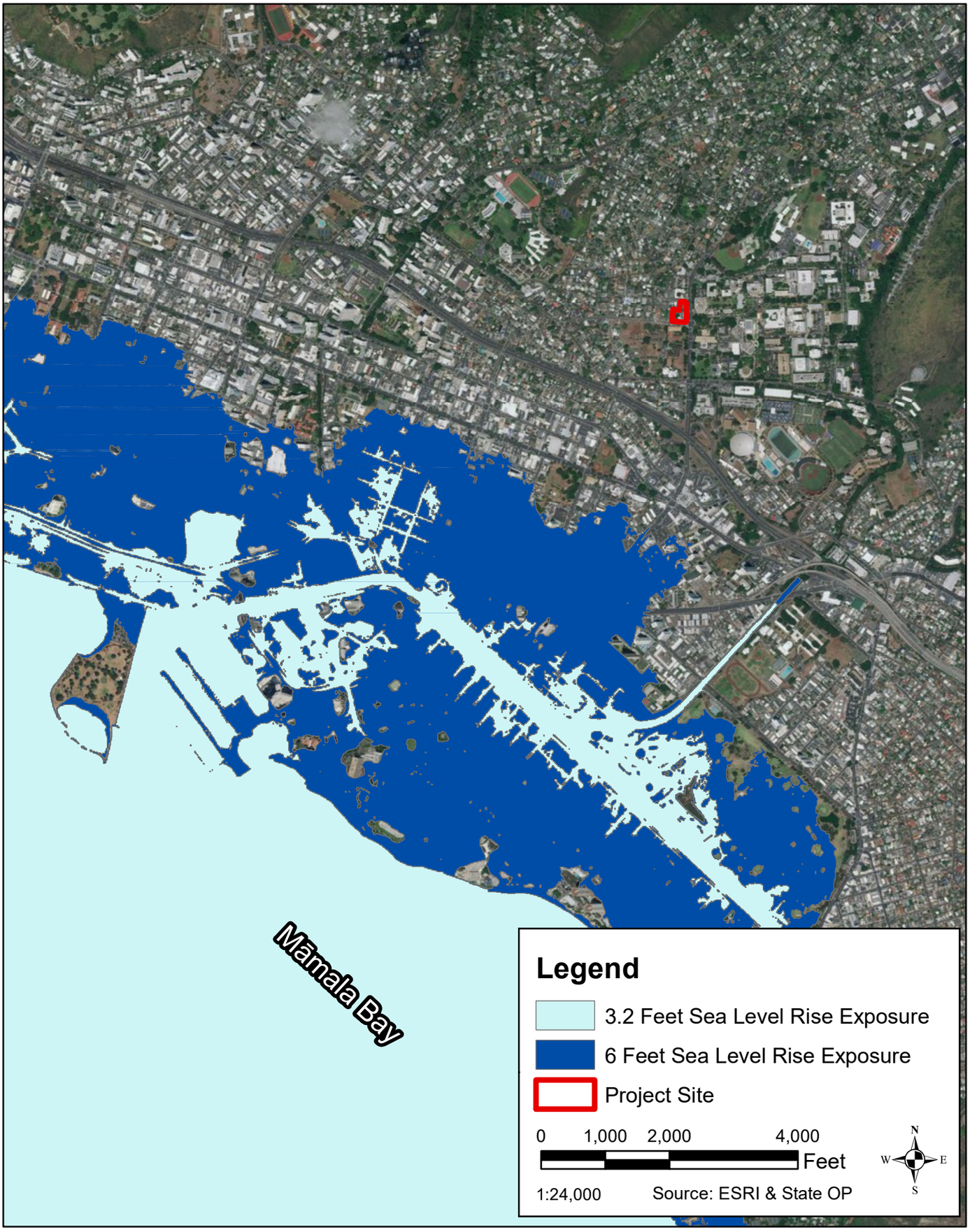

FIGURE 3-8

Sea Level Rise Exposure Map

Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Honolulu, O‘ahu, Hawai‘i

WILSON OKAMOTO CORPORATION

FIGURE 3-9

Flood Insurance Rate Map

Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Honolulu, O‘ahu, Hawai‘i

The site sits in a dry and arid environment where the risks of flooding are low due to a combination of factors, including low rainfall, thin soil layer, slope, and the porosity of the bedrock. During periods of heavy rainfall, localized ponding and some scouring by flowing surface water may occur. However, those conditions typically dissipate as the water rapidly percolates through the substrate.

Although the proposed project site lies outside the denoted flood zone, the UHM Campus experienced a catastrophic flood event on October 30, 2004 that caused an estimated $80 million in damage to the UH, as well $5 million worth of damage to residences upstream of the campus. The U.S. Army Corps of Engineers conducted a post-flood, rainfall-runoff and stream hydraulic computer modeling of Mānoa Stream. The model results indicated that Mānoa Stream between Woodlawn and Kahaloa Drives had insufficient channel capacity to contain the flood waters caused by the October 30, 2004 storm event. Flood damage was further aggravated by debris clogged at the East Mānoa Road and Woodlawn Drive bridges over Mānoa Stream.

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

According to the Tsunami Evacuation Zone maps for O'ahu, the project area lies entirely within the safe zone. (See Figure 3-10).

Impacts and Mitigation Measures

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

3.4.3 Hurricane and Wind Hazard

The Hawaiian Islands are seasonally affected by Pacific hurricanes from the late summer to early winter months. The State has been affected twice since 1982 by significant hurricanes, 'Iwa in 1982 and 'Iniki in 1992. During hurricanes and storm conditions, high winds cause strong uplift forces on structures, particularly on roofs. Wind-driven materials and debris can attain high velocity and cause devastating property damage and harm to life and limb.

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

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FIGURE 3-10

Tsunami Hazard Map

Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Honolulu, O‘ahu, Hawai‘i

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

Impacts and Mitigation Measures

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

3.4.4 Seismic Hazard

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

The southern shoreline of Oʻahu lies within the Molokaʻi Seismic Zone. This region of Oʻahu is classified as 2A Seismic Zone under the Uniform Building Code (UBC). Zone 2A is characterized as having earthquakes that may cause minor damage to structures. The Honolulu coastline is assessed to have moderately high vulnerability to earthquakes (Fletcher et al. 2002).

Impacts and Mitigation Measures

Oʻahu has not experienced significant seismic events in the modern era. The proposed project improvements would meet prevailing building codes, which incorporate specifications to reduce vulnerability to earthquakes. Continued adherence and revision of local building codes while project is under construction will seek to mitigate any risk associated with seismic activity.

3.5 Natural Environment

3.5.1 Flora and Fauna

The project area is located in a highly altered urban environment. This site area has been subject to intense anthropogenic activity over the past century. Thus, flora within the project site consists entirely of maintained grounds—predominantly manicured lawn with some shrubbery plantings and scattered trees.

The predominant fauna in the project area are introduced species, including rats, mice and feral cats. Typical avifauna includes the common mynah (*Acridotheres tristis*), doves and sparrows. No rare, threatened or endangered species are known to exist at the project site.

Impacts and Mitigation Measures

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

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

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

3.6 Historic and Archaeological Resources

Honua Consulting prepared an archaeological Literature Review and Field Inspection (LRFI) report for the proposed action in December 2019 to determine the land-use history and identify any potential artifacts or cultural deposits present within the project area. The LRFI was written using the standards outlined within HAR 13-276 regarding archeological inventory surveys, and is intended to assist with historic preservation efforts associated with the proposed action. The archaeological literature review included studies of archival sources, historic maps, Land Commission Awards (LCA) and previous archaeological reports to construct a history of land use and to determine if archaeological resources have been recorded on or near the project area. A field inspection of the project area followed to identify and surface archaeological resources and to investigate and assess the potential for impact to such sites. The inspection also sought to identify any sensitive areas that may require further investigation or mitigation before the project proceeds. The LRFI report is included herein as Appendix A and is summarized below

The project area is entirely located within the traditional boundaries of the ahupuaʻa (land division) of Waikīkī, and within the ʻili (land division) of Mānoa. Waikīkī is translated as “spouting water”, and is believed to be named for the swampland that once covered the lowlands where several fresh water springs existed. Traditionally, Waikīkī was a dense population center with extensive agricultural fields and a fertile fringing reef. Multiple streams flowed from the valleys of Makiki, Mānoa, and Pālolo which provided fresh water to feed irrigated taro fields (loʻi), bananas, and sugarcane in the lowlands. The coast of Waikīkī had coconut groves, fishponds, abundant marine resources, and excellent surfing. Waikīkī was a favored residence for Hawaiian aliʻi (chiefs), and resided along the coast.

Mānoa is translated as “vast”, describing the large valley, which runs from a projecting spur of the Koʻolau Mountain Range at the head of the valley called ʻAka’aka to the ocean. It is said that Mānoa Valley was divided for chiefs and commoners. Handy and Handy (1972)

assert that Mānoa Valley was ideal for growing taro as it was known to contain a vast amount of taro land. Place names and moʻolelo (story/legend/history) associated with Mānoa Valley also indicate that there were numerous freshwater sources throughout the area that have since been plugged and developed over due to urbanization.

During the Māhele and Kuleana Act, nearly 70 LCAs were granted as kuleana land for commoners in Mānoa Valley. The project area is located within LCA 387 O, RP 1941 to Mrs. M.P. Chamberlain of the ABCFM for lands within Punahou and Kawaiahao. The Royal Patent was granted in 1855 "for the purpose of affording facilities for the prosecution of Missionary work" (LCA 387 O, Federal Register 26-27v2). The project area is adjacent to Land Grant (LG) 882 to T. Metcalf for Pilipili. Thrum (1891) describes sweet potatoes and bananas being cultivated on the property at the time. Several LCAs within the region detail an abundance of taro cultivation, pasture land, hala trees, and house lots.

During the late 1800s, several important schools were established in Mānoa and the region, including Oʻahu College (now Punahou School), Mid-Pacific Institute, and the College of Hawaiʻi (now University of Hawaiʻi). The project area was largely vacant prior to the early 1930s. A 1927 Sanborn Fire Insurance Map shows that the project area only contained a small private garage in the southwest corner of the property. In 1930, the Hawaii School of Religion was built within the northern portion of the current project area. The Charles Atherton House was built in 1932 within the southern portion of the project area. A 1932 Ka Leo o Hawaiʻi article mentions during construction of the Charles Atherton House the ground surface was removed and topsoil was then imported. By 1959, the Hawaiʻi School of Religion was removed and the Mary Atherton Richards House (also known as the Atherton YMCA) was built in its place.

Currently, there are two historic building situated within the project area, consisting of the Charles Atherton House and the Mary Atherton Richards House. The three-story Charles Atherton House was dedicated on June 1, 1932. Articles published in the May 19, 1932 Ka Leo o Hawaii newspaper describe the Charles Atherton House as fulfilling the need for a social and residential center for the men of The University of Hawaiʻi. The building was anticipated to hold many cultural and educational events. Dedicated to Mr. Charles Henry Atherton (1867-1928), the building was a gift to the Young Men's Christian Association (YMCA), an organization that Mr. Atherton served at as an Officer for over thirty years. The building and furnishings were made possible by the late Mr. Atherton's brother and sister, Frank C. Atherton and Mrs. Theodore Richards, wife Mrs. Charles H. Atherton, and daughters Mrs. Violet Harris, Mrs. Juliette Guard, and Mrs. Laura Morgan. Respected by family and community, Mr. Atherton was very involved, had a special interest in development of young men, and was a beloved friend to people of all backgrounds. The newspaper included multiple articles on the Charles Atherton House and described the building in great detail, including that the topsoil around the building had been removed and replaced with imported soil during construction of the building.

The Atherton family was a wealthy, influential, and philanthropic family. Juliette and Joseph Atherton began the Juliette M. Atherton Trust on December 21, 1915 and left 20% of all shares to their children, Charles Atherton, Mary Atherton Richards, and Frank Atherton (Atherton Family Foundation 2015). The shares were held in trust to "continue charitable work" such as "grants, loans and other forms of payment toward assisting in the

establishment, maintenance, or promotion of such religious, charitable, educational, benevolent, scientific, or other like purposes". In 1975, all investment properties were transferred to the Atherton Family Foundation, a non-profit corporation which today is one of the largest endowed grant making private resources in Hawaiʻi which is devoted exclusively to support charitable activities.

Numerous archaeological studies have been conducted within Mānoa Valley. Documented sites within 1.5 miles of the current project area include heiau, caves, agricultural sites such as stone-stacked terraces, walls, loʻi and ʻauwai, as well as buried cultural layers and deposits containing significant pit features and human burials. Significant historic properties, other than historic buildings, have also been recorded on UH-Mānoa campus, including human burials (SIHP # -4191 and -4266), Kāpapa Loʻi ʻo Kānewai (-4498), and a possible agricultural terrace (-6729).The locations of previous archaeological studies and recorded sites within 1.5 miles of the project and are discussed further within Appendix A.

Based on compiled background research and previous archaeological data, the project area contains existing historic buildings. A 1932 Ka Leo o Hawaiʻi article mentions during construction of the Charles Atherton House the ground surface was removed and topsoil was then imported, therefore, it is likely that any pre-contact cultural deposits that may have existed at one time within the project area have been destroyed by building construction activities. It is possible historic artifacts and/or deposits associated with the social and residential center at the Charles Atherton House, the former Hawaii School of Religion, or the Mary Atherton Richards House may be encountered during project construction activities.

Fieldwork was conducted on October 14, 2019 and November 27, 2019 in accordance with HAR Chapter 13-282. The archaeological field inspection consisted of a 100% pedestrian survey of the outdoor portion of the property. Based on the results of the field survey it is likely that the construction of the existing two buildings, which take up much of the project area, destroyed or displaced any pre-contact and/or early-historic deposits that may have been present in the project area. This is evidenced by the subsurface parking garage for the Mary Atherton Richards House which extends several feet below the current ground surface and by the documentation of an L-shape retaining wall, which indicates the hillside was cut, leveled, and filled with imported soil for landscaping during construction of the Charles Atherton House. Three potential historic properties were documented, including the L-shaped retaining wall, a stone pathway, and basalt curbstones along University Avenue.

The L-Shaped retaining wall is present around the northwest corner of the Charles Atherton House. The north-south portion of the wall measured approximately 16.5 meters long and is retaining the parking lot adjacent and to the west. A set of 4 concrete steps is present in the middle of the wall to provide access from the parking area to the building. This portion of the wall was approximately 70 cm in height, 40 cm wide, and comprised of sub-rounded and angular basalt cobbles and boulders loosely stacked two to three courses high (Figure 23). Mortar was observed on some of the stones. Nothing else of note was observed around or within this portion of the wall feature. The east-west portion of the L-Shaped Wall runs very close to the northwest side of the Charles Atherton building. This segment measured 16 m long and includes an approximately 3 meter long curved portion which is truncated on its eastern end. The wall averaged 1.3 meters in height, was 40 cm wide, and was comprised of sub-rounded and angular basalt cobbles and boulders stacked five to six courses high.

Mortar chunks were observed within the wall. Nothing else of note was observed around or within this portion of the wall feature. It is likely that the L-Shaped Wall was constructed contemporaneously with the Charles Atherton House in 1932, as it is retaining the area the building has been cut into. The wall is lower and dispersed at its eastern end indicating it may have continued to the east at one time and was possibly truncated during activities associated with construction of the Mary Atherton Richards House in 1959.

The historic stone pathway located between the Charles Atherton House and the Mary Atherton Richards House. The path extends from a sidewalk running parallel to University Avenue which connects the two buildings, and runs westward to the portion of the Charles Atherton House closest to the L-Shaped Wall. The path is comprised of approximately 15 or more oval-shaped concrete pavers measuring approximately 60 cm x 50 cm. The first and eastern-most paving stone was engraved with "Aloha" and the date "7-XX-1962." This makes it likely that the path dates to shortly after the construction of the Mary Atherton Richards House in 1959. Nothing else of note was observed or collected in association with the pathway.

Cut basalt curbstones were observed along University Avenue, spanning approximately 78 meters (256 feet) in length. The curbstones ranged in size from 25 cm to 139 cm in length, with the majority ranging from between 57 cm to 110 cm in length. The width and height measured approximately 15 cm. The basalt curbstones are hand hewn and rectangular on the finished surface and rough and unfinished on the portion beneath the ground. It is likely that the curbstones came from the nearby Mōʻiliʻili Quarry which produced many of the curbstones used along Honolulu streets in the latter half of the 1800's and early half of the 1900's. The quarry is located in what is now known as the lower campus of UHM. The curbstones in the project area are typical of curbstones found along many of the older streets of Honolulu.

Impacts and Mitigation Measures

The proposed project plans to redevelop the existing property to a mixed use Student Housing, Innovation & Entrepreneurship Center. The project is proposed to include demolition of the Mary Atherton Richards House currently existing on the property and construction of two new buildings estimated to be six stories in height. The new buildings are proposed to span the entire length of the parcel, to the north and west of the existing Charles Atherton Home. Ground disturbance is proposed for demolition of the building, associated utilities, and landscaping.

This study finds the project effect determination is "no historic properties affected". Historic properties are assessed based on age, integrity, and significance. Qualifying historic properties must typically be at least fifty years old. Integrity of a historic property is based on the location, design, setting, materials, workmanship, feeling, and association.

The National Register assesses the significance of each historic property under four broad categories (criteria a-d). The State of Hawaiʻi uses the same criteria and adds

one additional significance criterion (criterion e). Pursuant to HAR 13-284-6, site significance is assessed based on the following criteria:

A. Historic property reflects major trends or events in the history of the state or nation.
B. Historic property is associated with the lives of persons significant in our past.
C. Historic property is an excellent example of a site type, period, method of construction, or work of a master.
D. Historic property has yielded or may be likely to yield information important in prehistory or history.
E. Historic property has cultural significance to an ethnic group, including, but not limited to, religious structures, burials, traditional cultural properties, cultural practices, and/or beliefs important to the groups history and cultural identity. Kamānele Park Significance Assessment.

Table 3-1 Potential Sites and Recommendations

Site Type	Recommendation
Historic L-shape stone retaining wall	No further work
Historic stone pathway	No further work
Historic basalt curbstones	Avoid and Protect, if must be impacted salvage and reinstall

Due to historic use of the project area it is recommended that archaeological monitoring be conducted in accordance with HAR 13-279 (Rules Governing Standards for Archaeological Monitoring Studies and Reports). It is possible historic artifacts and/or deposits associated with the social and residential center at the Charles Atherton House, the former Hawaii School of Religion, or the Mary Atherton Richards House may be encountered during project construction activities.

3.6.1 Historic Architecture

Mason Architects prepared a Historic Architectural Inventory in support of the Environmental Assessment Project (See Appendix B). The objective of the subject Historical Architectural Inventory is to formally evaluate and provide guidance to the University of Hawai'i Foundation towards making a determination on the potential impact of the proposed action to historic resources.

The Project Site features two buildings with historical significance, The Charles H. Atherton House and The Mary Atherton Richards House. The Charles H. Atherton House was designed in 1932 by Guy Nelson Rothwell. The Mary Atherton Richards House was designed in 1960 by Allen R. Johnson. Since construction these two building have served as key facilities for the Honolulu YMCA and the YWCA.

Pursuant to field survey documented by Mason Architects, the project site is comprised of the two buildings, with few additional hardscape and landscape features. The first building in

question is identified as the Charles H. Atherton House. Designed in the Italian Renaissance style, the building displays a number of features of this style, including: low pitched hip roof, upper story windows that are smaller and less elaborate than windows below, acres or cornice above first floor windows and doors, pilasters, quoins, sill course and a symmetrical façade with two small wings at either end and a recessed central block. The second building identified by the subject field survey is The Mary Atherton Richards House. This building was designed in a distinctive mid-century modern style. The two story concrete building displays a number of the style's characteristics, which avoid traditional form and detail. These include; contrasting wall materials and textures (such as weeping mortar joints), a breeze block wall, a flat roof with wide eave overhang, and wing walls that support the roof overhang and create a deep rim that frames sections of windows. There is also a parking lot on the Makai side of the property which is accessible from Metcalf Street. There is minimal vegetation within the setback along University Avenue, comprised mainly of a grassy lawn, a concrete walkway to the front entrance of the building flanked by shrubs. The sidewalk on University Avenue from Metcalf to Seaview Avenue is edged with lava rock curbs. The Front of the Mary Atherton Richards House (YWCA) is setback with a small grassed lawn, edged by a shrub that extends along a Façade. A Tamarind tree with a large canopy dominated the entrance at the Metcalf Street/ University Avenue Corner between the two buildings are a few small trees.

The Charles H. Atherton house was built to commemorate and honor Charles H. Atherton, who died in 1928. Mr. Atherton was an influential leader in the community and an original 1919 petitioner to propose the establishment of the University of Hawai'i. The Charles H. Atherton House has served the University for decades by providing housing to students as a dormitory. These services provided were vital to the University's flagship campus, especially during the Great Depression and World War II, when development and construction of housing was stalled. The Mixed-Use Project site has been home to the YMCA since the completion of the Charles H Atherton House on June 1, 1932 and also home to the YWCA. However in 1946, the YWCA received a charter from the national YWCA and moved its operations out of the Charles H. Atherton House. The YWCA would return to the project site upon the completion of the Mary Atherton Richards House which was opened on April 24th, 1960 and has served as the home for the YWCA of Honolulu till the present.

Impacts and Mitigation Measures

As touched on earlier, the primary purpose of Mason Architects' study was to determine the historical significance of the project site. As documented within the subject study, it was identified that both the Charles H. Atherton House and the Mary Atherton Richards House are eligible for listing on the State of Hawai'i and Federal National registers of historic places under Criteria A and C. Pursuant to Criteria A, both structures are eligible due to their association with the development of the YMCA and YWCA in Hawai'i, and the historical association with the development of the University of Hawai'i at Mānoa. Pursuant to Criteria C, the Charles H. Atherton House represents a fine example of Italian Renaissance style and the Mary Atherton Richards represents a fine example of the Contemporary Style. It is noted, however, that only the Charles H. Atherton House has a history of previous documentation underlining previous historic register eligibility determinations by SHPD and other agencies. Specifically, correspondence between SHPD and the City and County Department of Transportation Services (DTS), outlines concurrence between the agencies that the "Atherton House" is eligible for listing on the Register for Historic

Places (NRHP) pursuant to what then was defined as "eligibility criteria 1". Such documentation is discussed in further detail within the subject study (included herein as Appendix B)

The subject Mason Architects study outlines that the proposed demolition of the rear wings of the Charles H. Atherton house along with the construction of a building that extends adjacent beyond its existing envelope could potentially adversely impact the historic character of the structure as the scale and massing of the new building would visually overwhelm the historic YMCA structure. As for the Mary Atherton Richards House the proposed action of demolishing the building and redeveloping a new building adjoined to the existing YMCA building would have an adverse effect due to demolition of the building. Mitigation measures are required for adverse effects to historic resources. The Policy of "Preservation" detailed in the Administrative Rules Chapter 13-275 (Rules Governing Procedures for Historic Preservation Review for Governmental projects covered under sections 6E-7 and 6E-8, HRS) states "preservation may include avoidance of the effect and protection, rehabilitation, restoration, or reconstruction". The subject study outlines that it may be possible to implement design modifications to the proposed plan to minimize the adverse impacts anticipated to the historic character of the existing resources on site.

Many commenters from the 30-day public review period pursuant to the Draft EA raised concerns about the proposed project's design and mitigation measures that would be implemented regarding the project site's historic architectural significance as discussed above (See Appendix F). It is important to note that the subject proposed project is currently progressing through an iterative design review process that is typical of early, conceptual project planning at this stage of project development. As project design progresses, the design team will endeavor to minimize, to the extent practicable, the scale and historical context of the proposed development while balancing the density necessary for it to viably achieve the purpose and need as well as the goals and objectives of the proposed action as outlined in the subject EA. Specifically, the final design of the Charles H. Atherton House at this time will reflect the following:

- Stepping back of the upper floors to emphasize the historic building's base height
- Removal of the restaurant addition facing Metcalf Street to express the original appearance of the building's makai end; and
- Renovation of the existing terrace to express the original landscaping of the building corner.

Undertaking additional mitigation measures for the Charles H. Atherton House may include, but is not limited to:

- Perform HABS documentation of Charles H. Atherton House YMCA;
- Restore exterior windows to original on at least the makai and University Avenue elevations of the Charles H. Atherton House YMCA building to the extent possible. (Currently, they are almost all non-historic aluminum windows

with fake divided lights. Restoring the windows to be historically accurate would be a significant contribution to the building);
- Restore the Charles H. Atherton House YMCA lobby to the extent possible.

With regard to the Mary Atherton Richards House, further ongoing consultation efforts with the Department of Land and Natural Resources – State Historic Preservation Division (DLNR-SHPD) is needed to ensure project compliance with the requirements set forth by HRS §6E-8 (review of effect or proposed state projects), and identify appropriate mitigation measures to be implemented. It is anticipated that such mitigation measures may include, but are not limited to:

- Retain existing open space on the University Avenue side of the Mary Atherton Richards House YWCA;
- Perform HABS documentation of Mary Atherton Richards House YWCA.

Implementation of the mitigation measures outlined above, and as further identified through HRS §6E review as condition of final project design and construction would clearly reflect that appropriate measures are taken to avoid, minimize and mitigate potential impacts to historic properties that could result from the construction and operation of the proposed project.

3.7 Cultural Resources and Practices

The project area is entirely located within the traditional boundaries of the ahupuaʻa (land division) of Waikīkī, and within the ʻili (land division) of Mānoa. Waikīkī is translated as "spouting water", and is believed to be named for the swampland that once covered the lowlands where several fresh water springs existed. Traditionally, Waikīkī was a dense population center with extensive agricultural fields and a fertile fringing reef. Multiple streams flowed from the valleys of Makiki, Mānoa, and Pālolo which provided fresh water to feed irrigated taro fields (loʻi), bananas, and sugarcane in the lowlands. The coast of Waikīkī had coconut groves, fishponds, abundant marine resources, and excellent surfing. Waikīkī was a favored residence for Hawaiian aliʻi (chiefs), and resided along the coast.

Mānoa is translated as "vast", describing the large valley, which runs from a projecting spur of the Koʻolau Mountain Range at the head of the valley called ʻAkaʼaka to the ocean. It is said that Mānoa Valley was divided for chiefs and commoners. Handy and Handy (1972) assert that Mānoa Valley was ideal for growing taro as it was known to contain a vast amount of taro land. Place names and moʻolelo (story/legend/history) associated with Mānoa Valley also indicate that there were numerous freshwater sources throughout the area that have since been plugged and developed over due to urbanization.

Mānoa is exceedingly rich in places names, wahipana (legendary or storied places) and associated *moʻolelo* (oral histories), reflecting the valley's elevated cultural and historical significance to Hawaiians. Important cultural moʻolelo focus on Mānoa's many pūnāwai, which are directly associated with the exploits of two primary Hawaiian gods, Kāne and Kanaloa. These springs include Kānewai (location of the current Kānewai Cultural Garden), Hualani, and Wailele. Further discussion and details of these wahipana and moʻolelo can be found within Appendix A.

Impacts and Mitigation Measures

In the short- and long-term, no significant impacts to traditional and cultural practices in the vicinity of the project are not anticipated as the project site and overall region are in a heavily disturbed urbanized area.

Construction of the proposed project improvements will not disturb traditional sacred sites or traditional cultural objects; will not result in the degradation of resources used by Native Hawaiians for subsistence or traditional cultural practices; will not obstruct culturally significant landforms or way-finding features; and, will not result in loss of access to the shoreline or other areas customarily used by Native Hawaiians or others for resource gathering or traditional cultural practices. No mitigation measures are proposed.

3.8 Air Quality

The State of Hawaiʻi Department of Health (DOH), Clean Air Branch, monitors the ambient air quality in the State for various gaseous and particulate air pollutants. The U.S. Environmental Protection Agency (EPA) has set national ambient air quality standards (NAAQS) for six criteria pollutants: carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), ozone (O_3), and particulate matter (PM_{10} and PM_2). Hawaiʻi has also established a state ambient air standard for hydrogen sulfide (H_2S) related to volcanic activity on Hawaiʻi Island. The primary purpose of the statewide monitoring network is to measure ambient air concentrations of these pollutants and ensure that these air quality standards are met.

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

The quality of air in the project area is good as no major air pollutant generators operate in the vicinity. No industrial incinerators, rock quarries, manufacturing plants, or mass drying beds occur. Moreover, there are no heavily-used thoroughfares or busy intersections that generate extensive exhaust emissions from high vehicle volumes.

The State maintains six air monitoring stations on the island of Oʻahu, where most commercial, industrial and transportation activities and their associated air quality effects occur. Hawaiian Electric Company's downtown power plant is the primary stationary source, while vehicular traffic represents the principal mobile contributor. Emissions from the power plant are in compliance with State and Federal air pollution control regulations. Vehicular traffic on Nimitz Highway/Ala Moana Boulevard, however, has contributed to carbon monoxide levels that have occasionally exceeded State standards in the immediate vicinity of some busy intersections. Air quality at the project area, however, is generally considered to be good due to its distance from Ala Moana Boulevard and the typical flow of fairly constant northeasterly trade winds that disperse pollutants seaward.

Impacts and Mitigation Measures

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

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

3.9 Noise

The existing noise environment of project area is characteristic of an urban setting. The source of major sounds in the project area is predominately the vehicular movement and pedestrian activity along University Avenue. The project site is along a main vehicular circulation route that services many students and residences of Mānoa. These activities occur through the weekday and to a lesser extent in the evening, during night, and on weekends. Ambient noise in the project area is predominantly attributed to vehicular traffic traveling along the H-1 Freeway, University Avenue, Dole Street, and adjacent roadways.

Impacts and Mitigation Measures

In the short-term, noise from construction activities such as excavation, grading, cutting, and paving will be unavoidable. The increase in noise level will vary according to the particular phase of construction. Noise may also increase as a result of operation of heavy vehicles and other power equipment during the construction period.

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

In the long-term, no significant noise impacts are anticipated once the construction of the proposed project has been completed. Ambient noise levels in the vicinity will

increase slightly as a result of the associated increase in vehicular traffic generated by the proposed project.

3.10 Hazardous Materials

Based on onsite inspection and the known former and current uses of the project area, it appears that the site contains no hazardous or toxic substances and exhibits no other hazardous conditions.

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

Impacts and Mitigation Measures

During construction of the Proposed Action, there may be the potential of petroleum spillage associated with construction vehicles and equipment. In order to ensure to minimize the possibility for spills of hazardous materials, the applicant proposes the following if and when the Project, or other permitted land use, is implemented:

- Unused materials and excess fill will be disposed of at an authorized waste disposal site.

During construction, emergency spill treatment, storage, and disposal of all hazardous materials, will be explicitly required to meet all State and County requirements, and the contractor will adhere to “Good Housekeeping” for all appropriate substances, with the following instructions:

- Onsite storage of the minimum practical quantity of hazardous materials necessary to complete the job;
- Fuel storage and use will be conducted to prevent leaks, spills or fires;
- Products will be kept in their original containers unless unresealable, and original labels and safety data will be retained;
- Disposal of surplus will follow manufacturer’s recommendation and all regulations;
- Manufacturers’ instructions for proper use and disposal will be strictly followed;
- Regular inspection by contractor to ensure proper use and disposal;
- Onsite vehicles and machinery will be monitored for leaks and receive regular maintenance to minimize leakage;
- Construction materials, petroleum products, wastes, debris, and landscaping substances (herbicides, pesticides, and fertilizers) will be prevented from blowing, falling, flowing, washing or leaching into the ocean;
- All spills will be cleaned up immediately after discovery, using proper materials that will be properly disposed of; and

- Should spills occur, the spill prevention plan will be adjusted to include measures to prevent spills from reoccurring and for modified clean-up procedures

3.11 Traffic

A Traffic Impact Report (TIR) was prepared by Wilson Okamoto Corporation in February 2020 to identify and assess the traffic impacts resulting from the implementation of the Proposed Action. The findings of this report are summarized below, and is included herein as Appendix C.

Project Site Characteristics

Currently, vehicular access and parking associated for the project site is located on both Metcalf Street and University Avenue via existing concrete driveway aprons. Parking related to the Proposed Action is anticipated to be provided on-site within two separate parking areas. The south parking area is expected to serve the development's restaurant and residential uses with access provided via a driveway off Metcalf Street. It should be noted that the driveway off Metcalf Street also expected to provide access to the development's primary loading area which is located within the south parking area. The east parking area is expected to only serve the development's residential uses with access provided off University Avenue. Similar to existing conditions, the driveway off University Avenue is expected to be restricted to right-turn in right-turn out traffic movements only due to the existing raised median along that roadway. Since the proposed educational uses within the Innovation Center are intended to support existing university programs, parking for those uses are expected to be accommodated within the university's existing parking facilities. It should be noted that the parking areas associated with the Atherton Mixed-Use development are not expected to be included into the university parking pool. In addition, although there is not a designated loading area off Seaview Avenue, there is a roll up door intended to facilitate the delivery of large materials associated with the Innovation Center.

Area Roadway System

The existing project site is bordered by Sea View Avenue to the north, University Avenue to the east, Metcalf Street to the south, and residential houses to the west.

University Avenue is a predominantly six-lane, two-way roadway generally oriented in the north-south direction. North of the project site, University Avenue intersects Maile Way. At this signalized intersection, the northbound approach of University Avenue has an exclusive left-turn lane, two through lanes, and an exclusive right-turn lane, while the southbound approach has an exclusive left-turn lane and a shared through and right-turn lane. Maile Way is a two-lane, two-way roadway that provides access through the UHM campus. The eastbound approach of Maile Way includes one wide lane that serves all traffic movements while the westbound approach includes an exclusive left-turn lane, a through lane, and an exclusive right-turn lane.

Near the southeast corner of the project site, University Avenue intersects Metcalf Street. At this signalized intersection, the northbound approach of University Avenue includes an

exclusive left-turn lane and three through lanes, while the southbound approach is comprised of two through lanes and a shared through and right-turn lane. The eastbound approach of the intersection is comprised of Metcalf Street, a predominantly two-lane two-way roadway generally oriented in the east-west direction. At the intersection with University Avenue, the eastbound approach includes exclusive turning lanes.

South of the intersection with Metcalf Street, University Avenue intersects Dole Street. At this signalized intersection, the northbound approach of University Avenue has an exclusive left-turn lane, two through lanes, a shared through and right-turn lane, and an exclusive right-turn lane. The southbound approach has an exclusive left-turn lane, two through lanes, and a shared through and right-turn lane. Dole Avenue is a predominantly two-lane, two-way roadway generally oriented in the east-west direction between Punahou Street and St. Louis Drive. The westbound and eastbound approaches of Dole Avenue have a shared left-turn and through lane and a shared through lane and right-turn lane.

West of the project site, Metcalf Street intersects Wilder Avenue. At this signalized intersection, the eastbound approach of Metcalf Street includes one lane that serves all traffic movements while the westbound approach includes a through lane and an exclusive right-turn lane. Wilder Avenue is a predominantly four-lane two-way roadway that starts as north-south roadway near the H-1 Freeway off-ramp but transitions to an east-west roadway west of the intersection with Metcalf Street. At the intersection with Metcalf Street, the northbound approach includes a shared left-turn and through lane and a shared through and right-turn lane, while the southbound approach includes an exclusive left-turn lane and a shared through and right-turn lane. It should be noted that there is a sign at the northbound approach prohibiting left-turn movements during the AM peak period between 6:30 AM and 8:30 AM.

Pedestrian Facilities

Pedestrian facilities in the vicinity of the project site are generally limited to University Avenue west of the project site. University Avenue includes sidewalks with trees providing intermittent shade. Marked crosswalks and curb ramps are provided at the intersections with Metcalf Street, Maile Way, and Dole Street with pedestrian crossing further facilitated through pedestrian phasing at those signalized intersections. Although some pedestrian facilities such as sidewalks and street lighting are provided along Metcalf Street south of the project site, those sidewalks terminate at the west end of the project site requiring pedestrians to utilize a portion of the travel way beyond this point.

Bike Facilities

The project site is served by a number of BIKI bike share stations. The closest bike share facility is located at the southeast corner of the intersection of University Avenue and Metcalf Street. Four additional bike share facilities are also located within the University of Hawaii campus with two located along the UHM's pedestrian mall and two south of Dole Street. Further west, there is also a bike share station near the intersection of Metcalf Street and Wilder Avenue. However, bicycle facilities along the surrounding roadways are somewhat limited. Currently, there are bike lanes provided along both sides of Metcalf Street between

University Avenue and Wilder Avenue, as well as along a small segment of Dole Street between University Avenue and East-West Road.

Transit Facilities

There is a dense network of existing transit resources located within the project vicinity. These facilities are provided by "The Bus" which is operated by the Oʻahu Transit Service (OTS) for the City and County of Honolulu Department of Transportation Services. Within a quarter mile radius of the project site, there are a total of 10 bus stop locations serving a total of 14 unique routes. At the intersection of University Avenue and Metcalf Street near the project site, there are three bus stops providing access to 10 routes.

In addition, UHM also provides a free shuttle service referred to as the "Rainbow Shuttle" which provides connections to various destinations within the university campus as well as to and from the neighboring vicinity as far as Mōʻiliʻili to the west and Koko Head Avenue to the east. There are 6 shuttle routes that operate daily Mondays through Fridays generally from 7:00 AM to 6:00 PM. A night shuttle is also offered between 5:00 PM and 11:15 PM daily. In the vicinity of the project site, the Rainbow Shuttle may be accessed via Varney Circle which serves as the hub for the Rainbow Shuttle service.

Existing Traffic Conditions

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

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

Field investigations were conducted on April 18-23, 2019 which consisted of manual turning movement count surveys during the morning peak hours between 6:00 AM and 9:00 AM, and the afternoon peak hours between 3:00 PM and 6:00 PM at the following intersections:

- University Avenue and Maile Way
- University Avenue and Metcalf Street
- University Avenue and Dole Street
- Wilder Avenue and Metcalf Street

<u>University Avenue and Maile Way</u>
At the intersection with University Avenue and Maile Way, University Avenue carries 887 vehicles northbound and 542 vehicles southbound during the AM peak period. During the PM peak period, traffic volumes are higher with 945 vehicles traveling northbound and 595 vehicles traveling southbound. The northbound approach operates at LOS "C" and LOS "B"

during the AM and PM peak periods, respectively, while the southbound approach operates at LOS "C" during both peak periods. Traffic queues occasionally formed on the University Avenue approaches of the intersection. Average queue lengths of 8-10 vehicles were observed at both approaches during both peak periods.

Maile Way carries 315 vehicles eastbound and 581 vehicles westbound during the AM peak period. During the PM peak period, traffic volumes are lower with 266 vehicles traveling eastbound and 434 vehicles traveling westbound. The eastbound approach operates at LOS "B" during both peak periods while the westbound approach operates at LOS "C" during both peak periods. Traffic queues occasionally formed on both approaches of the intersection with the most significant queueing observed on the westbound approach. Average queue lengths of 9-10 vehicles were observed on the westbound approach during both peak periods.

Crosswalks are provided on all sides of the intersection. During the AM peak period, 10 pedestrians and 68 pedestrians were observed crossing University Avenue on the north and south sides of the intersection, respectively, while 3 pedestrians and 9 pedestrians were observed crossing Maile Way on the east and west sides of the intersection, respectively. During the PM peak period, 11 pedestrians and 81 pedestrians were observed crossing University Avenue on the north and south sides of the intersections, respectively, while 1 pedestrian and 10 pedestrians were observed crossing Maile Way on the east and west sides of the intersection, respectively.

University Avenue and Metcalf Street

At the intersection with Metcalf Street, University Avenue carries 1,005 vehicles northbound and 1,192 vehicles southbound during the AM peak period. During the PM peak period, traffic volumes are slightly lower with 951 northbound vehicles and 1,129 southbound vehicles. The northbound approach operates at LOS "B" and LOS "A" during the AM and PM peak periods, respectively, while the southbound approach operates at LOS "B" during both peak periods. Queues occasionally formed on the northbound and southbound approaches of the intersection. Average queue lengths of 10-12 vehicles were observed on the northbound approach during the AM peak period with average queue lengths of 5-7 vehicles observed on the southbound approach during the same peak period. During the PM peak period, average queue lengths of 5-7 vehicles were observed on the northbound approach while average queue lengths of 6-8 vehicles were observed on the southbound approach. Field observation indicates that traffic operations at this intersection are influenced by the nearby University Laboratory School as the traffic queues were primarily clustered around the start and end of the school day.

Metcalf Street carries 388 eastbound vehicles during the AM peak period and 393 vehicles during the PM peak period. The eastbound approach of Metcalf Street operates at LOS "C" both peak periods. Traffic queues occasionally formed on the Metcalf Street approach of the intersection with average queues of 1-2 vehicles observed during the AM peak period and 2-3 vehicles during the PM peak period. Field observation indicates traffic operations on the eastbound approach of Metcalf Street are influenced by the high volume of conflicting pedestrian crossings at this intersection.

Pedestrian crossings are provided on all sides of the intersection. During the AM peak period, 17 pedestrians and 146 pedestrians were observed crossing University Avenue on

the north and south sides of the intersection, respectively, while 23 pedestrians were observed crossing Metcalf Street at the west side of the intersection. During the PM peak period, 51 pedestrians and 155 pedestrians were observed crossing University Avenue on the north and south sides of the intersection, respectively, while 38 pedestrians were observed crossing Metcalf Street on the west side of the intersection.

University Avenue and Dole Street

At the intersection with Dole Street, University Avenue carries 1,705 northbound vehicles and 1,408 southbound vehicles during the AM peak period. During the PM peak period, the traffic volumes are lower with 1,507 vehicles traveling northbound and 1,291 vehicles traveling southbound. The northbound and southbound approaches of University Avenue operate at LOS "D" during both peak periods. Traffic queues periodically formed on the University Avenue approaches of the intersection during both peak periods. Average queue lengths of 12-14 vehicles were observed at both approaches during the AM peak period while average queue lengths of 10-12 vehicles were observed during the PM peak period.

Dole Street carries 499 eastbound vehicles and 666 westbound vehicles during the AM peak period. During the PM peak period, the traffic volumes are higher with 525 vehicles traveling eastbound and 700 vehicles traveling westbound. The eastbound approach operates at LOS "F" during both peak periods while the westbound approach operates at LOS "F" and LOS "E" during the AM and PM peak periods, respectively. Traffic queues periodically formed on both approaches of the intersection with the most significant queueing observed during the PM peak period. Average queues of 5-7 vehicles were observed on the eastbound approach during this peak period, while average queues of 10-12 vehicles were observed on the westbound approach during the same peak period. Field observation indicates that the high volume of traffic along University Avenue, as well as the split phasing of the eastbound and westbound approaches contribute to the queueing and delays at this intersection with westbound queues occasionally extending to the upstream intersection with Lower Campus Road.

Pedestrian crossings are provided on all sides of the intersection. During the AM peak period, 39 pedestrians and 21 pedestrians were observed crossing University Avenue on the north and south sides of the intersection, respectively, while 22 pedestrians and 14 pedestrians were observed crossing Dole Street on the east and west sides of the intersection, respectively. During the PM peak period, 49 pedestrians and 53 pedestrians were observed crossing University Avenue on the north and south sides of the intersection, respectively, while 41 pedestrians and 26 pedestrians were observed crossing Dole Street on the east and west sides of the intersection, respectively.

Wilder Avenue and Metcalf Street

At the intersection with Metcalf Street, Wilder Avenue carries 653 vehicles northbound and 670 vehicles southbound during the AM peak period. During the PM peak period, traffic volumes are higher with 782 vehicles traveling northbound and 673 vehicles traveling southbound. The northbound approach operates at LOS "C" and LOS "B" during the AM and PM peak periods, respectively, while the southbound approach operates at LOS "B" and LOS "A" during the AM and PM peak periods, respectively. Traffic queues occasionally formed on the northbound and southbound approaches of the intersection. Average queue lengths of 8-

10 vehicles were observed on the northbound approach while average queue lengths of 5-7 vehicles were observed on the southbound approach during both peak periods.

Metcalf Street carries 101 vehicles eastbound and 513 vehicles westbound during the AM peak period. During the PM peak period, the overall traffic volume is higher with 163 vehicles traveling eastbound and 400 vehicles traveling westbound. The eastbound and westbound approaches operates at LOS "B" during both peak periods. Traffic queues occasionally formed on the Metcalf Street approaches of the intersection with the most significant queueing observed on the westbound approach. During the AM peak period, average queue lengths of 8-10 vehicles were observed on the westbound approach while average queue lengths of 5-7 vehicles were observed at the same approach during the PM period.

Pedestrian crossings are provided on all sides of the intersection. During the AM peak period 10 pedestrians and 18 pedestrians were observed crossing Metcalf Street on the east and west sides of the intersection, respectively, while 17 pedestrians and 13 pedestrians were observed crossing Wilder Avenue on the north and south sides of the intersection, respectively. During the PM peak period, 6 pedestrians and 7 pedestrians were observed crossing Metcalf Street on the east and west sides of the intersection, respectively, while 14 pedestrians were observed crossing Wilder Avenue at both the north and south sides of the intersection.

Impacts and Mitigation Measures

The Proposed Action is anticipated to be completed and operating by the year 2023.

Total Traffic Volumes Without Project

The projected Year 2023 AM and PM peak period traffic volumes and operating conditions without the Proposed Project are summarized in Table 3-2. The existing levels of service are provided for comparison purposes.

Table 3-2: Existing and Projected Year 2023 (Without Project) LOS Traffic Operating Conditions

Intersection	Approach/ Critical Movement	AM		PM	
		Exist	Year 2023 w/out Proj	Exist	Year 2023 w/out Proj
University Ave/ Maile Way	Eastbound	B	C	B	B
	Westbound	C	C	C	C
	Northbound	C	C	B	C
	Southbound	C	C	C	C
University Ave Metcalf St	Eastbound	C	C	C	C
	Northbound	B	B	A	B

	Southbound	B	B	B	B
University Ave/ Dole St	Eastbound	F	F	F	F
	Westbound	F	F	E	E
	Northbound	D	D	D	D
	Southbound	D	D	D	D
Wilder Ave/ Metcalf St	Eastbound	B	B	B	B
	Westbound	B	B	B	B
	Northbound	C	C	B	B
	Southbound	B	B	A	A

Under Year 2023 without project conditions, traffic operations along University Avenue are generally expected to remain similar to existing conditions. Along University Avenue, the approaches at the intersections with Maile Way and Metcalf Street are expected to continue operating at LOS "C" or better during both peak periods, whereas those at Dole Street are expected to continue operating at low levels of service during both peak periods. As previously discussed, traffic operations the intersection with Dole Street are influenced by the high volume of traffic along University Avenue requiring a greater proportion of the green time to be allotted to the main street. In addition, the split phasing of the eastbound and westbound approaches also contribute to the delays and queueing at this intersection. The remaining study intersection along Metcalf Street is expected to continue operating at levels of service similar to existing conditions.

Total Traffic Volumes With Project

The Year 2023 cumulative AM and PM peak hour traffic conditions with the proposed Atherton Mixed-Use development are summarized in Table 3-3. The existing and projected Year 2023 (Without Project) operating conditions are provided for comparison purposes.

Table 3-3: Existing and Projected Year 2023 (Without and With Project) LOS Traffic Operating Conditions

Intersection	**Approach**	**AM**			**PM**		
		Exist	Year 2023		Exist	Year 2023	
			w/out Proj	w/ Proj		w/out Proj	w/ Proj
University Ave/ Maile Way	Eastbound	B	C	C	B	B	B
	Westbound	C	C	C	C	C	C
	Northbound	C	C	C	B	C	C
	Southbound	C	C	C	C	C	C
University Ave/ Metcalf St	Eastbound	C	C	C	C	C	C
	Northbound	B	B	B	A	B	B
	Southbound	B	B	B	B	B	B

University Ave/ Dole St	Eastbound	F	F	F	F	F	F
	Westbound	F	F	F	E	E	E
	Northbound	D	D	D	D	D	D
	Southbound	D	D	D	D	D	D
Wilder Ave/ Metcalf St	Eastbound	B	B	B	B	B	B
	Westbound	B	B	B	B	B	B
	Northbound	C	C	C	B	B	B
	Southbound	B	B	B	A	A	A

Under Year 2023 with project conditions, traffic operations are generally expected to remain similar to without project conditions. With the proposed Atherton Mixed-Use development, the total traffic volumes entering the study intersections along University Avenue and Metcalf Street are anticipated increase less than 1% during both peak periods. These increases in total traffic volumes are in the range of daily volume fluctuations along the surrounding roadways and represent a minimal increase in the overall traffic volumes. As such, along Metcalf Street, traffic operations at the intersection with University Avenue are expected to continue operating at LOS “C” or better during both peak periods while those at the intersection with Wilder Avenue are expected to continue operating at LOS “C” or better during the AM peak period and LOS “B” or better during the PM peak period. The remaining study intersections along University Avenue are also expected to continue operating similar to without project conditions.

Pedestrian Facilities

With the Proposed Action, access to and from the UHM Campus is expected to continue being provided via sidewalks along University Avenue and Metcalf Street with protected pedestrian phasing at the signalized intersection of University Avenue and Metcalf Street. In addition, the Proposed Action is also expected to improve the project frontage along University Avenue, Metcalf Street, and Seaview Avenue with additional landscaping treatments to create an outdoor seating space. It should be noted that there are also plans to improve Campus Road between Metcalf Street and Varney Circle as a pedestrian-friendly pathway with landscaping improvements to link the various academic buildings in the vicinity.

Bicycle Facilities

According to the 2019 Update of the O‘ahu Bike Plan published by the City and County of Honolulu Department of Transportation Services, there are plans to provide additional bicycle facilities in the project vicinity. These include the provision of a protected bike lane along University Avenue between Hiliwai Street and Maile Way, conversion of the existing bike lane along Dole Street to a protected bike lane, and the extension of the existing bike lane along Dole Street further east to St. Louis Drive. It should be noted that the timeline of these improvements are not known at this time and as such, were not incorporated into the projected conditions. In addition, the proposed project is expected to provide short-term and long-term bicycle facilities on-site to encourage the use alternate modes of transportation.

These storage facilities are primarily expected to be located within the parking area off Metcalf Street.

Recommendations

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

1. Maintain sufficient sight distance for motorists to safely enter and exit the project driveways to ensure pedestrians, bicyclists, and motorists are aware of the presence of each other at these conflict points. It should be noted that the parking area off University Avenue is located one floor below street level. As such, consideration should be given to the visibility of pedestrians along the sidewalk for vehicles exiting this parking area.

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

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

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

5. If access to the parking garage is controlled, provide sufficient storage for entering vehicles at the parking access controls (i.e. automatic gate, etc.) to ensure that queues do not extend onto the adjacent public roadways.

6. Ensure sufficient width at the project driveways to accommodate two-way traffic.

7. Restrict on-street parking along University Avenue along the project frontage to ensure adequate sight distance for entering and exiting vehicles.

8. Continue to restrict turning movements at the driveway off University Avenue to right-turn in right-turn out movements only.

9. Clearly indicate which parking stalls are allocated for residential and restaurant uses. Consider locating the stalls for the restaurant uses closer to the entrance to minimize conflict between uses.

10. Consider providing information to students allocated parking stalls in the east parking area off University Avenue to increase awareness of the available routes to and from this parking area and reinforce the turning restrictions at the adjacent intersections.

11. Consider working with the adjacent University Laboratory School to implement a traffic management plan to address congestion and vehicular maneuvers along Metcalf Street near the start and end of the school day. Field investigations include observations of vehicles parking illegally and encroaching in the bike lanes, illegal maneuvers such as u-turns to access parking stalls along Metcalf Street, and queuing from the school access which could potentially block access to the project site.

12. Maintain and/or improve the existing pedestrian facilities fronting the project site along University Avenue, Metcalf Street, and Seaview Avenue. Pedestrian facilities should be made accessible in conformance with the American with Disabilities Act (ADA).

13. Provide adequate pedestrian connections to the bicycle parking facilities located at the south side of the project site to ensure safe and convenient access.

14. Provide adequate signing, striping, and lighting along the routes between the bicycle parking within the parking garage and the adjacent roadway to ensure the safety of pedestrians and bicyclists within the garage. It should be noted that all pedestrian routes should be in conformance with the American With Disabilities Act.

15. Monitor conflicts between pedestrians and bicyclists accessing the bike parking areas within the garage with vehicular traffic. Consider relocating or modifying the bicycle parking areas if safety concerns arise.

16. Coordinate with the City and County of Honolulu Department of Transportation Services regarding their plans for additional bike facilities along University Avenue.

17. Coordinate with the City and County of Honolulu Department of Transportation Services regarding improvements at the bus stop located adjacent to the project site along Metcalf Street. Improvements should consider the high volume of ridership at that location, adequate dwelling and passing areas, as well as bus loading requirements.

18. Consider working with the City and County of Honolulu to implement an all pedestrian crossing phase at the intersection of University Avenue and Metcalf Street to accommodate the projected pedestrian volumes at that intersection. In addition, it should be noted that pedestrian crossing volumes could also increase with the planned conversion of Campus Road to a pedestrian mall/pathway.

19. Consider relocating the roll up door located along the Seaview Avenue side of the building. If relocation is not possible, coordinate with owner of that roadway prior to staging large material deliveries along Seaview Avenue.

20. Prepare a Construction Management Plan (CMP) given the high volume of vehicular and pedestrian traffic in the project vicinity. The CMP should include discussions regarding the anticipated construction schedule and phasing, as well as traffic circulation, traffic control, and parking during the construction period.

The proposed development is intended to bring an integrated live, learn, work innovation center with classrooms and meetings spaces, restaurant uses, and residential uses. With the implementation of the aforementioned recommendations, traffic operations in the vicinity are generally expected to remain similar to without project conditions. Although traffic operations are generally expected to remain similar to without project conditions, the project is located within an area with a high volume of pedestrian and vehicular traffic. As such, the preparation of a Construction Management Plan which includes discussions regarding anticipated construction schedule, phasing, as well as traffic circulation, traffic control and parking during construction is recommended to further minimize the potential impact of the proposed project on the surrounding roadway network. Moreover, it should be acknowledged that the proposed project will be subject to a comprehensive review process pursuant to the permitting requirements administered by the City and County of Honolulu Department of Planning and Permitting. As parking within the project area and surrounding neighborhood is a well-recognized issue, the project will seek to minimize project related demand for on-site parking inventory, by providing off-site parking within the UH Mānoa on-campus parking inventory.

3.12 Visual Resources

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

Several scenic view places can be found within the vicinity of the project site. Specifically, the UHM Campus is strategically located at the mouth of Mānoa Valley, and affords views Waikīkī and Waikīkī Beach to the south, Diamond Head to the southeast, and Mount Tantalus to the west. Mānoa Stream runs along the eastern portion of the campus and is a significant natural visual resource on the project site.

Impacts and Mitigation Measures

No short- and long-term significant impacts are anticipated on visual resources, as identified in the Makai Area Plan.

3.13 Socio-Economic Characteristics

Mānoa, which in Hawaiian means “vast” and “wide,” was originally an agricultural area, but beginning in the early 1900s evolved mostly into a residential community. Some of Honolulu’s most beautiful historic homes are located in the valley, as well as some of Hawai‘i’s most notable schools, including UHM, Punahou School, and Mid-Pacific Institute.

In the valley, Mānoa is comprised of private homes (built predominantly before the 1960s), and low-rise, multi-family dwellings and apartments. It is considered somewhat of an affluent area with single-family home prices above Honolulu's average

The project area is located within the Urban Honolulu Census Designated Place. Demographic and other information was reviewed from the U.S. Census 2010 for the Urban Honolulu CDP and the City and County of Honolulu and is shown on Table 3-4.

Based upon the data shown on the table, the Urban Honolulu CDP has a slightly older population than the City and County of Honolulu. The median age of the population for the Urban Honolulu CDP was 41.3 versus 37.8 for the County.

By racial mix, the Urban Honolulu CDP has a higher percentage of Asians (54.8%) than the County (43.9%). The Urban Honolulu CDP has a lower percentage of Whites (17.9%) and those of two or more races (16.3%) than the County (20.8% and 22.3%, respectively). These three races (Asian, Whites, and those with two or more races) make up the majority of proportion than the County as a whole, with 8.4% and 9.5%, respectively.

According to the 2010 Census, the Urban Honolulu CDP has a slightly lower occupancy rate, 90.4%, than the County, 92.3%. Housing units in this region are largely occupied by renters at 56.2%. The County data is slightly different than that of the Urban Honolulu CDP in that a larger proportion of housing units are occupied with owners.

Impacts and Mitigation Measures

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

Notably, the proposed project improvements are geared towards the promotion of the high technology industry in Hawai'i. As result, even more jobs in this sector could be created on the site and in the State as a whole.

Table 3-4
Demographic Characteristics

Subject	Urban Honolulu CDP		City and County of Honolulu	
	Number	Percent	Number	Percent
Total Population	**337,256**	**100**	**953,207**	**100**
AGE				
Under 5 years	16,677	4.9	61,261	6.4
5-19 years	50,395	15	174,309	18.3
20-64 years	210,022	62.3	579,147	60.8
65 years and over		17.8	138,490	14.5

	60,162			
Median age (years)	41.3	--	37.8	--
RACE				
White	60,409	17.9	198,732	20.8
Black or African American	4,974	1.5	19,256	2.0
American Indian and Alaskan Native	743	0.2	2,438	0.3
Asian	184,950	54.8	418,410	43.9
Native Hawaiian and other Pacific Islander	28,260	8.4	90,878	9.5
Two or more races	55,080	16.3	213,036	22.3
Other	2,840	0.8	10,457	1.1
HOUSEHOLD (BY TYPE)				
Total households	**129,408**	**100**	**311,047**	**100**
Family households (families)	74,688	57.7	328,953	70.0
Married-couple family	52,431	40.5	161,172	51.8
With own children under 18 years	2,062	1.6	65,995	21.2
Female householder, no husband present	15,689	12.1	39,435	12.7
With own children under 18 years	5,321	4.1	15,027	4.8
Nonfamily household	54,720	42.3	93,205	30.0
Average household size	2.51	--	2.95	--
HOUSING OCCUPANCY AND TENURE				
Total housing Units	**143,173**	**100**	**336,889**	**100**
Occupied Units	129,408	90.4	311,047	92.3
By owner	56,742	43.8	174,387	56.1
By renter	72,666	56.2	136,660	43.9
Vacant Units	13,765	9.6	25,852	7.7

3.14 Public Services and Facilities

3.14.1 Police Fire, and Medical Services

Police protection is provided by the City's Honolulu Police Department. The project area is part of District 7 – East Honolulu, Sector 1, which covers from Punahou Street to Makapu‘u Point. The project area is served by the Alapai Police Headquarters located at 801 South Beretania Street, approximately 2 miles west of the project area.

Fire protection is provided by the City's Honolulu Fire Department. The City and County of Honolulu Fire Department has several fire stations in close proximity to the Atherton site: Mānoa Fire Station - 1.4 miles; Makiki Fire Station - 1.9 miles; and McCully Fire Station - 1.4 miles, Station located at 2425 Date Street. Because of the close proximity to the Atherton

site, faster response times in the event of a fire or emergency can be anticipated. All public roadways in the project vicinity are wide enough to permit access by fire trucks.

The closest hospital to the project area is Kapiʻolani Medical Center for Women and Children located at 1319 Punahou Street, approximately 1 mile southwest of the project area. Kapiʻolani Medical Center for Women and Children is part of Hawaiʻi Pacific Health and has more than 1,500 employees and 630 physicians on staff. The next closest hospital is Straub Medical Center, which is also part of Hawaiʻi Pacific Health, and is located at 888 South King Street, approximately 2 miles southwest of the project area. Straub Medical Center employs over 350 physicians in more than 32 different medical specialties.

Emergency medical service is provided by the City's Emergency Services Department, Emergency Medical Services (EMS) Division. The Department has 20 ambulance units under two districts. All ambulance units are designated as advanced life support units, meaning they are staffed by at least two people. The project area is served by District 2, which includes the southeast region of Oʻahu. The Honolulu Fire Department also co-responds to medical emergencies, providing first aid in coordination with EMS.

Impacts and Mitigation Measures

In the short-term, the project may have adverse impacts such as temporary disturbance of traffic, which could affect emergency vehicle access through the project area. During the construction period, flagmen or off-duty police officers will be present to direct traffic and emergency vehicles.

In the long-term, the proposed project my require occasional police and fire protection, as well as medical services, however it would likely not represent a significant amount relative to the overall regional demand. HPD recommends the building to be built in consideration of public safety by installing such features ample lighting, necessary signage, and other safety measures to keep the public safe, in an effort reduce the need of police services.

The Project will be built in accordance with the Uniform Fire Code, as amended by the City and County of Honolulu. A fire protection system will be installed in the building, which will include an automatic fire sprinkler system, smoke detection system, heat detection system, carbon dioxide-based automatic fire suppression system, manual fire extinguishers, and fire alarm system. Habitable rooms will contain audio/visual and visual signaling devices as required by the fire code and the accessibility guidelines. The dry standpipe system will be provided at exit stairs and other areas as required by the Building Code.

3.14.2 Education

The project area is located within the State Department of Education's (DOE) Kaimuki-McKinley-Roosevelt Complex Area which includes Lincoln, Maʻemaʻe, Mānoa, Noelani, Nuʻuanu, and Pauoa Elementary Schools; and, Kawananakoa and Stevenson Middle Schools, which feed into either Roosevelt High School or McKinely High School. There are four private schools serving grades K-12 located in the vicinity of the site. These private Schools include Punahou, Maryknoll, Saint Louis and Sacred Heart Academy. Three Native

Hawaiian immersion schools ‘Ānuenue, the Education Laboratory Public Charter School, and Halau Ku Mana Public Charter School are also located within the vicinity of the site. DOE records indicate that this complex has served approximately 14,500 students on an annual basis for the past several years. Generally speaking, statewide total enrollment numbers in DOE schools have remained virtually flat over the course of the past decade, fluctuating less than 2% in growth/decline on an annual basis.

The closest DOE school is Kaimuki High School, located approximately 0.5 miles from the proposed project area.

The Project will be an extension of the UHM Campus and participants will have access to educational programs provided by PACE which also includes free advice by experienced mentors, startup funds, free to low-cost office space, and access to entrepreneurial interns. The academic programs planned for the Innovation Center would support three phases of the startup process as detailed in Section 2.2.

Impacts and Mitigation Measures

In the short- and long-term, no significant impacts or increase in demand on DOE schools are anticipated. It is unlikely the proposed project will induce population growth due to the slight expansion of student housing relative to current offerings. Therefore, it is not expected to affect student enrollment at public schools or at UHM.

3.14.3 Recreational Facilities

The primary recreational facilities at UHM provide opportunities for students, employees, and guests to participate in sporting events and activities, spectate sporting events, exercise, swim, and attend fitness classes. Amenities on Lower Campus include Clarence T.C. Ching Complex, Duke Kahanamoku Aquatic Complex, Les Murakami Stadium, Rainbow Wahine Softball Stadium, Stan Sheriff Center, UH Tennis Complex, Klum Gym, Gym 1, Gym 2, Gym 3, and various practice fields. The main recreational facility on Upper Campus is the Warrior Recreation Center, which offers two basketball courts, an indoor track, cardio machines, and weights.

The nearest off-campus recreational facilities include the Hala Terrace Park (approximately 0.45 miles to the northeast), Kalo Place Mini Park (approximately 0.57 miles to the southeast), Mō‘ili‘ili Neighborhood Park (approximately 0.6 miles to the south), and the Kanewai Park (approximately 0.75 miles to the east).

Impacts and Mitigation Measures

In the long-term, no significant impacts to recreational facilities are anticipated as a result of the construction and operation of the proposed project. The proposed project does not include residences that could generate a significant increase in demand for recreational facilities in the region.

3.14.4 Solid Waste Collection and Disposal

Solid waste collection and disposal service is provided by the City and County of Honolulu’s Department of Environmental Services (ENV) and numerous private companies. Solid waste collected in the Honolulu area is hauled to the Campbell Industrial Park H-POWER Plant for

incineration that generates electricity, followed by disposal of ash and non-combustibles at the Waimanalo Gulch Sanitary Landfill. Construction and demolition material is disposed of at the privately-owned PVT landfill in Waianae.

Impacts and Mitigation Measures

No short- or long-term significant impacts to municipal solid waste collection and disposal facilities are anticipated as a result of the construction and operation of the proposed project.

3.15 Infrastructure and Utilities

3.15.1 Water System

Potable water in Manoa is supplied by the City and County of Honolulu Board of Water Supply (BWS). The BWS water system in the vicinity of the project site consists of distribution mains and fire hydrants. BWS record drawings and facility maps indicate two existing 8-inch water mains running along Metcalf Street, and an 8-inch water main along Sea View Avenue. BWS records also show two existing water meters servicing the project site: a 2" meter (M/N 1853542982) and a 1" meter (M/N 1390158591) coming off of the 8-inch mains on Metcalf Street and Sea View Avenue; respectively. There are four fire hydrants in the vicinity of the project site along Metcalf Street and University Avenue. There is a fire hydrant at the southwest corner on the Mauka side of Metcalf Street, and another hydrant at the southeast corner on the Makai side of the street. There are two fire hydrants on University Avenue are located in the northeast and southeast corner across the street (See Figure 3-11).

On November 05, 2019, a letter was submitted to the BWS requesting information on the availability of water for the proposed project and water pressure information for the fire hydrants in the vicinity of the project site. This initial letter was based on programming for the proposed project and the estimated average daily water demand.

On November 27, 2019, the BWS responded stating that based on current data, the existing water system is adequate to accommodate the proposed project. BWS record information indicates that the water supply system has a calculated fire flow capacity of 2,000 gallons per minute (See Appendix D).

On February 10, 2020, an updated letter was submitted to the BWS requesting information on the availability of water for the proposed project. This letter was based on updated programming for the proposed project and the estimated average daily water demand shown below:

Table 3-5: UH Atherton Student Housing – Proposed Program Information

Facility	Area/Units	Avg. Daily Water Demand (gpd)
Classroom Space Levels 1, 2, and 3	14,655 sf	1,346 gpd
Student Housing	203 units	60,900 gpd

Levels 2-6		
Office/Food & Beverage Levels 1 & 2	6,100 sf	732 gpd
	Total:	**54,905 gpd**

BWS has yet to provide an official response to this application. The final decision on the availability of water will be made when the building permit application is submitted for approval.

Impacts and Mitigation Measures

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

On-site water system improvements will be required to accommodate the proposed project. The final water line sizes and locations will be determined during the design phase of the project. Proposed connections and improvements will be confirmed when construction drawings for the proposed project are developed and submitted to BWS for review and approval. Trenching and backfilling of proposed water lines will follow BWS standards and the Soils Engineer's recommendations.

3.15.2 Wastewater System

Sanitary sewer services in the vicinity of the project is provided by the City and County of Honolulu Department of Environmental Services (ENV). Record drawings indicate a 6-inch main running along Sea View Avenue and University Avenue and a 10-inch main along Metcalf Street. There are six 6-inch sewer laterals servicing the project site, one along Sea View Avenue, two along Metcalf Street and three along University Avenue. (See Figure 3-11). The City and County of Honolulu's wastewater system collects and transports sewage from the project site to the Sand Island Wastewater Treatment Plant for treatment and disposal. A summary of the existing sewer lines serving the project site are in the table below:

Table 3-6: Existing Wastewater System

TMK	Existing Adjacent Sewer System
2-8-016: 001	10-inch sewer main along Metcalf St. Two 6-inch sewer lateral along Metcalf St. 6-inch sewer main along University Ave. Three 6-inch sewer lateral along University Ave. 6-inch sewer main along Sea View Ave. 6-inch sewer lateral along Sea View Ave.

The Department of Planning and Permitting's (DPP) Wastewater Branch (WWB) reviews and authorizes sewer connection applications for developments which require sanitary sewer service. On November 13, 2019, a preliminary sewer connection application (SCA) based on

the proposed program was approved by WWB, indicating that the existing City wastewater system is adequate to support the proposed project's wastewater demand (See Appendix D).

On February 10, 2020, another sewer connection application (SCA) based on the updated proposed program was submitted to WWB. WWB has yet to provide an official response to this application. The response will specify if any off-site sewer infrastructure will need to be constructed to provide a sewer connection to the project.

Impacts and Mitigation Measures

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

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

3.15.3 Drainage System

The existing on-site storm drainage system consists of a drywell located at the east end of the property. Discharge from downspouts on the west side of the Charles Atherton House along with rain runoff from the western parking lot sheet flows onto Metcalf Street. Downspouts at the north portion of this building discharge into adjacent landscape areas. Roof drainage from the Mary Atherton House at the western side of the building and flows to the landscape area between the two buildings. The underground roadway storm drain system within University Avenue, Sea View Avenue, and Metcalf Street is owned and maintained by the City and County of Honolulu and consists of a network of drain lines, catch basins, and manholes.

There are two catch basins in the vicinity of the project. One at the corner of Sea View Avenue and University Avenue, and the other at the corner of Metcalf Street and University Avenue. Both catch basins discharge to an existing 18-inch drain line running down University Avenue. (See Figure 3-11).

Impacts and Mitigation Measures

No short- or long-term significant impacts on the quantity or quality of drainage in the project vicinity are anticipated during construction or operation of the proposed project. There are no streams or wetlands on or within close proximity to the project site. Construction of the proposed project will not involve major land disturbing activities that will significantly alter site contours. Applicable erosion control measures and best management practices will be implemented in order to mitigate any possible adverse effects relating to runoff. As applicable for each phase, these may include but are not be limited to: temporary sediment basins, temporary diversion berms and

swales to intercept runoff, silt fences, dust fences, slope protection, stabilized construction vehicle entrance, grate inlet protection, truck wash down areas, and use of compost filter socks. Planting of landscaping also will be done as soon as possible on completed areas to help control erosion. Permanent sediment control measures will be used once construction is completed.

The project site is currently fully developed with impervious surfaces. Thus, it is expected that any increase in the storm water runoff peak discharge rate will be minimal compared to the existing conditions. Drainage runoff rates and improvements for the proposed project will be determined based on the CCH DPP, Storm Drainage Standards, dated August 2017. Any increase in runoff due to the proposed improvements will need to be retained on-site to ensure that the proposed project will not have any adverse effects on downstream properties. The on-site drainage improvements will be confirmed during the design phase and will maintain the existing discharge points to University Avenue and Metcalf Street.

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

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

- Incorporate appropriate Low Impact Development (LID) site design strategies to the "maximum extent practicable" (MEP).

- Incorporate appropriate Source Control Best Management Practices (BMPs) to the MEP.

- Retain on-site by infiltration, evapotranspiration, or harvest/reuse as much of the water quality volume (WQV) as feasible with appropriate LID Retention Post-Construction Treatment Control BMP's.

- Biofilter any portion of the WQV that is not retained on-site with appropriate LID Biofiltration Post-Construction Treatment Control BMPs.

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

- Treat (by detention, filtration, settling, or vortex separation) and discharge with appropriate Alternative Compliance Post-Construction Treatment Control BMPs, any portion of the WQV that is not retained on-site or biofiltered.

- Retain or biofilter at an offsite location, the volume of runoff from a non-tributary drainage area equivalent to the difference between the project's WQV and the amount retained on-site or biofiltered.

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

3.15.4 Electrical and Communications Systems

Electrical power on the island of O‘ahu is provided by Hawaiian Electric Company (HECO). A significant electrical source for the project area is the Downtown Power Plant.

Telephone service in the area is provided by Hawaiian Telcom.

Spectrum is the local CATV provider in the region.

Impacts and Mitigation Measures

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

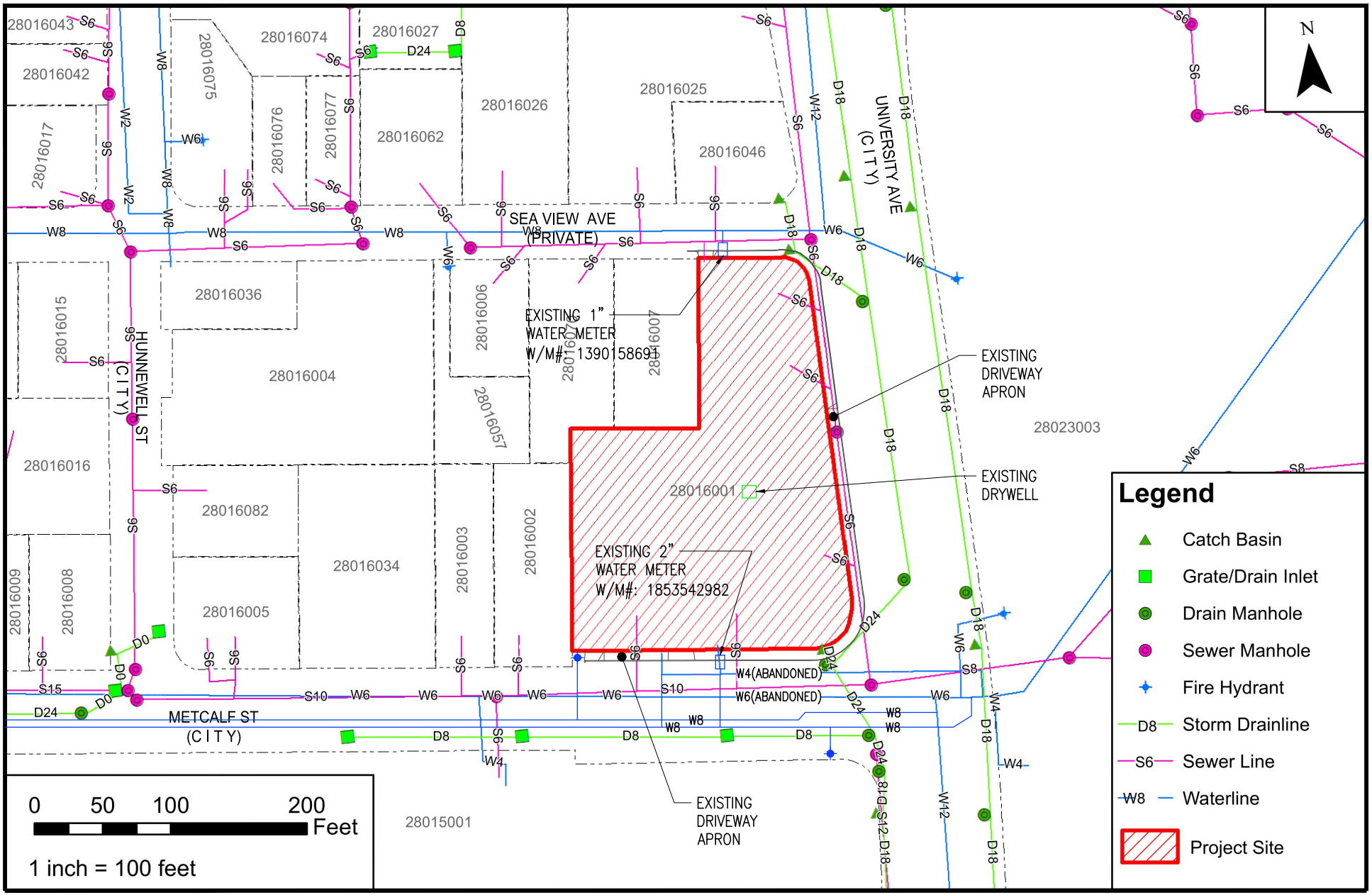

FIGURE 3-11

EXISTING CONDITIONS MAP

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4. RELATIONSHIP TO PLANS, POLICIES, AND CONTROLS

This section discusses the relationship of the Proposed Action to State and County land use plans, policies, and controls. Some of the land use plans, policies, and guidelines are in tabular form, and are addressed with text and/or the following letter code:

S = Supportive, NS = Not Supportive, N/A = Not Applicable

4.1 State Land Use Plans and Policies

4.1.1 Hawaiʻi State Plan

The Hawaiʻi State Plan, Chapter 226, HRS, as amended, provides goals, objectives, policies, and priorities for the State. The purpose of the Hawaiʻi State Plan is to set forth a plan that shall serve as a guide for the future long-range development of the State; identify the goals, objectives, policies, and priorities for the State; provide a basis for determining priorities and allocating limited resources, such as public funds, services, human resources, land, energy, water, and other resources; improve coordination of federal, state, and county plans, policies, programs, projects, and regulatory activities; and to establish a system for plan formulation and program coordination to provide for an integration of all major state, and county activities. The State Plan is divided into three sections. Part 1 is Overall Theme, Goals, Objectives and Policies. Part 2 is Planning Coordination and Implementation. Part 3 is Priority Guidelines. The Proposed Action's consistency with applicable goals, objectives and policies of Part 1 is discussed in Table 4-1, and an assessment of conformance with Part 3 is discussed in Table 4-2. Part 2 of the State Plan, which primarily covers internal government affairs, is not addressed.

Table 4-1: The Hawaiʻi State Plan	S	NS	N/A
§226-4 State goals. In order to ensure, for present and future generations, those elements of choice and mobility that ensure that individuals and groups may approach their desired levels of self-reliance and self-determination, it shall be the goal of the State to achieve:			
(1) A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawaiʻi's present and future generations.	X		
(2) A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people.	X		
(3) Physical, social, and economic well-being, for individuals and families in Hawaiʻi, that nourishes a sense of community responsibility, of caring, and of participation in community life.	X		
Discussion: The Proposed Action will support the State of Hawaiʻi economy by providing the creation of construction, construction support jobs, and the purchase of materials. The academic programming and research support that will be offered at the Innovation Center has the potential to both: a) develop a much needed third major economic sector for the State of Hawaiʻi, that will be able to create high-quality living- wage jobs, and b) prepare students to address the challenges and opportunities faced by Hawaiʻi, and the world, in a quickly evolving digital century. Moreover, the design approach of the Project itself communicates a 21st century Hawaiʻi, while rooted in the design history of Mānoa Valley.			

Table 4-1: The Hawai‘i State Plan	S	NS	N/A
§226-5 Objectives and policies for population. (a) It shall be the objective in planning for the State's population to guide population growth to be consistent with the achievement of physical, economic, and social objectives contained in this chapter. To achieve the population objective, it shall be the policy of this State to:			
(1) Manage population growth statewide in a manner that provides increased opportunities for Hawai‘i's people to pursue their physical, social, and economic aspirations while recognizing the unique needs of each county.	X		
(2) Encourage an increase in economic activities and employment opportunities on the Neighbor Islands consistent with community needs and desires.	X		
(3) Promote increased opportunities for Hawai‘i's people to pursue their socio-economic aspirations throughout the islands.	X		
(4) Encourage research activities and public awareness programs to foster an understanding of Hawai‘i's limited capacity to accommodate population needs and to address concerns resulting from an increase in Hawai‘i's population.			X
(5) Encourage federal actions that will promote a more balanced distribution of immigrants among the states, provided that such actions do not prevent the reunion of immediate family members.			X
(6) Pursue an increase in federal assistance for states with a greater proportion of foreign immigrants relative to their state's population.			X
(7) Plan the development and availability of land and water resources in a coordinated manner so as to provide for the desired levels of growth in each geographic area.			X
Discussion: The Proposed Action will support the objectives and policies of the State for population. The Project will offer a world-class student housing, innovation and classroom complex, currently unavailable on the UHM Campus. The two residential wings will have enough residential rooms to accommodate approximately 300 students. The Project will offer students, faculty, and staff at UHM, as well as the larger community, a much needed facility that will facilitate entrepreneurial practice and advance the understanding of entrepreneurship in the Pacific Rim. In other words, the Project will provide opportunities for Hawai‘i’s people to pursue their socio-economic aspirations related to innovation and entrepreneurship.			
§226-6 Objectives and policies for the economy--in general. (a) Planning for the State's economy in general shall be directed toward achievement of the following objectives: (1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawai‘i’s people. (2) A steady growing and diversified economic base that is not overly dependent on a few industries, and includes the development and expansion of industries on the neighbor islands. (b) To achieve the general economic objectives, it shall be the policy of this State to:			
(1) Promote and encourage entrepreneurship within Hawai‘i by residents and	X		

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

Table 4-1: The Hawai‘i State Plan	S	NS	N/A
in particular.			
(21) Foster a business climate in Hawai‘i- including attitudes, tax and regulatory policies, and financial and technical assistance programs-that is conducive to the expansion of existing enterprises and the creation and attraction of new business and industry.	X		
Discussion: The Proposed Action will support the objectives and policies of the State for the economy – in general. In the short-term, project construction expenditures will confer positive benefits on the local economy. These benefits would be derived from the creation of construction and construction support jobs as well as revenues generated by the procurement of building supplies and materials. The Proposed Action will create a world-class student housing, innovation and classroom complex, currently unavailable on the UHM Campus. The Project is an innovative P3 project that will strengthen community assets and facilitate economic growth for UH, as well as the State. The academic programming and research support that will be offered at the Innovation Center has the potential to both: a) develop a much needed third major economic sector for the State of Hawai‘i, that will be able to create high-quality living- wage jobs, and b) prepare students to address the challenges and opportunities faced by Hawai‘i, and the world, in a quickly evolving digital century. Participants will have access to educational programs provided by PACE which also includes free advice by experienced mentors, startup funds, free to low-cost office space, and access to entrepreneurial interns. The academic programs planned for the Innovation Center would support three phases of the startup process including Ideation, Acceleration, and Incubation which is discussed in further detail in Section 2.2. Generally speaking, in the long-term, the Proposed Action will provide significant opportunities for the incubation and development of commercial high-technology-centered start-ups and businesses ventures which may potentially generate jobs in specialized fields otherwise not-common here in the islands.			
§226-7 Objectives and policies for the economy--agriculture. (a) Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives: (1) Viability of Hawaii's sugar and pineapple industries. (2) Growth and development of diversified agriculture throughout the State. (3) An agriculture industry that continues to constitute a dynamic and essential component of Hawaii's strategic, economic, and social well-being To achieve the agriculture objectives, it shall be the policy of this State to:			
(1) Establish a clear direction for Hawaii's agriculture through stakeholder commitment and advocacy.			X
(2) Encourage agriculture by making the best use of natural resources.			X
(3) Provide the governor and the legislature with information and options needed for prudent decision-making for the development of agriculture.			X
(4) Establish strong relationships between the agricultural and visitor industries for mutual marketing benefits.			X
(5) Foster increased public awareness and understanding of the contributions and benefits of agriculture as a major sector of Hawai‘i's economy.			X
(6) Seek the enactment and retention of federal and state legislation that benefits Hawai‘i's agricultural industries.			X
(7) Strengthen diversified agriculture by developing an effective promotion, marketing,			X

Table 4-1: The Hawai‘i State Plan	S	NS	N/A
and distribution system between Hawai‘i's food producers and consumers in the State, nation, and world.			
(8) Support research and development activities that strengthen economic productivity in agriculture, stimulate greater efficiency, and enhance the development of new products and agricultural by-products.	X		
(9) Enhance agricultural growth by providing public incentives and encouraging private initiatives.			X
(10) Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs.			X
(11) Increase the attractiveness and opportunities for an agricultural education and livelihood.			X
(12) In addition to the State's priority on food, expand Hawai‘i's agricultural base by promoting growth and development of flowers, tropical fruits and plants, livestock, feed grains, forestry, food crops, aquaculture, and other potential enterprises.			X
(13) Promote economically competitive activities that increase Hawai‘i's agricultural self-sufficiency, including the increased purchase and use of Hawaii-grown food and food products by residents, businesses, and governmental bodies as defined under section 103D‑104.	X		
(14) Promote and assist in the establishment of sound financial programs for diversified agriculture	X		
(15) Institute and support programs and activities to assist the entry of displaced agricultural workers into alternative agricultural or other employment.			X
(16) Facilitate the transition of agricultural lands in economically non-feasible agricultural production to economically viable agricultural uses.			X
(17) Perpetuate, promote, and increase use of traditional Hawaiian farming systems, such as the use of loko i‘a, māla, and irrigated lo‘i, and growth of traditional Hawaiian crops, such as kalo, ‘uala, and ‘ulu.			X
(18) Increase and develop small-scale farms.			X
Discussion: The Proposed Action will support the potential innovation and development of technologies applicable to agriculture as well as the incubation and acceleration of agriculture businesses.			
226-8 Objective and policies for the economy--visitor industry. (a) Planning for the State's economy with regard to the visitor industry shall be directed towards the achievement of the objective of a visitor industry that constitutes a major component of steady growth for Hawai‘i's economy. (b) To achieve the visitor industry objective, it shall be the policy of this State to:			
(1) Support and assist in the promotion of Hawai‘i's visitor attractions and facilities.			X
(2) Ensure that visitor industry activities are in keeping with the social, economic, and physical needs and aspirations of Hawai‘i's people.			X
(3) Improve the quality of existing visitor destination areas by utilizing Hawaii's strengths in science and technology.			X

Table 4-1: The Hawai‘i State Plan	S	NS	N/A
(4) Encourage cooperation between the public and private sectors in developing and maintaining well-designed, adequately serviced visitor industry and related developments which are sensitive to neighboring communities and activities.			X
(5) Develop the industry in a manner that will continue to provide new job opportunities and steady employment for Hawai‘i's people.			X
(6) Provide opportunities for Hawai‘i's people to obtain job training and education that will allow for upward mobility within the visitor industry.	X		
(7) Foster a recognition of the contribution of the visitor industry to Hawai‘i's economy and the need to perpetuate the aloha spirit.			X
(8) Foster an understanding by visitors of the aloha spirit and of the unique and sensitive character of Hawai‘i's cultures and values.			X
Discussion: The Proposed Action will support the objectives and policies of the State for the economy – visitor industry by providing opportunities for students to obtain job training and education housed within the proposed facilities that will allow for upward mobility within the visitor industry.			
§226 9 Objective and policies for the economy--federal expenditures. (a) Planning for the State's economy with regard to federal expenditures shall be directed towards achievement of the objective of a stable federal investment base as an integral component of Hawai‘i’s economy. (b) To achieve the federal expenditures objective, it shall be the policy of this State to:			
(1) Encourage the sustained flow of federal expenditures in Hawai‘i that generates long-term government civilian employment.			X
(2) Promote Hawaii's supportive role in national defense, in a manner consistent with Hawaii's social, environmental, and cultural goals by building upon dual-use and defense applications to develop thriving ocean engineering, aerospace research and development, and related dual-use technology sectors in Hawaii's economy.			X
(3) Promote the development of federally supported activities in Hawai‘i that respect statewide economic concerns, are sensitive to community needs, and minimize adverse impacts on Hawai‘i's environment.			X
(4) Increase opportunities for entry and advancement of Hawai‘i's people into federal government service.	X		
(5) Promote federal use of local commodities, services, and facilities available in Hawai‘i.			X
(6) Strengthen federal-state-county communication and coordination in all federal activities that affect Hawai‘i.			X
(7) Pursue the return of federally controlled lands in Hawai‘i that are not required for either the defense of the nation or for other purposes of national importance, and promote the mutually beneficial exchanges of land between federal agencies, the State, and the counties.			X
Discussion: The Proposed Action should support opportunities for entry and advancement of Hawai‘i students into federal government service by providing facilities and services that will further the abilities students can acquire to make them suitable for federal positions..			

Table 4-1: The Hawai‘i State Plan	S	NS	N/A
§226-10 Objective and policies for the economy--potential growth and innovative activities. (a) Planning for the State's economy with regard to potential growth and innovative activities shall be directed towards achievement of the objective of development and expansion of potential growth and innovative activities that serve to increase and diversify Hawai‘i's economic base. (b) To achieve the potential growth activity objective, it shall be the policy of this State to:			
(1) Facilitate investment and employment growth in economic activities that have the potential to expand and diversify Hawaii's economy, including but not limited to diversified agriculture, aquaculture, renewable energy development, creative media, health care, and science and technology-based sectors.	X		
(2) Facilitate investment in innovative activity that may pose risks or be less labor-intensive than other traditional business activity, but if successful, will generate revenue in Hawai‘i through the export of services or products or substitution of imported services or products.	X		
(3) Encourage entrepreneurship in innovative activity by academic researchers and instructors who may not have the background, skill, or initial inclination to commercially exploit their discoveries or achievements.	X		
(4) Recognize that innovative activity is not exclusively dependent upon individuals with advanced formal education, but that many self-taught, motivated individuals are able, willing, sufficiently knowledgeable, and equipped with the attitude necessary to undertake innovative activity.			X
(5) Increase the opportunities for investors in innovative activity and talent engaged in innovative activity to personally meet and interact at cultural, art, entertainment, culinary, athletic, or visitor-oriented events without a business focus.	X		
(6) Expand Hawai‘i's capacity to attract and service international programs and activities that generate employment for Hawai‘i's people.	X		
(7) Enhance and promote Hawai‘i's role as a center for international relations, trade, finance, services, technology, education, culture, and the arts.	X		
(8) Accelerate research and development of new energy-related industries based on wind, solar, ocean, and underground resources and solid waste.	X		
(9) Promote Hawai‘i's geographic, environmental, social, and technological advantages to attract new economic activities into the State.	X		
(10) Provide public incentives and encourage private initiative to attract new industries that best support Hawai‘i's social, economic, physical, and environmental objectives.	X		
(11) Increase research and the development of ocean related economic activities such as mining, food production, and scientific research.			X
(12) Develop, promote, and support research and educational and training programs that will enhance Hawai‘i's ability to attract and develop economic activities of benefit to Hawai‘i.	X		
(13) Foster a broader public recognition and understanding of the potential benefits of new, growth oriented industry in Hawai‘i.	X		
(14) Encourage the development and implementation of joint federal and state initiatives to attract federal programs and projects that will support Hawaii's social, economic,			X

Table 4-1: The Hawai‘i State Plan	S	NS	N/A
physical, and environmental objectives.			
(15) Increase research and development of businesses and services in the telecommunications and information industries.	X		
(16) Foster the research and development of nonfossil fuel and energy efficient modes of transportation			X
(17) Recognize and promote health care and health care information technology as growth industries.			X
Discussion: The Proposed Action will support the economy related to potential growth and innovative activities. The Proposed Action will create a world-class student housing, innovation and classroom complex, currently unavailable on the UHM Campus. The Project is an innovative P3 project that will strengthen community assets and facilitate economic growth for UH, as well as the State. The academic programming and research support that will be offered at the Innovation Center has the potential to both: a) develop a much needed third major economic sector for the State of Hawai‘i, that will be able to create high-quality living- wage jobs, and b) prepare students to address the challenges and opportunities faced by Hawai‘i, and the world, in a quickly evolving digital century. Participants will have access to educational programs provided by PACE which also includes free advice by experienced mentors, startup funds, free to low-cost office space, and access to entrepreneurial interns. The academic programs planned for the Innovation Center would support three phases of the startup process including Ideation, Acceleration, and Incubation which is discussed in further detail in Section 2.2. Generally speaking, in the long-term, the Proposed Action will provide significant opportunities for the incubation and development of commercial high-technology-centered start-ups and businesses ventures which may potentially generate jobs in specialized fields otherwise not-common here in the islands.			
226-10.5 Objectives and policies for the economy--information industry. (a) Planning for the State's economy with regard to telecommunications and information technology shall be directed toward recognizing that broadband and wireless communication capability and infrastructure are foundations for an innovative economy and positioning Hawai‘i as a leader in broadband and wireless communications and applications in the Pacific Region. (b) To achieve the information industry objective, it shall be the policy of this State to:			
(1) Promote efforts to attain the highest speeds of electronic and wireless communication within Hawai‘i and between Hawai‘i and the world, and make high speed communication available to all residents and businesses in Hawaii			X
(2) Encourage the continued development and expansion of the telecommunications infrastructure serving Hawai‘i to accommodate future growth and innovation in Hawaii's economy.			X
(3) Facilitate the development of new or innovative business and service ventures in the information industry which will provide employment opportunities for the people of Hawaii.	X		
(4) Encourage mainland- and foreign-based companies of all sizes, whether information technology-focused or not, to allow their principals, employees, or contractors to live in and work from Hawaii, using technology to communicate with their headquarters, offices, or customers located out-of-state.			X
(5) Encourage greater cooperation between the public and private sectors in developing and maintaining a well-designed information industry.			X

Table 4-1: The Hawai‘i State Plan	S	NS	N/A
(6) Ensure that the development of new businesses and services in the industry are in keeping with the social, economic, and physical needs and aspirations of Hawaii's people.	X		
(7) Provide opportunities for Hawaii's people to obtain job training and education that will allow for upward mobility within the information industry.	X		
(8) Foster a recognition of the contribution of the information industry to Hawaii's economy.	X		
(9) Assist in the promotion of Hawai‘i as a broker, creator, and processor of information in the Pacific**.**	X		
Discussion: The Proposed Action will support the economy relating to telecommunications and information technology industries. Hawai‘i faces a number of challenges if it is to compete effectively in the more global and technology-driven economy of the 21st century. The State’s ability to maintain a prosperous economy and to preserve its quality of life depends on transforming the economy through innovation to compete in the new global economy. Innovation promotes economic diversification by creating higher paying jobs in knowledge intensive firms. But it is not just new industries that benefit from innovation. Traditional and even declining industries can increase their productivity and find new markets for their core competencies through innovation. The overall result of effective innovation is an increased standard of living and a more competitive economy. The Proposed Action is critical to the State’s efforts in developing a robust commercial high-technology industry that can support both mature and growing markets. The academic programming and research support that will be offered at the Innovation Center has the potential to both: a) develop a much needed third major economic sector for the State of Hawai‘i, that will be able to create high-quality living- wage jobs, and b) prepare students to address the challenges and opportunities faced by Hawai‘i, and the world, in a quickly evolving digital century.			
§226-11 Objectives and policies for the physical environment--land-based, shoreline, and marine resources. (a) The land-based, shoreline, and marine resources objectives are: (1) Prudent use of Hawai‘i's land-based, shoreline, and marine resources. (2) Effective protection of Hawai‘i's unique and fragile environmental resources. (b) To achieve the land-based, shoreline, and marine resources objectives, it shall be the policy of this State to:			
(1) Exercise an overall conservation ethic in the use of Hawai‘i's natural resources.			X
(2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.	X		
(3) Take into account the physical attributes of areas when planning and designing activities and facilities.	X		
(4) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.	X		
(5) Consider multiple uses in watershed areas, provided such uses do not detrimentally affect water quality and recharge functions.			X
(6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawai‘i.			X
(7) Provide public incentives that encourage private actions to protect significant			X

Table 4-1: The Hawai‘i State Plan	S	NS	N/A
natural resources from degradation or unnecessary depletion.			
(8) Pursue compatible relationships among activities, facilities, and natural resources.	X		
(9) Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.			X
Discussion: The Proposed Action will support the objective and policies for the physical environment – land-based, shoreline, and marine resources. No short- or long-term significant impacts on surface and/or coastal waters in the project vicinity are anticipated to result from the construction and operation of the proposed project. There are no streams or wetlands on or within close proximity to the project area. Construction of the proposed project is not anticipated to involve major land disturbing activities. Applicable erosion control measures and best management practices will be implemented in order to mitigate any possible adverse effects relating to runoff. As applicable for each phase, these may include but are not be limited to: temporary sediment basins, temporary diversion berms and swales to intercept runoff, silt fences, dust fences, slope protection, stabilized construction vehicle entrance, grate inlet protection, equipment wash down areas, and use of compost filter socks. Coordination will be undertaken with the appropriate agencies during permitting and construction in order to ensure that the proposed project will not result in significant impacts with regard to surface and coastal waters. Soil disturbances in excess of one acre would require an NPDES Individual Permit for Storm Water Associated with Construction Activity, administered by the State DOH, will be required to control storm water discharges. Any discharges related to project construction or operation activities will comply with applicable State Water Quality Standards as specified in Hawai‘i Administrative Rules, Chapter 11-54 and 11-55 Water Pollution Control, Department of Health. Excavation and grading activities will be regulated by applicable provisions of the County’s grading ordinance. No listed or protected plant species are known from the project area. Rare, threatened, or endangered fauna are not known to utilize the site for either habitat or foraging purposes. However, measures to prevent adverse effects to protected seabirds from night lighting.			
§226-12 Objective and policies for the physical environment--scenic, natural beauty, and historic resources. (a) Planning for the State’s physical environment shall be directed towards achievement of the objective of enhancement of Hawai‘i’s scenic assets, natural beauty, and multi-cultural/historical resources (b) To achieve the scenic, natural beauty, and historic resources objective, it shall be the policy of this State to:			
(1) Promote the preservation and restoration of significant natural and historic resources.	X		
(2) Provide incentives to maintain and enhance historic, cultural, and scenic amenities.	X		
(3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.			X
(4) Protect those special areas, structures, and elements that are an integral and functional part of Hawai‘i's ethnic and cultural heritage.			X
(5) Encourage the design of developments and activities that complement the natural beauty of the islands.			X
Discussion: The Proposed Action will support the objectives and policies for the physical environment relating to scenic, natural beauty, and historic resources. Currently, there are two historic building situated within the project area, consisting of the Charles Atherton House and the Mary Atherton Richards House. The proposed project will retain the Charles Atherton House. Moreover,			

Table 4-1: The Hawai‘i State Plan	S	NS	N/A
during a field investigation conducted, three potential historic properties were documented, including the L-shaped retaining wall, a stone pathway, and basalt curbstones along University Avenue. Honua's study found that the project effect determination is "no historic properties affected". Currently, there are two historic building situated within the project area, consisting of the Charles Atherton House and the Mary Atherton Richards House. The Mason Architects study outlines that the proposed demolition of the rear wings of the Charles H. Atherton house along with the construction of a building that extends adjacent beyond its existing envelope could potentially adversely impact the historic character of the structure as the scale and massing of the new building would visually overwhelm the historic YMCA structure. As for the Mary Atherton Richards House the proposed action of demolishing the building and redeveloping a new building adjoined to the existing YMCA building would have an adverse effect due to demolition of the building. Mitigation measures are required for adverse effects to historic resources. The Policy of "Preservation" detailed in the Administrative Rules Chapter 13-275(Rules Governing Procedures for Historic Preservation Review for Governmental projects covered under sections 6E-7 and 6E-8, HRS) states "preservation may include avoidance of the effect and protection, rehabilitation, restoration, or reconstruction". ~~The subject study outlines that it may be possible to implement design modifications to the proposed plan to minimize the adverse impacts anticipated to the historic character of the existing resources on site.~~ As project design progresses, the design team will endeavor to minimize, to the extent practicable, the scale and historical context of the proposed development while balancing the density necessary for it to viably achieve the purpose and need as well as the goals and objectives of the proposed action as outlined in the subject EA.			
§226-13 Objectives and policies for the physical environment--land, air, and water quality. (a) Planning for the State's physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objectives: (1) Maintenance and pursuit of improved quality in Hawai‘i's land, air, and water resources. (2) Greater public awareness and appreciation of Hawai‘i's environmental resources. (b) To achieve the land, air, and water quality objectives, it shall be the policy of this State to:			
(1) Foster educational activities that promote a better understanding of Hawai‘i's limited environmental resources.			X
(2) Promote the proper management of Hawai‘i's land and water resources.			X
(3) Promote effective measures to achieve desired quality in Hawai‘i's surface, ground, and coastal waters.			X
(4) Encourage actions to maintain or improve aural and air quality levels to enhance the health and well-being of Hawai‘i's people.			X
(5) Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.			X
(6) Encourage design and construction practices that enhance the physical qualities of Hawai‘i's communities.	X		
(7) Encourage urban developments in close proximity to existing services and facilities.	X		
(8) Foster recognition of the importance and value of the land, air, and water resources to Hawai‘i's people, their cultures and visitors.			X
Discussion: The Proposed Action supports objectives and policies related to the physical environment for land, air, and water quality by preserving and enhancing existing historic buildings within close proximity to synergistic existing services and facilities			
§226-14 Objective and policies for facility systems--in general.			

Table 4-1: The Hawai‘i State Plan	S	NS	N/A
(a) Planning for the State's facility systems in general shall be directed towards achievement of the objective of water, transportation, waste disposal, and energy and telecommunication systems that support statewide social, economic, and physical objectives. (b) To achieve the general facility systems objective, it shall be the policy of this State to :			
(1) Accommodate the needs of Hawai‘i's people through coordination of facility systems and capital improvement priorities in consonance with state and county plans.			X
(2) Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities.	X		
(3) Ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user.			X
(4) Pursue alternative methods of financing programs and projects and cost-saving techniques in the planning, construction, and maintenance of facility systems.	X		
Discussion: The Proposed supports the objectives and policies for facility systems in general by providing facilities necessary to advance the development and capacity of local economies through the use of private financing and alternative methods of construction that preserve parts of existing structures.			
§226-15 Objectives and policies for facility systems--solid and liquid wastes. (b) Planning for the State's facility systems with regard to solid and liquid wastes shall be directed towards the achievement of the following objectives: (1) Maintenance of basic public health and sanitation standards relating to treatment and disposal of solid and liquid wastes. (2) Provision of adequate sewerage facilities of physical and economic activities that alleviate problems in housing, employment, mobility, and other areas. (c) To achieve solid and liquid waste objectives, it shall be the policy of this State to:			
(1) Encourage the adequate development of sewerage facilities that complement planned growth.			X
(2) Promote re-use and recycling to reduce solid and liquid wastes and employ a conservation ethic.			X
(3) Promote research to develop more efficient and economical treatment and disposals of solid and liquid wastes.			X
Discussion: The Proposed Action will not involve facility systems related to solid and liquid wastes.			
§226-16 Objective and policies for facility systems--water. (a) Planning for the State's facility systems with regard to water shall be directed towards achievement of the objective of the provision of water to adequately accommodate domestic, agricultural, commercial, industrial, recreational, and other needs within resource capacities. (b) To achieve the facility systems water objective, it shall be the policy of the State to:			
(1) Coordinate development of land use activities with existing and potential water supply.			X
(2) Support research and development of alternative methods to meet future water			X

Table 4-1: The Hawai‘i State Plan	S	NS	N/A
requirements well in advance of anticipated needs.			
(3) Reclaim and encourage the productive use of runoff water and waste water discharges.			X
(4) Assist in improving the quality, efficiency, service, and storage capabilities of water systems for domestic and agricultural use.			X
(5) Support water supply services to areas experiencing critical water problems.			X
(6) Promote water conservation programs and practices in government, private industry, and the general public to help ensure adequate water to meet long-term needs.			X
Discussion: The Proposed Action will not affect the objectives and policies for facility systems related to water.			
§226-17 Objectives and policies for facility systems--transportation. (a) Planning for the State's facility systems with regard to transportation shall be directed towards the achievement of the following objectives: (1) An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe, and convenient movement of people and goods. (2) A statewide transportation system consistent with planned growth objectives throughout the State (b) To achieve the transportation objectives, it shall be the policy of this State to:			
(1) Design, program, and develop a multi-modal system in conformance with desired growth and physical development as stated in this chapter.	X		
(2) Coordinate state, county, federal, and private transportation activities and programs toward the achievement of statewide objectives.			X
(3) Encourage a reasonable distribution of financial responsibilities for transportation among participating governmental and private parties.			X
(4) Provide for improved accessibility to shipping, docking, and storage facilities.			X
(5) Promote a reasonable level and variety of mass transportation services that adequately meet statewide and community needs.	X		
(6) Encourage transportation systems that serve to accommodate present and future development needs of communities.	X		
(7) Encourage a variety of carriers to offer increased opportunities and advantages to inter-island movement of people and goods.			X
(8) Increase the capacities of airport and harbor systems and support facilities to effectively accommodate transshipment and storage needs.			X
(9) Encourage the development of transportation, systems and programs which would assist statewide economic growth and diversification.			X
(10) Encourage the design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawai‘i's natural environment.			X
(11) Encourage safe and convenient uses of low-cost, energy-efficient, non-polluting means of transportation.	X		

Table 4-1: The Hawai‘i State Plan	S	NS	N/A
(12) Coordinate intergovernmental land use and transportation planning activities to ensure the timely delivery of supporting transportation infrastructure in order to accommodate planned growth objectives.			X
(13) Encourage diversification of transportation modes and infrastructure to promote alternate fuels and energy efficiency.	X		
Discussion: The Proposed Action supports facility systems related to transportation due to actively pursuing car and bike sharing programs as well as the projects current adjacency to multiple existing bus stations			
§226-18 Objectives and policies for facility systems—energy. (a) Planning for the State's facility systems with regard to energy shall be directed toward the achievement of the following objectives, giving due consideration to all: (1) Dependable, efficient, and economical statewide energy and telecommunication systems capable of supporting the needs of the people. (2) Increased energy self-sufficiency through the reduction and ultimate elimination of Hawaii's dependence on imported fuels for electrical generation and ground transportation; (3) Greater diversification of energy generation in the face of threats to Hawaii's energy supplies and systems; (4) Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use; and (5) Utility models that make the social and financial interests of Hawaii's utility customers a priority.. (b) To achieve the energy objectives, it shall be the policy of this State to ensure the provision of adequate, reasonably priced, and dependable energy services to accommodate demand (c) To further achieve the energy objectives, it shall be the policy of this State to:			
(1) Support research and development as well as promote the use of renewable energy sources.	X		
(2) Ensure a sufficient supply of energy to enable power systems to support the demands of growth.			X
(3) Base decisions of least-cost supply-side and demand-side energy resource options on a comparison of their total costs and benefits when a least-cost is determined by a reasonably comprehensive, quantitative, and qualitative accounting of their long-term, direct and indirect economic, environmental, social, cultural, and public health costs and benefits.			X
(4) Promote all cost-effective conservation of power and fuel supplies through measures, including: (A) Development of cost-effective demand-side management programs; (B) Education; (C) Adoption of energy-efficient practices and technologies; and (D) Increasing energy efficiency and decreasing energy use in public infrastructure.			X
(5) Ensure, to the extent that new supply-side resources are needed, that the development or expansion of energy systems uses the least-cost energy supply			X

Table 4-1: The Hawai‘i State Plan	S	NS	N/A
option and maximizes efficient technologies.			
(6) Support research, development, demonstration, and use of energy efficiency, load management, and other demand-side management programs, practices, and technologies.	X		
(7) Promote alternate fuels and transportation energy efficiency.	X		
(8) Support actions that reduce, avoid, or sequester greenhouse gases in utility, transportation, and industrial sector applications.			X
(9) Support actions that reduce, avoid, or sequester Hawaii's greenhouse gas emissions through agriculture and forestry initiatives.			X
(10) Provide priority handling and processing for all state and county permits required for renewable energy projects.			X
(11) Ensure that liquefied natural gas is used only as a cost-effective transitional, limited-term replacement of petroleum for electricity generation and does not impede the development and use of other cost-effective renewable energy sources.			X
(12) Promote the development of indigenous geothermal energy resources that are located on public trust land as an affordable and reliable source of firm power for Hawaii.			X
Discussion: The Proposed Action supports the objectives and policies for facility systems related to energy by promoting alternate fuels and transportation energy efficiency through research and development of these technologies within the business incubator and accelerator housed within the proposed project.			
§226-18.5 Objectives and policies for facility systems--telecommunications. (a) Planning for the State's telecommunications facility systems shall be directed towards the achievement of dependable, efficient, and economical statewide telecommunications systems capable of supporting the needs of the people. (b) To achieve the telecommunications objective, it shall be the policy of this State to ensure the provision of adequate, reasonably priced, and dependable telecommunications services to accommodate demand. (c) To further achieve the telecommunications objective, it shall be the policy of this State to:			
(1) Facilitate research and development of telecommunication systems and resources.			X
(2) Encourage public and private sector efforts to develop means for adequate, ongoing telecommunication planning.			X
(3) Promote efficient management and use of existing telecommunication systems and services.			X
(4) Facilitate the development of education and training of telecommunication personnel.			X
Discussion: The Proposed Action will not involve facility systems related to telecommunications.			
§226-19 Objectives and policies for socio-cultural advancement--housing. (a) Planning for the State's socio-cultural advancement with regard to housing shall be directed toward the achievement of the following objectives: (1) Greater opportunities for Hawaii's people to secure reasonably priced, safe, sanitary, and livable homes, located in suitable environments that satisfactorily accommodate the needs and desires of			

Table 4-1: The Hawai‘i State Plan	S	NS	N/A
families and individuals, through collaboration and cooperation between government and nonprofit and for-profit developers to ensure that more rental and for sale affordable housing is made available to extremely low-, very low-, lower-, moderate-, and above moderate-income segments of Hawaii's population. (2) The orderly development of residential areas sensitive to community needs and other land uses. (3) The development and provision of affordable rental housing by the State to meet the housing needs of Hawaii's people. (b) To achieve the housing objectives, it shall be the policy of this State to:			
(1) Effectively accommodate the housing needs of Hawai‘i's people.	X		
(2) Stimulate and promote feasible approaches that increase affordable rental and for sale housing choices for extremely low-, very low-, lower-, moderate-, and above moderate-income households.			X
(3) Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing.			X
(4) Promote appropriate improvement, rehabilitation, and maintenance of existing housing units and residential areas.	X		
(5) Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas.	X		
(6) Facilitate the use of available vacant, developable, and underutilized urban lands for housing.	X		
(7) Foster a variety of lifestyles traditional to Hawai‘i through the design and maintenance of neighborhoods that reflect the cultures and values of the community.			X
(8) Promote research and development of methods to reduce the cost of housing construction in Hawai‘i.			X
Discussion: The Proposed Action will support the objectives and policies for socio-cultural advancement related to housing. The Proposed Action will create a world-class student housing, innovation and classroom complex, currently unavailable on the UHM Campus. The two residential wings will have enough residential rooms to accommodate approximately 300 students.			
§226-20 Objectives and policies for socio-cultural advancement--health. (a) Planning for the State's socio-cultural advancement with regard to health shall be directed towards achievement of the following objectives: (1) Fulfillment of basic individual health needs of the general public. (2) Maintenance of sanitary and environmentally healthful conditions in Hawai‘i's communities. (3) Elimination of health disparities by identifying and addressing social determinants of health. (b) To achieve the health objectives, it shall be the policy of this State to:			
(1) Provide adequate and accessible services and facilities for prevention and treatment of physical and mental health problems, including substance abuse.			X

Table 4-1: The Hawai‘i State Plan	S	NS	N/A
(2) Encourage improved cooperation among public and private sectors in the provision of health care to accommodate the total health needs of individuals throughout the State.			X
(3) Encourage public and private efforts to develop and promote statewide and local strategies to reduce health care and related insurance costs.			X
(4) Foster an awareness of the need for personal health maintenance and preventive health care through education and other measures.			X
(5) Provide programs, services, and activities that ensure environmentally healthful and sanitary conditions.			X
(6) Improve the State's capabilities in preventing contamination by pesticides and other potentially hazardous substances through increased coordination, education, monitoring, and enforcement			X
(7) Prioritize programs, services, interventions, and activities that address identified social determinants of health to improve native Hawaiian health and well-being consistent with the United States Congress' declaration of policy as codified in title 42 United States Code section 11702, and to reduce health disparities of disproportionately affected demographics, including native Hawaiians, other Pacific Islanders, and Filipinos. The prioritization of affected demographic groups other than native Hawaiians may be reviewed every ten years and revised based on the best available epidemiological and public health data.			X
Discussion: The Proposed Action will not affect the objectives and policies for socio-cultural advancement related to health.			
§226-21 Objective and policies for socio-cultural advancement--education. (a) Planning for the State's socio-cultural advancement with regard to education shall be directed towards achievement of the objective of the provision of a variety of educational opportunities to enable individuals to fulfill their needs, responsibilities, and aspirations. (b) To achieve the education objective, it shall be the policy of this State to:			
(1) Support educational programs and activities that enhance personal development, physical fitness, recreation, and cultural pursuits of all groups.	X		
(2) Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs.	X		
(3) Provide appropriate educational opportunities for groups with special needs.			X
(4) Promote educational programs which enhance understanding of Hawaii's cultural heritage.			X
(5) Provide higher educational opportunities that enable Hawaii's people to adapt to changing employment demands.	X		
(6) Assist individuals, especially those experiencing critical employment problems or barriers, or undergoing employment transitions, by providing appropriate employment training programs and other related educational opportunities.			X
(7) Promote programs and activities that facilitate the acquisition of basic skills, such as reading, writing, computing, listening, speaking, and reasoning.			X
(8) Emphasize quality educational programs in Hawaii's institutions to promote academic excellence.	X		

Table 4-1: The Hawai‘i State Plan	S	NS	N/A
(9) Support research programs and activities that enhance the education programs of the State.	X		
Discussion: The Proposed Action will support the objectives and policies for socio-cultural advancement related to education. The Proposed Action will create a world-class student housing, innovation and classroom complex, currently unavailable on the UHM Campus. The Project is an innovative P3 project that will strengthen community assets and facilitate economic growth for UH, as well as the State. The academic programming and research support that will be offered at the Innovation Center has the potential to both: a) develop a much needed third major economic sector for the State of Hawai‘i, that will be able to create high-quality living- wage jobs, and b) prepare students to address the challenges and opportunities faced by Hawai‘i, and the world, in a quickly evolving digital century. Participants will have access to educational programs provided by PACE which also includes free advice by experienced mentors, startup funds, free to low-cost office space, and access to entrepreneurial interns. The academic programs planned for the Innovation Center would support three phases of the startup process including Ideation, Acceleration, and Incubation which is discussed in further detail in Section 2.2. Generally speaking, in the long-term, the Proposed Action will provide significant opportunities for the incubation and development of commercial high-technology-centered start-ups and businesses ventures which may potentially generate jobs in specialized fields otherwise not-common here in the islands.			
§226-22 Objective and policies for socio-cultural advancement--social services. (a) Planning for the State's socio-cultural advancement with regard to social services shall be directed towards the achievement of the objective of improved public and private social services and activities that enable individuals, families, and groups to become more self-reliant and confident to improve their well-being. (b) To achieve the social services objective, it shall be the policy of this State to:			
(1) Assist individuals, especially those in need of attaining a minimally adequate standard of living and those confronted by social and economic hardship conditions, through social services and activities within the State's fiscal capacities.			X
(2) Promote coordination and integrative approaches among public and private agencies and programs to jointly address social problems that will enable individuals, families, and groups to deal effectively with social problems and to enhance their participation in society.			X
(3) Facilitate the adjustment of new residents, especially recently arrived immigrants, into Hawaii's communities			X
(4) Promote alternatives to institutional care in the provision of long-term care for elder and disabled populations.			X
(5) Support public and private efforts to prevent domestic abuse and child molestation, and assist victims of abuse and neglect.			X
(6) Promote programs which assist people in need of family planning services to enable them to meet their needs.			X
Discussion: The Proposed Action will not affect the objectives and policies for socio-cultural advancement related to social services.			
§226-23 Objective and policies for socio-cultural advancement--leisure. (a) Planning for the State's socio-cultural advancement with regard to leisure shall be directed towards the achievement of the objective of the adequate provision of resources to accommodate diverse cultural,			

Table 4-1: The Hawai‘i State Plan	S	NS	N/A
artistic, and recreational needs for present and future generations. (b) To achieve the leisure objective, it shall be the policy of this State to:			
(1) Foster and preserve Hawai‘i's multi-cultural heritage through supportive cultural, artistic, recreational, and humanities-oriented programs and activities.			X
(2) Provide a wide range of activities and facilities to fulfill the cultural, artistic, and recreational needs of all diverse and special groups effectively and efficiently.			X
(3) Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance.			X
(4) Promote the recreational and educational potential of natural resources having scenic, open space, cultural, historical, geological, or biological values while ensuring that their inherent values are preserved			X
(5) Ensure opportunities for everyone to use and enjoy Hawai‘i's recreational resources.			X
(6) Assure the availability of sufficient resources to provide for future cultural, artistic, and recreational needs			X
(7) Provide adequate and accessible physical fitness programs to promote the physical and mental well-being of Hawai‘i's people.			X
(8) Increase opportunities for appreciation and participation in the creative arts, including the literary, theatrical, visual, musical, folk, and traditional art forms.			X
(9) Encourage the development of creative expression in the artistic disciplines to enable all segments of Hawai‘i's population to participate in the creative arts.			X
(10) Assure adequate access to significant natural and cultural resources in public ownership.			X
Discussion: The Proposed Action will not affect the objectives and policies for socio-cultural advancement related to leisure.			
§**226-24 Objective and policies for socio-cultural advancement--individual rights and personal well-being.** (a) Planning for the State's socio-cultural advancement with regard to individual rights and personal well-being shall be directed towards achievement of the objective of increased opportunities and protection of individual rights to enable individuals to fulfill their socio-economic needs and aspirations. (b) To achieve the individual rights and personal wellbeing objective, it shall be the policy of this State to:			
(1) Provide effective services and activities that protect individuals from criminal acts and unfair practices and that alleviate the consequences of criminal acts in order to foster a safe and secure environment.			X
(2) Uphold and protect the national and state constitutional rights of every individual.			X
(3) Assure access to, and availability of, legal assistance, consumer protection, and other public services which strive to attain social justice.			X
(4) Ensure equal opportunities for individual participation in society.			X
Discussion: The Proposed Action will not affect the objectives and policies for socio-cultural advancement related to individual rights and personal well-being.			

Table 4-1: The Hawai‘i State Plan	S	NS	N/A
§226-25 Objective and policies for socio-cultural advancement--culture. (a) Planning for the State's socio-cultural advancement with regard to culture shall be directed toward the achievement of the objective of enhancement of cultural identities, traditions, values, customs, and arts of Hawai‘i’s people. (b) To achieve the culture objective, it shall be the policy of this State to:			
(1) Foster increased knowledge and understanding of Hawai‘i's ethnic and cultural heritages and the history of Hawai‘i.			**X**
(2) Support activities and conditions that promote cultural values, customs, and arts that enrich the life styles of Hawai‘i's people and which are sensitive and responsive to family and community needs.			**X**
(3) Encourage increased awareness of the effects of proposed public and private actions on the integrity and quality of cultural and community life styles in Hawai‘i.			**X**
(4) Encourage the essence of the aloha spirit in people's daily-activities to promote harmonious relationships among Hawai‘i's people and visitors.			**X**
Discussion: The Proposed Action will not affect the objectives and policies for socio-cultural advancement related to culture.			
§226-26 Objectives and policies for socio-cultural advancement--public safety. (a) Planning for the State's socio-cultural advancement with regard to public safety shall be directed towards the achievement of the following objectives: (1) Assurance of public safety and adequate protection of life and property for all people. (2) Optimum organizational readiness and capability in all phases of emergency management to maintain the strength, resources, and social and economic well-being of the community in the event of civil disruptions, wars, natural disasters, and other major disturbances. (3) Promotion of a sense of community responsibility for the welfare and safety of Hawai‘i’s (b) To achieve the public safety programs objectives, it shall be the policy of this State to:			
(1) Ensure that public safety programs are effective and responsive to community needs.			**X**
(2) Encourage increased community awareness and participation in public safety programs.			**X**
(c) To achieve the public safety programs objectives, it shall be the policy of this State to:			
(1) Support criminal justice programs aimed at preventing and curtailing criminal activities.			**X**
(2) Develop a coordinated, systematic approach to criminal justice administration among all criminal justice agencies.			**X**
(3) Provide a range of correctional resources which may include facilities and alternatives to traditional incarceration in order to address the varied security needs of the community and successfully reintegrate offenders into the community.			**X**
(d) To further achieve public safety objectives related to emergency management, it shall be the policy of			

Table 4-1: The Hawai‘i State Plan	S	NS	N/A
this State to:			
(1) Ensure that responsible organizations are in a proper state of readiness to respond to major war related, natural, or technological disasters and civil disturbances at all times.			X
(2) Enhance the coordination between emergency management programs throughout the State.			X
Discussion: The Proposed Action will not affect the objectives and policies for socio-cultural advancement related to public safety.			
§226-27 Objectives and policies for socio-cultural advancement--government. (a) Planning the State's socio-cultural advancement with regard to government shall be directed towards the achievement of the following objectives: (1) Efficient, effective, and responsive government services at all levels in the State. (2) Fiscal integrity, responsibility and efficiency in the state government and county governments. (b) To achieve the government objectives, it shall be the policy of this State to:			
(1) Provide for necessary public goods and services not assumed by the private sector.			X
(2) Pursue an openness and responsiveness in government that permits the flow of public information, interaction, and response.			X
(3) Minimize the size of government to that necessary to be effective.			X
(4) Stimulate the responsibility in citizens to productively participate in government for a better Hawai‘i.			X
(5) Assure that government attitudes, actions, and services are sensitive to community needs and concerns.			X
(6) Provide for a balanced fiscal budget.			X
(7) Improve the fiscal budgeting and management system of the State.	X		
(8) Promote the consolidation of state and county governmental functions to increase the effective and efficient delivery of government programs and services and to eliminate duplicative services wherever feasible.			X
Discussion: The Proposed Action will be a privately financed project for public benefit, therefore improving the fiscal budgeting and management system of the State by not requiring it to finance the project.			

PART III. PRIORITY GUIDELINES

Part III of the Hawai‘i State Plan establishes the overall priority guidelines to address areas of statewide concern. Under HRS § 226-102, "The State shall strive to improve the quality of life for Hawai‘i's present and future population through the pursuit of desirable courses of action in seven major areas of statewide concern which merit priority attention: economic development, population growth and land resource management, affordable housing, crime and criminal justice, quality education, principles of sustainability, and climate change adaptation."

Table 4-2: Part III of the The Hawai‘i State Plan	S	NS	N/A
§226-103 Economic priority guidelines. (a) Priority guidelines to stimulate economic growth and encourage business expansion and development to provide needed jobs for Hawai‘i’s people and achieve a stable and diversified economy:			
(1) Seek a variety of means to increase the availability of investment capital for new and expanding enterprises.			X
(2) Encourage the expansion of technological research to assist industry development and support the development and commercialization of technological advancements.	X		
(3) Improve the quality, accessibility, and range of services provided by government to business, including data and reference services and assistance in complying with governmental regulations.			X
(4) Seek to ensure that state business tax and labor laws and administrative policies are equitable, rational, and predictable.			X
(5) Streamline the building and development permit and review process, and eliminate or consolidate other burdensome or duplicative governmental requirements imposed on business, where public health, safety, and welfare would not be adversely affected.			X
(6) Encourage the formation of cooperatives and other favorable marketing or distribution arrangements at the regional or local level to assist Hawai‘i's small-scale producers, manufacturers, and distributors.			X
(7) Continue to seek legislation to protect Hawai‘i from transportation interruptions between Hawai‘i and the continental United States.			X
(8) Provide public incentives and encourage private initiative to develop and attract industries which promise long-term growth potentials and which have the following characteristics: (a) An industry that can take advantage of Hawai‘i's unique location and available physical and human resources. (b) A clean industry that would have minimal adverse effects on Hawai‘i's environment. (c) An industry that is willing to hire and train Hawai‘i's people to meet the industry's labor needs. (d) An industry that would provide reasonable income and steady employment.			X
(9) Support and encourage, through educational and technical assistance programs and other means, expanded opportunities for employee ownership and participation in Hawai‘i business.	X		
(10) Enhance the quality of Hawai‘i’s labor force and develop and maintain career opportunities for Hawai‘i’s people through the following actions: (a) Expand vocational training in diversified agriculture, aquaculture, and other areas where growth is desired and feasible. (b) Encourage more effective career counseling and guidance in high schools and post-secondary institutions to inform students of present and future career opportunities.	X		

Table 4-2: Part III of the The Hawai‘i State Plan	S	NS	N/A
(c) Allocate educational resources to career areas where high employment is expected and where growth of new industries is desired. (d) Promote career opportunities in all industries for Hawai‘i's people by encouraging firms doing business in the State to hire residents. (e) Promote greater public and private sector cooperation in determining industrial training needs and in developing relevant curricula and on-the-job training opportunities. (f) Provide retraining programs and other support services to assist entry of displaced workers into alternative employment.			
(b) Priority guidelines to promote the economic health and quality of the visitor industry:			
(1) Promote visitor satisfaction by fostering an environment which enhances the Aloha Spirit and minimizes inconveniences to Hawai‘i's residents and visitors.			X
(2) Encourage the development and maintenance of well-designed, adequately serviced hotels and resort destination areas which are sensitive to neighboring communities and activities and which provides for adequate shoreline setbacks and beach access.			X
(3) Support appropriate capital improvements to enhance the quality of existing resort destination areas and provide incentives to encourage investment in upgrading, repair, and maintenance of visitor facilities.			X
(4) Encourage visitor industry practices and activities which respect, preserve, and enhance Hawai‘i's significant natural, scenic, historic, and cultural resources.			X
(5) Develop and maintain career opportunities in the visitor industry for Hawai‘i's people, with emphasis on managerial positions.			X
(6) Support and coordinate tourism promotion abroad to enhance Hawai‘i's share of existing and potential visitor markets.			X
(7) Maintain and encourage a more favorable resort investment climate consistent with the objectives of this chapter.			X
(8) Support law enforcement activities that provide a safer environment for both visitors and residents alike.			X
(c) Priority guidelines to promote the continued viability of the sugar and pineapple industries:			
(1) Provide adequate agricultural lands to support the economic viability of the sugar and pineapple industries.			X
(2) Continue efforts to maintain federal support to provide stable sugar prices high enough to allow profitable operations in Hawai‘i.			X
(3) Support research and development, as appropriate, to improve the quality and production of sugar and pineapple crops.			X
(d) Priority guidelines to promote the growth and development of diversified agriculture and aquaculture:			
(1) Identify, conserve, and protect agricultural and aquacultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural and aquacultural uses of such lands.			X
(2) Assist in providing adequate, reasonably priced water for agricultural activities.			X

Table 4-2: Part III of the The Hawai‘i State Plan	S	NS	N/A
(3) Encourage public and private investment to increase water supply and to improve transmission, storage, and irrigation facilities in support of diversified agriculture and aquaculture.			X
(4) Assist in the formation and operation of production and marketing associations and cooperatives to reduce production and marketing costs.			X
(5) Encourage and assist with the development of a waterborne and airborne freight and cargo system capable of meeting the needs of Hawai‘i’s agricultural community			X
(6) Seek favorable freight rates for Hawai‘i’s agricultural products from interisland and overseas transportation operators.			X
(7) Encourage the development and expansion of agricultural and aquacultural activities which offer long-term economic growth potential and employment opportunities.			X
(8) Continue the development of agricultural parks and other programs to assist small independent farmers in securing agricultural lands and loans.			X
(9) Require agricultural uses in agricultural subdivisions and closely monitor the uses in these subdivisions.			X
(e) Priority guidelines for water use and development:			
(1) Maintain and improve water conservation programs to reduce the overall water consumption rate.			X
(2) Encourage the improvement of irrigation technology and promote the use of non-potable water for agricultural and landscaping purposes.			X
(3) Increase the support for research and development of economically feasible alternative water sources.			X
(4) Explore alternative funding sources and approaches to support future water development programs and water system improvements.			X
(f) Priority guidelines for energy use and development:			
(1) Encourage the development, demonstration, and commercialization of renewable energy sources.			X
(2) Initiate, maintain, and improve energy conservation programs aimed at reducing energy waste and increasing public awareness of the need to conserve energy.			X
(3) Provide incentives to encourage the use of energy conserving technology in residential, industrial, and other buildings.			X
(4) Encourage the development and use of energy conserving and cost-efficient transportation systems.			X
(g) Priority guidelines to promote the development of the information industry:			
(1) Establish an information network, with an emphasis on broadband and wireless infrastructure and capability that will serve as the foundation of and catalyst for overall economic growth and diversification in Hawaii.			X
(2) Encourage the development of services such as financial data processing, a products and services exchange, foreign language translations, telemarketing, teleconferencing, a twenty-four-hour international stock exchange, international	X		

Table 4-2: Part III of the The Hawai‘i State Plan	S	NS	N/A
banking, and a Pacific Rim management center.			
(3) Encourage the development of small businesses in the information field such as software development; the development of new information systems, peripherals, and applications; data conversion and data entry services; and home or cottage services such as computer programming, secretarial, and accounting services.	X		
(4) Encourage the development or expansion of educational and training opportunities for residents in the information and telecommunications fields.	X		
(5) Encourage research activities, including legal research in the information and telecommunications fields.			X
(6) Support promotional activities to market Hawaii's information industry services.			X
(7) Encourage the location or co-location of telecommunication or wireless information relay facilities in the community, including public areas, where scientific evidence indicates that the public health, safety, and welfare would not be adversely affected.			X
Discussion: The Proposed Action will support the Economic Priority Guidelines. The Proposed Action will create a world-class student housing, innovation and classroom complex, currently unavailable on the UHM Campus. The Project is an innovative P3 project that will strengthen community assets and facilitate economic growth for UH, as well as the State. The academic programming and research support that will be offered at the Innovation Center has the potential to both: a) develop a much needed third major economic sector for the State of Hawai‘i, that will be able to create high-quality living- wage jobs, and b) prepare students to address the challenges and opportunities faced by Hawai‘i, and the world, in a quickly evolving digital century. Participants will have access to educational programs provided by PACE which also includes free advice by experienced mentors, startup funds, free to low-cost office space, and access to entrepreneurial interns. The academic programs planned for the Innovation Center would support three phases of the startup process including Ideation, Acceleration, and Incubation which is discussed in further detail in Section 2.2. Generally speaking, in the long-term, the Proposed Action will provide significant opportunities for the incubation and development of commercial high-technology-centered start-ups and businesses ventures which may potentially generate jobs in specialized fields otherwise not-common here in the islands.			
§226-104 Population growth and land resources priority guidelines. (a) Priority guidelines to effect desired statewide growth and distribution:			
(1) Encourage planning and resource management to insure that population growth rates throughout the State are consistent with available and planned resource capacities and reflect the needs and desires of Hawai‘i's people.			X
(2) Manage a growth rate for Hawai‘i’s economy that will parallel future employment needs for Hawai‘i’s people.			X
(3) Ensure that adequate support services and facilities are provided to accommodate the desired distribution of future growth throughout the State.			X
(4) Encourage major state and federal investments and services to promote economic development and private investment to the neighbor islands, as appropriate.			X
(5) Explore the possibility of making available urban land, low-interest loans, and housing subsidies to encourage the provision of housing to support selective economic and population growth on the neighbor islands.			X

Table 4-2: Part III of the The Hawai‘i State Plan	S	NS	N/A
(6) Seek federal funds and other funding sources outside the State for research, program development, and training to provide future employment opportunities on the neighbor islands.			X
(7) Support the development of high technology parks on the neighbor islands.			X
(b) Priority guidelines for regional growth distribution and land resource utilization:			
(1) Encourage urban growth primarily to existing urban areas where adequate public facilities are already available or can be provided with reasonable public expenditures and away from areas where other important benefits are present, such as protection of important agricultural land or preservation of lifestyles.			X
(2) Make available marginal or non-essential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district.			X
(3) Restrict development when drafting of water would result in exceeding the sustainable yield or in significantly diminishing the recharge capacity of any groundwater area.			X
(4) Encourage restriction of new urban development in areas where water is insufficient from any source for both agricultural and domestic use.			X
(5) In order to preserve green belts, give priority to state capital improvement funds which encourage location of urban development within existing urban areas except where compelling public interest dictates development of a non-contiguous new urban core.			X
(6) Seek participation from the private sector for the cost of building infrastructure and utilities, and maintaining open spaces.			X
(7) Pursue rehabilitation of appropriate urban areas.			X
(8) Support the redevelopment of Kaka‘ako into a viable residential, industrial, and commercial community.			X
(9) Direct future urban development away from critical environmental areas or impose mitigating measures so that negative impacts on the environment would be minimized.			X
(10) Identify critical environmental areas in Hawai‘i to include but not be limited to the following: watershed and recharge areas; wildlife habitats (on land and in the ocean); areas with endangered species of plants and wildlife; natural streams and water bodies; scenic and recreational shoreline resources; open space and natural areas; historic and cultural sites; areas particularly sensitive to reduction in water and air quality; and scenic resources.			X
(11) Identify all areas where priority should be given to preserving rural character and lifestyle.			X
(12) Utilize Hawai‘i’s limited land resources wisely, providing adequate land to accommodate projected population and economic growth needs while ensuring the protection of the environment and the availability of the shoreline, conservation lands, and other limited resources for future generations.			X
(13) Protect and enhance Hawai‘i’s shoreline, open spaces, and scenic resources.			X
Discussion: The Proposed Action will not affect the Population Growth and Land Resources Priority Guidelines.			

Table 4-2: Part III of the The Hawai‘i State Plan	S	NS	N/A
§226-105 Crime and criminal justice Priority guidelines in the area of crime and criminal justice:			
(1) Support law enforcement activities and other criminal justice efforts that are directed to provide a safer environment.			X
(2) Target state and local resources on efforts to reduce the incidence of violent crime and on programs relating to the apprehension and prosecution of repeat offenders.			X
(3) Support community and neighborhood program initiatives that enable residents to assist law enforcement agencies in preventing criminal activities.			X
(4) Reduce overcrowding or substandard conditions in correctional facilities through a comprehensive approach among all criminal justice agencies which may include sentencing law revisions and use of alternative sanctions other than incarceration for persons who pose no danger to their community.			X
(5) Provide a range of appropriate sanctions for juvenile offenders, including community-based programs and other alternative sanctions.			X
(6) Increase public and private efforts to assist witnesses and victims of crimes and to minimize the costs of victimization.			X
Discussion: The priority guidelines related to crime and criminal justice are not applicable to the Proposed Action.			
§226-106 Affordable housing Priority guidelines for the provision of affordable housing:			
(1) Seek to use marginal or non-essential agricultural land and public land to meet housing needs of low and moderate-income and gap-group households.			X
(2) Encourage the use of alternative construction and development methods as a means of reducing production costs.			X
(3) Improve information and analysis relative to land availability and suitability for housing.			X
(4) Create incentives for development which would increase home ownership and rental opportunities for Hawai‘i’s low and moderate-income households, gap-group households, and residents with special needs.			X
(5) Encourage continued support for government or private housing programs that provide low interest mortgages to Hawai‘i’s people for the purchase of initial owner-occupied housing.			X
(6) Encourage public and private sector cooperation in the development of rental housing alternatives.	X		
(7) Encourage improved coordination between various agencies and levels of government to deal with housing policies and regulations.			X
(8) Give higher priority to the provision of quality housing that is affordable for Hawaii's residents and less priority to development of housing intended primarily for individuals outside of Hawaii.			X

Table 4-2: Part III of the The Hawai‘i State Plan	S	NS	N/A
Discussion: The priority guidelines related to the provision of affordable housing are supported by the utilization of private financing to provide affordable rental housing.			
§226-107 Quality education. Priority guidelines to promote quality education:			
(1) Pursue effective programs which reflect the varied district, school, and student needs to strengthen basic skills achievement.			X
(2) Continue emphasis on general education "core" requirements to provide common background to students and essential support to other university programs.	X		
(3) Initiate efforts to improve the quality of education by improving the capabilities of the education work force.	X		
(4) Promote increased opportunities for greater autonomy and flexibility of educational institutions in their decision-making responsibilities.			X
(5) Increase and improve the use of information technology in education by the availability of telecommunications equipment for: (A) The electronic exchange of information; (B) Statewide electronic mail; and (C) Access to the Internet. Encourage programs that increase the public's awareness and understanding of the impact of information technologies on our lives.			X
(6) Pursue the establishment of Hawai‘i’s public and private universities and colleges as research and training centers of the Pacific.	X		
(7) Develop resources and programs for early childhood education.			X
(8) Explore alternatives for funding and delivery of educational services to improve the overall quality of education.			X
(9) Strengthen and expand educational programs and services for students with special needs.			X
Discussion: The Proposed Action will support the Priority Guidelines to promote quality education. The Proposed Action will create a world-class student housing, innovation and classroom complex, currently unavailable on the UHM Campus. The Project is an innovative P3 project that will strengthen community assets and facilitate economic growth for UH, as well as the State. The academic programming and research support that will be offered at the Innovation Center has the potential to both: a) develop a much needed third major economic sector for the State of Hawai‘i, that will be able to create high-quality living- wage jobs, and b) prepare students to address the challenges and opportunities faced by Hawai‘i, and the world, in a quickly evolving digital century. Participants will have access to educational programs provided by PACE which also includes free advice by experienced mentors, startup funds, free to low-cost office space, and access to entrepreneurial interns. The academic programs planned for the Innovation Center would support three phases of the startup process including Ideation, Acceleration, and Incubation which is discussed in further detail in Section 2.2. Generally speaking, in the long-term, the Proposed Action will provide significant opportunities for the incubation and development of commercial high-technology-centered start-ups and businesses ventures which may potentially generate jobs in specialized fields otherwise not-common here in the islands.			

Table 4-2: Part III of the The Hawaiʻi State Plan	S	NS	N/A
§226-108 Sustainability. Priority guidelines and principals to promote sustainability:			
(1) Encouraging balanced economic, social, community, and environmental priorities.			X
(2) Encouraging planning that respects and promotes living within the natural resources and limits of the State.			X
(3) Promoting a diversified and dynamic economy.	X		
(4) Encouraging respect for the host culture.			X
(5) Promoting decisions based on meeting the needs of the present without compromising the needs of future generations.			X
(6) Considering the principles of the ahupuaʻa system.			X
(7) Emphasizing that everyone, including individuals, families, communities, businesses, and government, has the responsibility for achieving a sustainable Hawaiʻi.			X
Discussion: The Proposed Action supports establishing a diversified and dynamic economy due to the incubation and acceleration of new industries that could establish balance over our current economies dependence on military and tourism..			
§226-109 Climate change adaption. Priority guidelines for climate change adaption:			
(1) Ensure that Hawaii's people are educated, informed, and aware of the impacts climate change may have on their communities.			X
(2) Encourage community stewardship groups and local stakeholders to participate in planning and implementation of climate change policies.			X
(3) Invest in continued monitoring and research of Hawaii's climate and the impacts of climate change on the State.			X
(4) Consider native Hawaiian traditional knowledge and practices in planning for the impacts of climate change.			X
(5) Encourage the preservation and restoration of natural landscape features, such as coral reefs, beaches and dunes, forests, streams, floodplains, and wetlands that have the inherent capacity to avoid, minimize, or mitigate the impacts of climate change.			X
(6) Explore adaptation strategies that moderate harm or exploit beneficial opportunities in response to actual or expected climate change impacts to the natural and built environments.			X
(7) Promote sector resilience in areas such as water, roads, airports, and public health, by encouraging the identification of climate change threats, assessment of potential consequences, and evaluation of adaptation options.			X
(8) Foster cross-jurisdictional collaboration between county, state, and federal agencies and partnerships between government and private entities and other			X

Table 4-2: Part III of the The Hawai‘i State Plan	S	NS	N/A
nongovernmental entities, including nonprofit entities.			
(9) Use management and implementation approaches that encourage the continual collection, evaluation, and integration of new information and strategies into new and existing practices, policies, and plans.			X
(10) Encourage planning and management of the natural and built environments that effectively integrate climate change policy.			X
Discussion: The Priority Guidelines related to climate change adaptation are not applicable to the Proposed Action.			

4.1.2 State Functional Plans

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

Table 4-3: Hawai‘i State Functional Plans	S	NS	N/A
1 Agricultural State Functional Plan (1991)			
Purpose: Continued viability of agriculture throughout the State.			X
Discussion: The Proposed Action is not applicable to the Agricultural State Functional Plan.			
2 Conservation Lands State Functional Plan (1991)			
Purpose: Addresses issues of population and economic growth and its strain on current natural resources; broadening public use of natural resources while protecting lands and shorelines from overuse; additionally, promotes the aquaculture industry.			X
Discussion: The Proposed Action is not applicable to the Conservation Lands State Functional Plan.			
3 Education State Functional Plan (1989)			
Purpose: Improvements to Hawai‘i’s educational curriculum, quality of educational staff, and access to adequate facilities.	X		
Discussion: The Proposed Action will support the Education State Functional Plan. The Proposed Action will create a world-class Entrepreneurship / Innovation Center where participants will have access to educational programs provided by PACE which also includes free advice by experienced mentors, startup funds, free to low-cost office space, and access to entrepreneurial interns. The academic programming and research support that will be offered at the Innovation Center has the potential to both: a) develop a much needed third major economic sector for the State of Hawai‘i, that will be able to create high-quality living- wage jobs, and b) prepare students to address the challenges and opportunities faced by Hawai‘i, and the world, in a quickly evolving digital century.			

Table 4-3: Hawai‘i State Functional Plans	S	NS	N/A
4 **Employment State Functional Plan (1990)**			
Purpose: Improve the qualifications, productivity, and effectiveness of the State's workforce through better education and training of workers as well as efficient planning of economic development, employment opportunities, and training activities**.**	X		
Discussion: The Proposed Action will support the Employment State Functional Plan. The Proposed Action has the potential to develop a much needed third major economic sector for the State of Hawai‘i, that will be able to create high-quality living-wage jobs. Moreover, the academic programs planned for the Innovation Center would support three phases of the startup process for businesses.			
5 **Energy State Functional Plan (1991)**			
Purpose: Lessen the reliance on petroleum and other fossil fuels in favor of alternative sources of energy so as to keep up with the State's increasing energy demands while also becoming a more sustainable island state; achieving dependable, efficient, and economical statewide energy systems.			X
Discussion: The Proposed Action is not applicable to the Energy State Functional Plan.			
6 **Health State Functional Plan**			
Purpose: Improve the health care system by providing for those who do not have access to private health care providers; increasing preventative health measures; addressing 'quality of care' elements in private and public sectors to cut increasing costs.			X
Discussion: The Health State Functional Plan is not applicable to the Proposed Action.			
7 **Higher Education Functional Plan (1984)**			
Purpose: Prepare Hawai‘i's citizens for the demands of an increasingly complex world through providing technical and intellectual tools.	X		
Discussion: The Proposed Action will support the Higher Education Functional Plan. The Proposed Action will create a world-class Entrepreneurship / Innovation Center where participants will have access to educational programs provided by PACE which also includes free advice by experienced mentors, startup funds, free to low-cost office space, and access to entrepreneurial interns. The academic programming and research support that will be offered at the Innovation Center has the potential to both: a) develop a much needed third major economic sector for the State of Hawai‘i, that will be able to create high-quality living- wage jobs, and b) prepare students to address the challenges and opportunities faced by Hawai‘i, and the world, in a quickly evolving digital century.			
8 **Historic Preservation State Functional Plan (1991)**			
Purpose: Preservation of historic properties, records, artifacts and oral histories; provide public with information/education on the ethnic and cultural heritages and history of Hawai‘i	X		
Discussion: The Proposed Action will support the Historic Preservation State Functional Plan. No significant impacts to historic resources are anticipated for the Proposed Action. The Proposed Action will not include partial or total destruction or alteration of historic properties, detrimental alteration of the surrounding environment, detrimental visual, spatial, noise or atmospheric impingement, increasing access with chance of resulting damage, nor neglect resulting in deterioration or destruction. In connection with this EA, an Archaeological			

Table 4-3: Hawai‘i State Functional Plans	S	NS	N/A
Literature Review and Field Inspection Report and an Architectural Assessment Report were prepared by Cultural Surveys Hawai‘i, and prepared by Mason Architect, Inc. respectively to assess the historic significance of the project site and its existing structures. As such, the Proposed Action, through this EA process, is consistent with the Historic Preservation State Functional Plan. However, there are several resources identified that may be eligible to be placed on the State and Federal registries of historic places. Refer to Section 3.6 for further discussion.			
9 **Housing State Functional Plan (1989)**			
Purpose: Provide affordable rental and for-sale housing; increase homeownership and amount of rental housing units; acquiring public and privately-owned lands for future residential development; maintain a statewide housing data system	X		
Discussion: The Proposed Action supportsthe Housing State Functional Plan by providing new and affordable rental housing units.			
10 **Human Services State Functional Plan (1991)**			
Purpose: Refining support systems for families and individuals by improving elderly care, increasing preventative measures to combat child/spousal abuse and neglect; providing means for ‘self-sufficiency’			**X**
Discussion: The Proposed Action is not applicable to the Human Services State Functional Plan.			
11 **Recreation State Functional Plan (1991)**			
Purpose: Manage the use of recreational resources via addressing issues: (1) ocean and shoreline recreation, (2) mauka, urban, and other recreation, (3) public access to shoreline and upland recreation areas, (4) resource conservation and management, (5) management of recreation programs/facilities/areas, and (6) wetlands protection and management.			**X**
Discussion: The Proposed Action is not applicable to the Recreation State Functional Plan.			
12 **Tourism State Functional Plan (1991)**			
Purpose: Balance tourism/economic growth with environmental and community concerns; development that is cognizant of the limited land and water resources of the islands; maintaining friendly relations between tourists and community members; development of a productive workforce and enhancement of career and employment opportunities in the visitor industry.			**X**
Discussion: The Proposed Action is not applicable to the Tourism State Functional Plan.			
13 **Transportation State Functional Plan (1991)**			
Purpose: Development of a safer, more efficient transportation system that also is consistent with planned physical and economic growth of the state; construction of facility and infrastructure improvements; develop a transportation system balanced with new alternatives; pursue land use initiatives which help reduce travel demand.			**X**
Discussion: The Proposed Action is not applicable to the Transportation State Functional Plan.			

4.1.3 State Land Use District

The State Land Use Law, Chapter 205, HRS, is intended to preserve, protect and encourage the development of lands in the State for uses that are best suited to the public health and welfare of Hawai‘i’s people. Under Chapter 205, HRS, all lands in the State of Hawai‘i are classified by the State Land Use Commission (LUC) into one of four major categories of State Land Use Districts. These districts are identified as the Urban District, Agricultural District, Conservation District, and Rural District. Permitted uses within the districts are prescribed under Title 12, Chapter 205 (Land Use Commission), HRS, and the State Land Use Commission’s Administrative Rules prescribed under Title 15, Subtitle 3, Chapter 15 HAR.

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

4.1.4 Hawai‘i Coastal Zone Management Program

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

The Proposed Action's conformance with the ten objectives and numerous policies of the State of Hawai‘i CZMP is set forth in Table 4-4 below. The Proposed Action does not include the use of land that is within the Special Management Area as designated by the City and County of Honolulu (See Figure 4-2). Therefore, Special Management Area permits are not required to implement the Proposed Action

FIGURE 4-1

State Land Use District Map

Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Honolulu, O‘ahu, Hawai‘i

Table 4-4: Hawai‘i Coastal Zone Management Act	S	NS	N/A
Recreational Resources			
Objective: Provide coastal recreational opportunities accessible to the public.			
Policies			
(A) Improve coordination and funding of coastal recreational planning and management; and			**X**
(B) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:			**X**
i. Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;			**X**
ii. Requiring replacement of coastal resources having significant recreational value including, but not limited to, surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the State for recreation when replacement is not feasible or desirable;			**X**
iii. Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;			**X**
iv. Providing an adequate supply of shoreline parks and other recreational facilities suitable public recreation;			**X**
v. Ensuring public recreational uses of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;			**X**
vi. Adopting water quality standards and regulating point and nonpoint sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;			**X**
vii. Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and			**X**
viii. Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, and county authorities; and crediting such dedication against the requirements of section 46-6.			**X**
Discussion: The Proposed Action does will not adversely impact the shoreline and as such would not affect coastal recreational opportunities accessible to the public. The Project is as close as 1.6 miles from the shoreline and will not impact coastal recreational opportunities that are accessible to the public as the Project does not encompass the shoreline.			
Historic Resources			
Objective: Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.			

Table 4-4: Hawai‘i Coastal Zone Management Act	S	NS	N/A
Policies:			
(A) Identify and analyze significant archaeological resources;	X		
(B) Maximize information retention through preservation of remains and artifacts or salvage operations; and		X	
(C) Support state goals for protection, restoration, interpretation, and display of historic resources.	X		
Discussion: The Proposed Action will have no significant impact on historic and cultural resources. A Literature Review and Field Inspection Report was conducted by Honua Consulting and an Architectural Assessment was conducted by Mason Architects, Inc. in 2019 as part of this EA process. Three potential historic properties were documented, including the L-shaped retaining wall, a stone pathway, and basalt curbstones along University Avenue. Honua's study found that the project effect determination is "no historic properties affected". Currently, there are two historic building situated within the project area, consisting of the Charles Atherton House and the Mary Atherton Richards House. The Mason Architects study outlines that the proposed demolition of the rear wings of the Charles H. Atherton house along with the construction of a building that extends adjacent beyond its existing envelope could potentially adversely impact the historic character of the structure as the scale and massing of the new building would visually overwhelm the historic YMCA structure. As for the Mary Atherton Richards House the proposed action of demolishing the building and redeveloping a new building adjoined to the existing YMCA building would have an adverse effect due to demolition of the building. Mitigation measures are required for adverse effects to historic resources. The Policy of "Preservation" detailed in the Administrative Rules Chapter 13-275(Rules Governing Procedures for Historic Preservation Review for Governmental projects covered under sections 6E-7 and 6E-8, HRS) states "preservation may include avoidance of the effect and protection, rehabilitation, restoration, or reconstruction". The subject study outlines that it may be possible to implement design modifications to the proposed plan to minimize the adverse impacts anticipated to the historic character of the existing resources on site.			
Scenic and Open Space Resources			
Objective: Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.			
Policies			
(A) Identify valued scenic resources in the coastal zone management area;			X
(B) Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural land forms and existing public views to and along the shoreline;	X		
(C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and			X
(D) Encourage those developments that are not coastal dependent to locate in inland areas.			X
Discussion: The Proposed Action not have an impact on scenic and open space resources. The Project will not impinge upon any significant public scenic view corridors and will not have an impact on coastal views as the proposed project will redevelop an already developed parcel in a highly altered urban area.			
Coastal Ecosystems			
Objective: Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.			

Table 4-4: Hawai‘i Coastal Zone Management Act	S	NS	N/A
Policies			
(A) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;			**X**
(B) Improve the technical basis for natural resource management;			**X**
(C) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;			**X**
(D) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and			**X**
(E) Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.			**X**
Discussion: The Project will not have an effect on the coastal systems as the project site is located approximately 1.6 miles from the shoreline at Pearl Waikiki. Moreover, appropriate BMPs and erosion control measures will be implemented to ensure that coastal ecosystems are not adversely impacted by construction activities.			
Economic Uses			
Objective: Provide public or private facilities and improvements important to the State's economy in suitable locations.			
Policies			
(A) Concentrate coastal dependent development in appropriate areas;			**X**
(B) Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor industry facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and			**X**
(C) Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when: i. Use of presently designated locations is not feasible; ii. Adverse environmental effects are minimized; and iii. The development is important to the State's economy;			**X**
Discussion: The Project is not expected to have any adverse effects on any public or private facilities in coastal areas that are important to the State’s economy.			
Coastal Hazards			
Objective: Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.			
Policies			
(A) Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;			**X**
(B) Control development in areas subject to storm wave, tsunami, flood, erosion,			**X**

Table 4-4: Hawai‘i Coastal Zone Management Act	S	NS	N/A
hurricane, wind, subsidence, and point and nonpoint source pollution hazards;			
(C) Ensure that developments comply with requirements of the Federal Flood Insurance Program; and			X
(D) Prevent coastal flooding from inland projects.			X
Discussion: The Proposed Action is not expected to exacerbate natural levels of flooding or affect flood zone areas.			
Managing Development			
Objective: Improve the development review process, communication, and public participation in the management of coastal resources and hazards.			
Policies			
(A) Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;			X
(B) Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements; and			X
(C) Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the public to facilitate public participation in the planning and review process.			X
Discussion: This EA has been prepared under the procedural provisions of HRS, Chapter 343, and HAR, Title 11, Chapter 200.1, which allows for public review and participation. Accordingly, the preparation of this EA, and disclosure of anticipated effects of the project, will comply with the policy on managing development, and be reviewed by the public and various state and county agencies through this EA process.			
Public Participation			
Objective: Stimulate public awareness, education, and participation in coastal management.			
Policies:			
(A) Promote public involvement in coastal zone management processes;			X
(B) Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and			X
(C) Organize workshops, policy dialogues, and site-specific mitigation to respond to coastal issues and conflicts.			X
Discussion: This EA serves as a disclosure document of potential impacts and mitigation measures, including coastal management issues. This EA is published in the Office of Environmental Quality Control's *Environmental Notice,* whereby opportunity for comment by agencies and the public are provided. Pre-Assessment consultation comments for this EA were obtained and reproduced in Appendix E.			
Beach Protection			
Objective: Protect beaches for public use and recreation.			
Policies:			
(A) Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize			X

Table 4-4: Hawai‘i Coastal Zone Management Act	S	NS	N/A
loss of improvements due to erosion;			
(B) Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and			X
(C) Minimize the construction of public erosion-protection structures seaward of the shoreline.			X
(D) Prohibit private property owners from creating a public nuisance by inducing or cultivating the private property owner's vegetation in a beach transit corridor; and			X
(E) Prohibit private property owners from creating a public nuisance by allowing the private property owner's unmaintained vegetation to interfere or encroach upon a beach transit corridor.			X
Discussion: The Project is not anticipated to have a significant impact on beach and shoreline processes. The proposed project site is located approximately 1.6 miles from the shoreline at Waikiki.			
Marine Resources			
Objective: Promote the protection, use, and development of marine and coastal resources to assure their sustainability.			
Policies			
(A) Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;			X
(B) Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;			X
(C) Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;			X
(D) Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and			X
(E) Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.			X
Discussion: The Project is not anticipated to adversely affect marine or aquatic resources. The proposed project site is well outside the coastal zone. Appropriate BMPs and erosion control measures will be implemented to ensure that marine and coastal resources are not adversely impacted from construction activities.			

4.2 City and County of Honolulu Land Use Plans and Policies

4.2.1 City and County of Honolulu General Plan

The City and County of Honolulu last updated and amended its General Plan in October of 2002. However, the last updated version of The General Plan for the City and County of Honolulu is currently being revised. The General Plan for the City and County of Honolulu is a written commitment by the City and County government to a future for the Island of O‘ahu

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

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

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

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

FIGURE 4-2

Speical Management Area Map

Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Honolulu, O‘ahu, Hawai‘i

WILSON OKAMOTO CORPORATION

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	**S**	**NS**	**N/A**
I. Population			
Objective A. To control the growth of O‘ahu’s resident and visitor populations in order to avoid social, economic, and environmental disruptions.			
(1) Participate in State and Federal programs which seek to develop social, economic, legal, and environmental controls over population growth.			**X**
(2) Seek a balance between the rate of immigration and the rate of outmigration by reducing immigration.			**X**
(3) Support Federal policies providing for a more even distribution of immigrants throughout the country.			**X**
(4) Seek to maintain a desirable pace of physical development through City and County regulations.			**X**
(5) Encourage family planning.			**X**
(6) Publicize the desire of the City and County to limit population growth.			**X**
Discussion: The Proposed Action will not have an effect on the City and County of Honolulu’s General Plan, in regards to Population, Objective A.			
Objective B. To plan for future population growth.			
(1) Allocate efficiently the money and resources of the City and County in order to meet the needs of O‘ahu's anticipated future population.			**X**
(2) Provide adequate support facilities to accommodate future growth in the number of visitors to O‘ahu.			**X**
Discussion: The Proposed Action will not have an effect on the City and County of Honolulu’s General Plan, in regards to Population, Objective B.			
Objective C. To establish a pattern of population distribution that will allow the people of O‘ahu to live and work in harmony.			
(1) Facilitate the full development of the primary urban center.	**X**		
(2) Encourage development within the secondary urban center at Kapolei and the ‘Ewa and Central O‘ahu urban-fringe areas to relieve developmental pressures in the remaining urban-fringe and rural areas and to meet housing needs not readily provided in the primary urban center.			**X**
(3) Manage physical growth and development in the urban-fringe and rural areas so that: a. An undesirable spreading of development is prevented; and b. Their population densities are consistent with the character of development and environmental qualities desired for such areas.			

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
(4) Direct growth according to Policies 1, 2, and 3 above by providing land development capacity and needed infrastructure to seek a 2025 distribution of Oahu's residential population as follows: **Location** / **% Share of 2025 Islandwide Population** Primary Urban Center 46% 'Ewa 13% Central O'ahu 17% East Honolulu 5.3% Ko'olaupoko 11.6% Ko'olauloa 1.4% North Shore 1.7% Wai'anae 4.0% **Total 100%**			X
Discussion: The Proposed Action will support Objective C related to Population. The Proposed Action is situated within the Primary Urban Center.			
II. Economic Activity			
Objective A. To promote employment opportunities that will enable all the people of O'ahu to attain a decent standard of living.			
(1) Encourage the growth and diversification of O'ahu's economic base.	X		
(2) Encourage the development of small businesses and larger industries which will contribute to the economic and social well-being of O'ahu residents.	X		
(3) Encourage the development in appropriate locations on O'ahu of trade, communications, and other industries of a nonpolluting nature.	X		
(4) Encourage the development of local, national, and world markets for the products of O'ahu-based industries.	X		
(5) Encourage the wider distribution of available employment opportunities through such methods as shortening the work week and reducing the use of overtime.			X
(6) Encourage the continuation of a significant level of Federal employment on O'ahu.			X
Discussion: The Proposed Action will support the City and County of Honolulu's General Plan, in regards to Economic Activity, Objective A. The Proposed Action will create a world-class student housing, innovation and classroom complex, currently unavailable on the UHM Campus. The Project is an innovative P3 project that will strengthen community assets and facilitate economic growth for UH, as well as the State. The academic programming and research support that will be offered at the Innovation Center has the			

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	**S**	**NS**	**N/A**
potential to both: a) develop a much needed third major economic sector for the State of Hawai‘i, that will be able to create high-quality living- wage jobs, and b) prepare students to address the challenges and opportunities faced by Hawai‘i, and the world, in a quickly evolving digital century. Participants will have access to educational programs provided by PACE which also includes free advice by experienced mentors, startup funds, free to low-cost office space, and access to entrepreneurial interns. The academic programs planned for the Innovation Center would support three phases of the startup process including Ideation, Acceleration, and Incubation which is discussed in further detail in Section 2.2. Generally speaking, in the long-term, the Proposed Action will provide significant opportunities for the incubation and development of commercial high-technology-centered start-ups and businesses ventures which may potentially generate jobs in specialized fields otherwise not-common here in the islands.			
Objective B. To maintain the viability of O‘ahu’s visitor industry.			
(1) Provide for the long-term viability of Waikiki as O‘ahu's primary resort area by giving the area priority in visitor industry related public expenditures.			**X**
(2) Provide for a high quality and safe environment for visitors and residents in Waikiki.			**X**
(3) Encourage private participation in improvements to facilities in Waikiki.			**X**
(4) Prohibit major increases in permitted development densities in Waikiki.			**X**
(5) Prohibit further growth in the permitted number of hotel and resort condominium units in Waikiki.			**X**
(6) Permit the development of secondary resort areas in West Beach, Kahuku, Makaha, and Laie.			**X**
(7) Manage the development of secondary resort areas in a manner which respects existing lifestyles and the natural environment, and avoids substantial increases in the cost of providing public services in the area.			**X**
(8) Preserve the well-known and widely publicized beauty of Oahu for visitors as well as residents.			**X**
(9) Encourage the visitor industry to provide a high level of service to visitors.			**X**
Discussion: The Proposed Action will not have an effect on maintaining the viability of O‘ahu’s visitor industry.			
Objective C. To maintain the viability agriculture on O‘ahu.			
(1) Assist the agricultural industry to ensure the continuation of agriculture as an important source of income and employment.			**X**
(2) Support agricultural diversification in all agricultural areas on O‘ahu.			**X**
(3) Support the development of markets for local products, particularly those with the potential for economic growth.			**X**
(4) Provide sufficient agricultural land in Ewa, Central Oahu, and the North Shore to encourage the continuation of sugar and pineapple as viable industries.			**X**

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
(5) Maintain agricultural land along the Windward, North Shore, and Waianae coasts for truck farming, flower growing, aquaculture, livestock production, and other types of diversified agriculture.			X
(6) Encourage the more intensive use of productive agricultural land.			X
(7) Encourage the use of more efficient production practices by agriculture, including the efficient use of water.			X
(8) Encourage the more efficient use of non- potable water for agricultural use.			X
Discussion: The Proposed Action will not have an effect on Objective C of the City and County of Honolulu General Plan related to Economic Activity.			
Objective D. To make full use of the economic resources of the sea.			
(1) Assist the fishing industry to maintain its viability.			X
(2) Encourage the development of aquaculture, ocean research, and other ocean- related industries.			X
(3) Focus the development of ocean related economic activities in the Northwestern Hawaiian Islands on those which are compatible with preserving the area's unique environmental, marine, and wildlife assets.			X
Discussion: The Proposed Action will not have an effect on Objective D of the City and County of Honolulu General Plan related to Economic Activity.			
Objective E. To prevent the occurrence of large scale unemployment.			
(1) Encourage the training and employment of present residents for currently available and future jobs.			X
(2) Make full use of State and Federal employment and training programs.			X
(3) Encourage the provision of retraining programs for workers in industries with planned reductions in their labor force.			X
Discussion: The Proposed Action will not have an effect on Objective E of the City and County of Honolulu General Plan related to Economic Activity.			
Objective F. To increase the amount of federal spending on O‘ahu.			
(1) Take full advantage of Federal programs and grants which will contribute to the economic and social well-being of O‘ahu's residents.			X
(2) Encourage the Federal government to pay for the cost of public services used by Federal agencies.			X
(3) Encourage the Federal government to lease new facilities rather than construct them on tax-exempt public land.			X
(4) Encourage the military to purchase locally all needed services and supplies which are available on O‘ahu .			X

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
Discussion: The Proposed Action will not have an effect on Objective F of the City and County of Honolulu General Plan related to Economic Activity as the Project does not involve any federal funds.			
Objective G. To bring about orderly economic growth on O‘ahu.			
(1) Direct major economic activity and government services to the primary urban center and the secondary urban center at Kapolei.			X
(2) Permit the moderate growth of business centers in the urban-fringe areas.			X
(3) Maintain sufficient land in appropriately located commercial and industrial areas to help ensure a favorable business climate on O‘ahu.			X
(4) Encourage the continuation of a high level of military-related employment in the Hickam-Pearl Harbor, Wahiawa, Kailua-Kaneohe, and Ewa areas.			X
Discussion: The Proposed Action will not have an effect on Objective F of the City and County of Honolulu General Plan related to Economic Activity.			
III. Natural Environment			
Objective A. To protect and preserve the natural environment.			
(1) Protect O‘ahu's natural environment, especially the shoreline, valleys, and ridges, from incompatible development.			X
(2) Seek the restoration of environmentally damaged areas and natural resources.			X
(3) Retain the Island's streams as scenic, aquatic, and recreation resources.			X
(4) Require development projects to give due consideration to natural features such as slope, flood and erosion hazards, water- recharge areas, distinctive land forms, and existing vegetation.	X		
(5) Require sufficient setbacks of improvements in unstable shoreline areas to avoid the future need for protective structures.			X
(6) Design surface drainage and flood-control systems in a manner which will help preserve their natural settings.			X
(7) Protect the natural environment from damaging levels of air, water, and noise pollution.	X		
(8) Protect plants, birds, and other animals that are unique to the State of Hawai‘i and the Island of O‘ahu.	X		
(9) Protect mature trees on public and private lands and encourage their integration into new developments.			X
(10) Increase public awareness and appreciation of O‘ahu's land, air, and water resources.			X
(11) Encourage the State and Federal governments to protect the unique environmental, marine, and wildlife assets of the Northwestern Hawaiian Islands.			X

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
Discussion: The proposed project will support the Objective A of Section III of the City and County of Honolulu General Plan. The proposed project gives due consideration to the natural features and environment of the site and surrounding area through this environmental assessment. Potential impacts to the natural setting and will be mitigated through BMPs during the implementation of the proposed project. This will minimize any potential impacts to plants, birds, and other animals unique to the island of O‘ahu and State of Hawai‘i.			
Objective B. To preserve and enhance the natural monuments and scenic views of O‘ahu for the benefit of both residents and visitors.			
(1) Protect the Island's well-known resources: its mountains and craters; forests and watershed areas; marshes, rivers, and streams; shoreline, fishponds, and bays; and reefs and offshore islands.			X
(2) Protect O‘ahu's scenic views, especially those seen from highly developed and heavily traveled areas.			X
(3) Locate roads, highways, and other public facilities and utilities in areas where they will least obstruct important views of the mountains and the sea.			X
(4) Provide opportunities for recreational and educational use and physical contact with O‘ahu's natural environment.			X
Discussion: The proposed project will not affect Objective B of Section III of the City and County of Honolulu General Plan.			
IV. Housing			
Objective A. To provide decent housing for all the people of O‘ahu at prices they can afford.			
(1) Develop programs and controls which will provide decent homes at the least possible cost.			X
(2) Streamline approval and permit procedures for housing and other development projects.			X
(3) Encourage innovative residential development which will result in lower costs, added convenience and privacy, and the more efficient use of streets and utilities.			X
(4) Establish public, and encourage private, programs to maintain and improve the condition of existing housing.	X		
(5) Make full use of State and Federal programs that provide financial assistance for low- and moderate-income homebuyers.			X
(6) Expand local funding mechanisms available to pay for government housing programs.			X
(7) Provide financial and other incentives to encourage the private sector to build homes for low- and moderate-income residents.			X
(8) Encourage and participate in joint public-private development of low- and moderate- income housing.			X
(9) Encourage the preservation of existing housing which is affordable to low- and moderate-income persons.			X

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
(10) Promote the construction of affordable dwellings which take advantage of O‘ahu's year-round moderate climate.			X
(11) Encourage the construction of affordable homes within established low-density communities by such means as 'ohana' units, duplex dwellings, and cluster development.			X
(12) Encourage the production and maintenance of affordable rental housing.	X		
(13) Encourage the provision of affordable housing designed for the elderly and the handicapped.			X
(14) Encourage equitable relationships between landowners and leaseholders, between landlords and tenants, and between condominium developers and owners.			X
Discussion: The proposed project supports Objective A of Section IV of the City and County of Honolulu General Plan related to housing by utilizing private funding to redevelop existing student housing into new and affordable student housing			
Objective B. To reduce speculation in land and housing.			
(1) Encourage the State government to coordinate its urban-area designations with the developmental policies of the City and County.			X
(2) Discourage private developers from acquiring and assembling land outside of areas planned for urban use.			X
(3) Seek public benefits from increases in the value of land owing to City and State developmental policies and decisions.			X
(4) Require government-subsidized housing to be delivered to appropriate purchasers and renters.			X
(5) Prohibit the selling or renting of government-subsidized housing for large profits.			X
Discussion: The proposed project will not affect Objective B of Section IV of the City and County of Honolulu General Plan related to housing.			
Objective C. To provide the people of O‘ahu with a choice of living environments which are reasonably close to employment, recreation, and commercial centers and which are adequately served by public utilities.			
(1) Encourage residential developments that offer a variety of homes to people of different income levels and to families of various sizes.			X
(2) Encourage the fair distribution of low- and moderate-income housing throughout the Island.			X
(3) Encourage residential development near employment centers.			X
(4) Encourage residential development in areas where existing roads, utilities, and other community facilities are not being used to capacity.			X
(5) Discourage residential development where roads, utilities, and community facilities cannot be provided at a reasonable cost.			X
(6) Preserve older communities through self-help, housing-rehabilitation,			X

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
improvement districts, and other governmental programs.			
Discussion: The proposed project will not affect Objective C of Section IV of the City and County of Honolulu General Plan related to housing.			
V. Transportation & Utilities			
Objective A. To create a transportation system which will enable people and goods to move safely, efficiently, and at a reasonable cost; serve all people, including the poor, the elderly, and the physically handicapped; and offer a variety of attractive and convenient modes of travel.			
(1) Develop and maintain an integrated ground-transportation system consisting of the following elements and their primary purposes:			
a. Public transportation-for travel to and from work, and travel within Central Honolulu;			X
b. Roads and highways-for commercial traffic and travel in nonurban areas;			X
c. Bikeways-for recreational activities and trips to work, schools, shopping centers, and community facilities; and			X
d. Pedestrian walkways-for getting around Downtown and Waikiki, and for trips to schools, parks, and shopping centers.			X
(2) Provide transportation services to people living within the Ewa, Central O‘ahu , and Pearl City-Hawai‘i Kai corridors primarily through a mass transit system including exclusive right-of-way rapid transit and feeder-bus components as well as through the existing highway system with limited improvements as may be appropriate.			X
(3) Provide transportation services outside the Ewa, Central O‘ahu , and Pearl City-Hawai‘i Kai corridors primarily through a system of express- and feeder-buses as well as through the highway system with limited to moderate improvements sufficient to meet the needs of the communities being served.			X
(4) Improve transportation facilities and services in the Ewa corridor and in the trans-Ko‘olau corridors to meet the needs of Ewa and Windward communities.			X
(5) Improve roads in existing communities to reduce congestion and eliminate unsafe conditions.			X
(6) Consider both environmental impact as well as construction and operating costs as important factors in planning alternative nodes of transportation.			X
(7) Promote the use of public transportation as a means of moving people quickly and efficiently, of conserving energy, and of guiding urban development.			X
(8) Make available transportation services to people with limited mobility: the young, the elderly, the handicapped, and the poor.	X		
(9) Promote programs to reduce dependence on the use of automobiles.	X		
(10) Discourage the inefficient use of the private automobile, especially in	X		

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
congested corridors and during peak-hours.			
(11) Make public, and encourage private, improvements to major walkway systems.	X		
(12) Encourage the provision of separate aviation facilities for small civilian aircraft.			X
(13) Facilitate the development of a second deep-water harbor to relieve congestion in Honolulu Harbor.			X
Discussion: The proposed project supports Objective A of Section V of the City and County of Honolulu General Plan related to transportation and utilities by providing car and bike sharing stations as well as making improvements to the existing bus station by constructing a shelter			
Objective B. To meet the needs of the people of O'ahu for an adequate supply of water and for environmentally sound systems of waste disposal.			
(1) Develop and maintain an adequate supply of water for both residents and visitors.			X
(2) Develop and maintain an adequate supply of water for agricultural and industrial needs.			X
(3) Encourage the development of new technology which will reduce the cost of providing water and the cost of waste disposal.			X
(4) Encourage a lowering of the per-capita consumption of water and the per-capita production of waste.			X
(5) Provide safe, efficient, and environmentally sensitive waste-collection and waste- disposal services.			X
(6) Support programs to recover resources from solid-waste and recycle wastewater.			X
(7) Require the safe disposal of hazardous waste.			X
Discussion: The proposed project will not affect Objective B of Section V of the City and County of Honolulu General Plan related to transportation and utilities.			
Objective C. To maintain a high level of service for all utilities.			
(1) Maintain existing utility systems in order to avoid major breakdowns.			X
(2) Provide improvements to utilities in existing neighborhoods to reduce substandard conditions.			X
(3) Plan for the timely and orderly expansion of utility systems.			X
(4) Increase the efficiency of public utilities by encouraging a mixture of uses with peak periods of demand occurring at different times of the day.			X
Discussion: The proposed project will not affect Objective C of Section V of the City and County of Honolulu General Plan related to transportation and utilities.			
Objective D. To maintain transportation and utility systems which will help O'ahu continue to be a desirable place to live and visit.			

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
(1) Give primary emphasis in the capital- improvement program to the maintenance and improvement of existing roads and utilities.			X
(2) Use the transportation and utility systems as a means of guiding growth and the pattern of land use on Oʻahu.			X
(3) Encourage the study and use of telecommunications as an alternative to conventional transportation facilities.			X
(4) Evaluate the social, economic, and environ- mental impact of additions to the transportation and utility systems before they are constructed.			X
(5) Require the installation of underground utility lines wherever feasible.			X
(6) Seek improved taxing powers for the City and County in order to provide a more equitable means of financing transportation and utility services.			X
Discussion: The proposed project will not affect Objective D of Section V of the City and County of Honolulu General Plan related to transportation and utilities.			
VI. Energy			
Objective A. To maintain an adequate, dependable, and economical supply of energy for Oʻahu residents.			
(1) Develop and maintain a comprehensive plan to guide and coordinate energy conservation and alternative energy development and utilization programs on Oʻahu.			X
(2) Establish economic incentives and regulatory measures which will reduce Oʻahu's dependence on petroleum as its primary source of energy.			X
(3) Support programs and projects which contribute to the attainment of energy self- sufficiency on Oʻahu.			X
(4) Promote and assist efforts to establish adequate petroleum reserves within Hawaiʻi's boundaries.			X
(5) Give adequate consideration to environ- mental, public health, and safety concerns, to resource limitations, and to relative costs when making decisions concerning alternatives for conserving energy and developing natural energy resources.			X
(6) Work closely with the State and Federal governments in the formulation and implementation of all City and County energy-related programs.			X
Discussion: The proposed project will not affect Objective A of Section VI of the City and County of Honolulu General Plan related to energy.			
Objective B. To conserve energy through the more efficient management of its use.			
(1) Ensure that the efficient use of energy is a primary factor in the preparation and administration of land use plans and regulations.			X
(2) Provide incentives and, where appropriate, mandatory controls to achieve energy- efficient siting and design of new developments.			X
(3) Carry out public, and promote private, programs to more efficiently use energy in existing buildings and outdoor facilities.			X

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
(4) Promote the development of an energy- efficient transportation system.			X
Discussion: The proposed project will not affect Objective B of Section VI of the City and County of Honolulu General Plan related to energy.			
Objective C. To fully utilize proven alternative sources of energy.			
(1) Encourage the use of commercially available solar energy systems in public facilities, institutions, residences, and business developments.			X
(2) Support the increased use of operational solid waste energy recovery and other biomass energy conversion systems.			X
Discussion: The proposed project will not affect Objective C of Section VI of the City and County of Honolulu General Plan related to energy.			
Objective D. To develop and apply new, locally available energy resources.			
(1) Support and participate in research, development, demonstration, and commercialization programs aimed at producing new, economical, and environmentally sound energy supplies from:			
a. solar insolation;			X
b. biomass energy conversion;			X
c. wind energy conversion;			X
d. geothermal energy; and			X
e. ocean thermal energy conversion.			X
(2) Secure State and Federal support of City and County efforts to develop new sources of energy.			X
Discussion: The proposed project will not affect Objective D of Section VI of the City and County of Honolulu General Plan related to energy.			
Objective E. To establish a continuing information program.			
(1) Supply citizens with the information they need to fully understand the potential supply, cost, and other problems associated with O‘ahu’s dependence on imported petroleum.			X
(2) Foster the development of an energy conservation ethic among O‘ahu residents.			X
(3) Keep consumers informed about available alternative energy sources and their costs and benefits.			X
(4) Provide information concerning the impact of public and private decisions on future energy use.			X
Discussion: The proposed project will not affect Objective E of Section VI of the City and County of Honolulu General Plan related to energy.			
VII. Physical Development and Urban Design			

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	**S**	**NS**	**N/A**
Objective A. To coordinate changes in the physical environment of O‘ahu to ensure that all new developments are timely, well-designed, and appropriate for the areas in which they will be located.			
(1) Plan for the construction of new public facilities and utilities in the various parts of the Island according to the following order of priority: first, in the primary urban center; second, in the secondary urban center at Kapolei; and third, in the urban- fringe and rural areas.	**X**		
(2) Coordinate the location and timing of new development with the availability of adequate water supply, sewage treatment, drainage, transportation, and public safety facilities.	**X**		
(3) Phase the construction of new developments so that they do not require more regional supporting services than are available.			**X**
(4) Require new developments to provide or pay the cost of all essential community services, including roads, utilities, schools, parks, and emergency facilities that are intended to directly serve the development.			**X**
(5) Provide for more compact development and intensive use of urban lands where compatible with the physical and social character of existing communities.	**X**		
(6) Encourage the clustering of developments to reduce the cost of providing utilities and other public services.	**X**		
(7) Locate new industries and new commercial areas so that they will be well related to their markets and suppliers, and to residential areas and transportation facilities.			**X**
(8) Locate community facilities on sites that will be convenient to the people they are intended to serve.	**X**		
(9) Exclude from residential areas, uses which are major sources of noise and air pollution.			**X**
(10) Establish danger zones to exclude incompatible uses from hazardous areas surrounding airfields, electromagnetic- radiation sources, and storage places for fuel and explosives.			**X**
(11) Prohibit new airfields, electromagnetic- radiation sources, and storage places for fuel and explosives from locating on sites where they will endanger or disrupt nearby communities.			**X**
Discussion: The Proposed Action will support Objective A of Section VII of the City and County of Honolulu General Plan related to physical development and urban design. The Project will be situated in lower Mānoa, adjacent to UHM, which is a highly altered urban environment located within the City and County’s Primary Urban Center. The parcel on which the Project would be situated is already developed and has existing utility services, which have the capacity to serve the Proposed Action. Moreover, the design approach of the Project itself communicates a 21st century Hawai‘i, while rooted in the design history of Mānoa Valley. The purpose of the Project is to create a world-class student housing, entrepreneurship / innovation center which is currently unavailable at UHM.			
Objective B. To develop Honolulu (Waialae-Kahala to Halawa), Aiea, and Pearl City as the Island’s primary urban center.			
(1) Stimulate development in the primary urban center by means of the City and County's capital improvement program and State and Federal grant and loan programs.			**X**

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
(2) Provide for the expanded development of low-rise multi-unit housing.			X
(3) Encourage the establishment of mixed-use districts with appropriate design and development controls to insure an attractive living environment and compatibility with surrounding land uses.			X
(4) Provide downtown Honolulu and other major business centers with a well-balanced mixture of uses.			X
(5) Encourage the development of attractive residential communities in downtown and other business centers.			X
(6) Maintain and improve downtown as the financial and office center of the Island, and as a major retail center.			X
(7) Provide for the continued viability of the Hawai‘i Capital District as a center of government activities and as an attractive park-like setting in the heart of the City.			X
(8) Foster the development of Honolulu's waterfront as the State's major port and maritime center, as a people-oriented mixed-use area, and as a major recreation area.			X
(9) Facilitate the redevelopment of Kakaako as a major residential, as well as commercial and light industrial area.			X
Discussion: The proposed project will not affect Objective B of Section VII of the City and County of Honolulu General Plan related to physical development and urban design.			
Objective C. To develop a secondary urban center with its nucleus in the Kapolei area.			
(1) Allocate funds from the City and County's capital-improvement program for public projects that are needed to facilitate development of the secondary urban center at Kapolei.			X
(2) Encourage the development of a major residential, commercial, and employment center within the secondary urban center at Kapolei.			X
(3) Encourage the continuing development of Barbers Point as a major industrial center.			X
(4) Coordinate plans for the development of the secondary urban center at Kapolei with the State and Federal governments and with the sugar industry.			X
(5) Cooperate with the State and Federal governments in the development of a deep water harbor at Barbers Point.			X
(6) Encourage the development of the Ewa Marina Community as a major residential and recreation area emphasizing recreational boating activities through the provision of a major marina and a related maritime commercial center containing light-industrial, commercial, and visitor accommodation uses.			X
Discussion: The proposed project will not affect Objective C of Section VII of the City and County of Honolulu General Plan related to physical development and urban design as the Project is situated in lower Mānoa.			
Objective D. To maintain those development characteristics in the urban-fringe and rural areas which make them desirable places to live.			

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
(1) Develop and maintain urban-fringe areas as predominantly residential areas characterized by generally low rise, low density development which may include significant levels of retail and service commercial uses as well as satellite institutional and public uses geared to serving the needs of households.			X
(2) Coordinate plans for developments within the Ewa and Central O‘ahu urban-fringe areas with the State and Federal governments and with the sugar, pineapple, and other emerging agricultural industries.			X
(3) Establish a green belt in the Ewa and Central O‘ahu areas of O‘ahu in the Development Plans.			X
(4) Maintain rural areas as areas which are intended to provide environments supportive of lifestyle choices which are dependent on the availability of land suitable for small to moderate size agricultural pursuits, a relatively open and scenic setting, and/or a small town, country atmosphere consisting of communities which are small in size, very low density and low rise in character, and may contain a mixture of uses.			X
Discussion: The proposed project will not affect Objective D of Section VII of the City and County of Honolulu General Plan related to physical development and urban design.			
Objective E. To create and maintain attractive, meaningful, and stimulated environments throughout O‘ahu.			
(1) Prepare and maintain a comprehensive urban-design plan for the Island of O‘ahu.			X
(2) Integrate the City and County's urban- design plan into all levels of physical planning and developmental controls.			X
(3) Encourage distinctive community identities for both new and existing districts and neighborhoods.			X
(4) Require the consideration of urban-design principles in all development projects.			X
(5) Require new developments in stable, established communities and rural areas to be compatible with the existing communities and areas.	X		
(6) Provide special design standards and controls that will allow more compact development and intensive use of lands in the primary urban center.			X
(7) Promote public and private programs to beautify the urban and rural environments.			X
(8) Preserve and maintain beneficial open space in urbanized areas.			X
(9) Design public structures to meet high aesthetic and functional standards and to complement the physical character of the communities they will serve.			X
(10) Establish a review process to evaluate the design of major development projects.			X
Discussion: The Proposed Action will support Objective E of Section VII of the City and County of Honolulu General Plan related to physical development and urban design.			

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	**S**	**NS**	**N/A**
The design approach of the Project itself communicates a 21st century Hawai‘i, while rooted in the design history of Mānoa Valley.			
Objective F. To promote and enhance the social and physical character of O‘ahu’s older towns and neighborhoods.			
(1) Encourage new construction to complement the ethnic qualities of the older communities of O‘ahu.			**X**
(2) Encourage, wherever desirable, the rehabilitation of existing substandard structures.	**X**		
(3) Provide and maintain roads, public facilities, and utilities without damaging the character of older communities.			**X**
(4) Seek the satisfactory relocation of residents before permitting their displacement by new development, redevelopment, or neighborhood rehabilitation.			**X**
Discussion: The Proposed Action will support Objective F of Section VII of the City and County of Honolulu General Plan related to physical development and urban design. The Proposed Action will involve repurposing the existing Charles Atherton House at the project site to house the Entrepreneurship / Innovation Center.			
VIII. Public Safety			
Objective A. To prevent and control crime and maintain public order.			
(1) Provide a safe environment for residents and visitors on O‘ahu.			**X**
(2) Provide adequate criminal justice facilities and staffing for City and County law- enforcement agencies.			**X**
(3) Emphasize improvements to police and prosecution operations which will result in a higher proportion of wrongdoers who are arrested, convicted, and punished for their crimes.			**X**
(4) Keep the public informed of the nature and extent of criminal activity on O‘ahu.			**X**
(5) Establish and maintain programs to encourage public cooperation in the prevention and solution of crimes.			**X**
(6) Seek the help of State and Federal law- enforcement agencies to curtail the activities of organized crime syndicates on O‘ahu.			**X**
(7) Conduct periodic reviews of criminal laws to ensure their relevance to the community's needs and values.			**X**
(8) Cooperate with other law-enforcement agencies to develop new methods of fighting crime.			**X**
(9) Encourage the improvement of rehabilitation programs and facilities for criminals and juvenile offenders.			**X**
Discussion: The proposed project will not affect Objective A of Section VIII of the City and County of Honolulu General Plan related to public safety.			
Objective B. To protect the people of O‘ahu and their property against natural disasters and other			

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
emergencies, traffic and fire hazards, and unsafe conditions.			
(1) Keep up-to-date and enforce all City and County safety regulations.			X
(2) Require all developments in areas subject to floods and tsunamis to be located and constructed in a manner that will not create any health or safety hazard.			X
(3) Participate with State and Federal agencies in the funding and construction of flood- control projects.			X
(4) Cooperate with State and Federal agencies to provide tsunami warning and protection for O‘ahu.			X
(5) Cooperate with State and Federal agencies to provide protection from war, civil disruptions, and other major disturbances.			X
(6) Reduce hazardous traffic conditions.			X
(7) Provide adequate fire protection and effective fire prevention programs.			X
(8) Provide adequate search and rescue and disaster response services.			X
(9) Design safe and secure public buildings.			X
(10) Provide adequate staff to supervise activities at public facilities.			X
(11) Develop civil defense plans and programs to protect and promote public health, safety and welfare of the people.			X
(12) Provide educational materials on civil defense preparedness, fire protection, traffic hazards and other unsafe conditions.			X
Discussion: The proposed project will not affect Objective B of Section VIII of the City and County of Honolulu General Plan related to public safety.			
IX. Health and Education			
Objective A. To protect the health of the people of O‘ahu.			
(1) Encourage the provision of health-care facilities that are accessible to both employment and residential centers.			X
(2) Encourage prompt and adequate ambulance and first-aid services in all areas of O‘ahu.			X
(3) Coordinate City and County health codes and other regulations with State and Federal health codes to facilitate the enforcement of air-, water-, and noise-pollution controls.			X
Discussion: The proposed project will not affect Objective A of Section IX of the City and County of Honolulu General Plan related to health and education.			
Objective B. To provide a wide range of educational opportunities for the people of O‘ahu.			
(1) Support education programs that encourage the development of employable skills.	X		
(2) Encourage the provision of informal educational programs for people of			X

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
all age groups.			
(3) Encourage the after-hours use of school buildings, grounds, and facilities.			X
(4) Encourage the construction of school facilities that are designed for flexibility and high levels of use.	X		
(5) Facilitate the appropriate location of learning institutions from the preschool through the university levels.	X		
Discussion: The Proposed Action support Objective B of Section IX of the City and County General Plan relating to health and education. The Proposed Action will create a world-class student housing, innovation and classroom complex, currently unavailable on the UHM Campus. The Project will offer students, faculty, and staff at UHM, as well as the larger community, a much needed facility that will facilitate entrepreneurial practice and advance the understanding of entrepreneurship in the Pacific Rim. The academic programming and research support that will be offered at the Innovation Center has the potential to both: a) develop a much needed third major economic sector for the State of Hawaiʻi, that will be able to create high-quality living- wage jobs, and b) prepare students to address the challenges and opportunities faced by Hawaiʻi, and the world, in a quickly evolving digital century. Participants will have access to educational programs provided by PACE which also includes free advice by experienced mentors, startup funds, free to low-cost office space, and access to entrepreneurial interns. The academic programs planned for the Innovation Center would support three phases of the startup process including Ideation, Acceleration, and Incubation which is discussed in further detail in Section 2.2. Generally speaking, in the long-term, the Proposed Action will provide significant opportunities for the incubation and development of commercial high-technology-centered start-ups and businesses ventures which may potentially generate jobs in specialized fields otherwise not-common here in the islands.			
Objective C. To make Honolulu the center of higher education in the Pacific.			
(1) Encourage continuing improvement in the quality of higher education in Hawaiʻi.	X		
(2) Encourage the development of diverse opportunities in higher education.	X		
(3) Encourage research institutions to establish branches on Oʻahu.			X
Discussion: The Proposed Action will support Objective C of Section IX of the City and County General Plan relating to health and education. The Proposed Action will create a world-class student housing, innovation and classroom complex, currently unavailable on the UHM Campus. The Project will offer students, faculty, and staff at UHM, as well as the larger community, a much needed facility that will facilitate entrepreneurial practice and advance the understanding of entrepreneurship in the Pacific Rim. The academic programming and research support that will be offered at the Innovation Center has the potential to both: a) develop a much needed third major economic sector for the State of Hawaiʻi, that will be able to create high-quality living- wage jobs, and b) prepare students to address the challenges and opportunities faced by Hawaiʻi, and the world, in a quickly evolving digital century. Participants will have access to educational programs provided by PACE which also includes free advice by experienced mentors, startup funds, free to low-cost office space, and access to entrepreneurial			

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
interns. The academic programs planned for the Innovation Center would support three phases of the startup process including Ideation, Acceleration, and Incubation which is discussed in further detail in Section 2.2. Generally speaking, in the long-term, the Proposed Action will provide significant opportunities for the incubation and development of commercial high-technology-centered start-ups and businesses ventures which may potentially generate jobs in specialized fields otherwise not-common here in the islands.			
X. Culture and Recreation			
Objective A. To foster the multiethnic culture of Hawai‘i.			
(1) Encourage the preservation and enhancement of Hawai‘i's diverse cultures.			X
(2) Encourage greater public awareness, understanding, and appreciation of cultural heritage and contributions to Hawai‘i made by the City's various ethnic groups.			X
(3) Encourage opportunities for better interaction among people with different ethnic, social, and cultural backgrounds.			X
(4) Encourage the protection of the ethnic identities of the older communities of O‘ahu .			X
Discussion: The Proposed Action will not affect Objective A of Section X of the City and County of Honolulu General Plan related to culture and recreation.			
Objective B. To protect O‘ahu’s cultural, historic, architectural, and archaeological resources.			
(1) Encourage the restoration and preservation of early Hawaiian structures, artifacts, and landmarks.			X
(2) Identify, and to the extent possible, preserve and restore buildings, sites, and areas of social, cultural, historic, architectural, and archaeological significance.	X		
(3) Cooperate with the State and Federal governments in developing and implementing a comprehensive preservation program for social, cultural, historic, architectural, and archaeological resources.			X
(4) Promote the interpretive and educational use of cultural, historic, architectural, and archaeological sites, buildings, and artifacts.			X
(5) Seek public and private funds, and public participation and support, to protect social, cultural, historic, architectural, and archaeological resources.			X
(6) Provide incentives for the restoration, preservation, and maintenance of social, cultural, historic, architectural, and archaeological resources.			X
Discussion: The Proposed Action will support Objective B of Section X of the City and County General Plan related to culture and recreation. During a field investigation conducted, three potential historic properties were documented, including the L-shaped retaining wall, a stone pathway, and basalt curbstones along University Avenue. Honua’s study found that the project effect determination is “no historic properties affected”. Currently, there are two historic building situated within the project area, consisting of the Charles Atherton House and the Mary Atherton Richards House. The Mason Architects study outlines that the proposed demolition of the rear wings of the Charles H. Atherton house along with the construction of a			

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	**S**	**NS**	**N/A**
building that extends adjacent beyond its existing envelope could potentially adversely impact the historic character of the structure as the scale and massing of the new building would visually overwhelm the historic YMCA structure. As for the Mary Atherton Richards House the proposed action of demolishing the building and redeveloping a new building adjoined to the existing YMCA building would have an adverse effect due to demolition of the building. Mitigation measures are required for adverse effects to historic resources. The Policy of "Preservation" detailed in the Administrative Rules Chapter 13-275(Rules Governing Procedures for Historic Preservation Review for Governmental projects covered under sections 6E-7 and 6E-8, HRS) states "preservation may include avoidance of the effect and protection, rehabilitation, restoration, or reconstruction". The subject study outlines that it may be possible to implement design modifications to the proposed plan to minimize the adverse impacts anticipated to the historic character of the existing resources on site.			
Objective C. To foster the visual and performing arts.			
(1) Encourage and support programs and activities for the visual and performing arts.			**X**
(2) Encourage creative expression and access to the arts by all segments of the population.			**X**
(3) Provide permanent art in appropriate City public buildings and places.			**X**
Discussion: The Proposed Action will not affect Objective C of Section X of the City and County of Honolulu General Plan related to culture and recreation.			
Objective D. To provide a wide range of recreational facilities and services that are readily available to all residents of O'ahu.			
(1) Develop and maintain community-based parks to meet the needs of the different communities on O'ahu .			**X**
(2) Develop and maintain a system of regional parks and specialized recreation facilities.			**X**
(3) Develop and maintain urban parks, squares, and beautification areas in high density urban places.			**X**
(4) Encourage public and private botanic and zoological parks on O'ahu to foster an awareness and appreciation of the natural environment.			**X**
(5) Encourage the State to develop and maintain a system of natural resource-based parks, such as beach, shoreline, and mountain parks.			**X**
(6) Provide convenient access to all beaches and inland recreation areas.			**X**
(7) Provide for recreation programs which serve a broad spectrum of the population.			**X**
(8) Encourage ocean and water-oriented recreation activities that do not adversely impact on the natural environment.			**X**
(9) Require all new developments to provide their residents with adequate recreation space.			**X**
(10) Encourage the private provision of recreation and leisure-time facilities and services.			**X**
(11) Encourage the after-hours, weekend, and summertime use of public schools facilities for recreation.			**X**

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
(12) Provide for safe and secure use of public parks, beaches, and recreation facilities.			X
(13) Encourage the safe use of O‘ahu 's ocean environments.			X
(14) Encourage the State and Federal governments to transfer excess and underutilized land to the City and County for public recreation use.			X
Discussion: The Proposed Action will not affect Objective D of Section X of the City and County of Honolulu General Plan related to culture and recreation.			
XI. Government Operations and Fiscal Management			
Objective A. To promote increased efficiency, effectiveness, and responsiveness in the provision of government services by the City and County of Honolulu.			
(1) Maintain City and County government services at the level necessary to be effective.			X
(2) Promote consolidation of State and City and County functions whenever more efficient and effective delivery of government programs and services can be achieved.			X
(3) Ensure that government attitudes, actions, and services are sensitive to community needs and concerns.			X
(4) Prepare, maintain, and publicize policies and plans which are adequate to guide and coordinate City programs and regulatory responsibilities.			X
Discussion: The Proposed Action will not affect Objective A of Section XI of the City and County of Honolulu General Plan related to government operations and fiscal management.			
Objective B. To ensure fiscal integrity, responsibility, and efficiency by the City and County government in carrying out its responsibilities.			
(1) Provide for a balanced budget.			X
(2) Allocate fiscal resources of the City and County to efficiently implement the policies of the General Plan and Development Plans.			X
Discussion: The Proposed Action will not affect Objective B of Section XI of the City and County of Honolulu General Plan related to government operations and fiscal management.			

4.2.2 Primary Urban Center Development Plan

The Project is located within the Primary Urban Center (PUC) Development Plan (DP) area, which extends from downtown Honolulu to Pearl City in the west to Wai‘alae-Kahala in the east. The PUC is home to almost half of O‘ahu’s population and three quarters of all jobs. The Primary Urban Center Development Plan (June 2004) provides a vision for the PUC in the areas of land use, transportation, infrastructure, and public facilities. It also provides policies and guidelines for achieving that vision. The City’s Land Use Map indicates that the project area lands are designated for Institutional uses. The proposed project is consistent with the following guidelines, policies and principles contained in the PUC Development Plan:

Table 4-6: Primary Urban Center Development Plan	S	NS	N/A

Table 4-6: Primary Urban Center Development Plan	S	NS	N/A
3. Land Use and Transportation			
3.1 Protecting and Enhancing Natural, Cultural, and Scenic Resources			
3.1.2 Policies			
Preserve historic and cultural sites. Preserve and protect sites that have high preservation value because of their good condition or unique features. Protection includes planning and design of adjacent uses to avoid conflicts or abrupt contrasts that detract from or destroy the physical integrity and historic or cultural value of the site. Retain, whenever possible, significant vistas associated with historic, natural and man-made features. Allow adaptive reuse of historic buildings to serve a new function and/or enhance interpretive value without destroying the historic value of a site.	X		
Preserve and protect natural resource and constraint areas. Establish an Urban Community Boundary to define the area for urban development. Place large contiguous areas of natural resource and constraint areas designated for Preservation, including all lands within the State Conservation District, outside of the Urban Community Boundary.			X
Preserve panoramic views of natural landmarks and the urban skyline. Preserve views of the Koolau and Waianae Mountain Ranges, Punchbowl, Diamond Head, Pearl Harbor and other natural landmarks. Maintain important view corridors within and across urban Honolulu and keep Downtown as the most prominent feature of the urban skyline. Views along the Pearl Harbor shoreline and the Pearl Harbor Historic Trail toward the mountains, shoreline, significant landmarks, and adjacent communities should be created and maximized wherever possible and appropriate.	X		
Improve access to shoreline and mountain areas. Provide continuous lateral access along the Honolulu waterfront and around the East Loch of Pearl Harbor, where urban activity is most intense. Maintain access to mountain hiking trails and increase opportunities for nature education and camping.			X
Provide parks and active recreation areas. Develop and maintain parks and other outdoor public spaces in a manner that expands opportunities for both active and passive recreation. Increase and enhance recreational open space in the most densely settled parts of the PUC.			X

Discussion: The Proposed Action will support historic and cultural sites relating to Section 3.1.3.1.

During a field investigation conducted, three potential historic properties were documented, including the L-shaped retaining wall, a stone pathway, and basalt curbstones along University Avenue. Honua's study found that the project effect determination is "no historic properties affected".

Currently, there are two historic building situated within the project area, consisting of the Charles Atherton House and the Mary Atherton Richards House. The Mason Architects study outlines that the proposed demolition of the rear wings of the Charles H. Atherton house along with the construction of a building that extends adjacent beyond its existing envelope could potentially adversely impact the historic character of the structure as the scale and massing of the new building would visually overwhelm the historic YMCA structure. As for the Mary Atherton Richards House the proposed action of demolishing the building and redeveloping a new building adjoined to the existing YMCA building would have an adverse effect due to demolition of the building. Mitigation measures are required for adverse effects to historic resources. The Policy of "Preservation" detailed in the Administrative Rules Chapter 13-275(Rules Governing Procedures for Historic Preservation Review for Governmental projects covered under sections 6E-7 and 6E-8, HRS) states "preservation may include avoidance of the effect and protection, rehabilitation, restoration, or reconstruction". ~~The subject study outlines that it may be possible to implement design modifications to the proposed plan to minimize the adverse impacts anticipated to the historic character of the existing resources on site~~. As project design progresses, the design team will endeavor to minimize, to the extent practicable, the scale and historical context of the proposed development while balancing the density necessary for it to viably achieve the purpose and need as well as the goals and objectives of the proposed action as outlined in the subject EA.

Table 4-6: Primary Urban Center Development Plan	S	NS	N/A
Moreover, the Proposed Action will preserve the panoramic views as indicated in Figure 3.1 from the Ala Wai Canal Promenade toward the Koʻolau Range. The Project will be approximately six stories in height that will run the entire length of the parcel. The Project will not compromise the view as it is in character with the surrounding land uses being adjacent to UHM.			
3.2 Neighborhood Planning and Improvment			
3.2.2 Policies			
3.2.2.1 Neighborhood Planning			
Develop a system for collaborative neighborhood planning. Planning for neighborhood improvement must be undertaken at the neighborhood level. Neighborhood planning is a collaborative enterprise involving residents, business and property owners, government agencies, and others who have a stake in the neighborhood.	X		
Cultivate existing and new "neighborhood centers." Neighborhoods need central places where people gather for shopping, entertainment, and/or recreation. The center of a neighborhood could be a public plaza or a recreation complex, or a commercial town center, with a grocery store and other shops and services. It could have a public park or a plaza linked to shops. Cultivating neighborhood centers entails investment in parks and pedestrian street improvements.			X
Promote mixed land uses. Office, retail, and community service uses can coexist with residential uses; and there are a number of opportunities for them to support each other. In traditional single-family neighborhoods, groupings of small stores provide convenient service and a place to meet neighbors. In the PUC's in-town neighborhoods, both residential and office development support retail and other services. Neighborhoods with a strong mix of uses have activity 24 hours a day. Residences providing "eyes on the street" contribute to neighborhood safety.			X
Create parks that draw people and activity. The PUC should have a range of parks. While all provide open space and relief from buildings and traffic, some should provide for organized sports and fitness activities, and others should function more as neighborhood gathering places. In the PUC, development of one or two large sports complexes with substantial parking could provide for league play of all kinds, while smaller parks could be used in inventive ways to meet the needs of their surrounding neighborhoods. Like other cities throughout the world, plazas and open spaces that attract people and activity are integrated with churches, shops, and other buildings.			X
Make streets "pedestrian-friendly." There are many opportunities to create street environments that invite pedestrian use, such as widening sidewalks, planting trees to provide shade and buffer pedestrians from vehicular traffic, and narrowing intersections to provide shorter and safer pedestrian crossings. The Land Use Maps (Maps A.4, A.5 and A.6) show primary pedestrian routes. These streets and others identified through neighborhood planning should be given high priority for pedestrian improvement.			X
Make major streets which connect communities convey neighborhood identity. The identifying characteristics that give neighborhoods their unique visual signatures or identities should be emphasized and conveyed by the streets that connect them to other places. To help accomplish this, landscape and other streetscape design for major streets which serve as principal routes connecting two or more neighborhoods should reflect the unique identities of each neighborhood and, where possible, should provide open spaces between them which create significant public views or access to mauka or shoreline resources.			X
3.2.2.2 Mauka Residential Neighborhoods			

Table 4-6: Primary Urban Center Development Plan	S	NS	N/A
Density. Lower-density residential areas may have single-family residences and townhouse apartments at a density of five to 12 dwelling units per acre, with predominantly two-story building heights. Areas zoned for apartment use may have higher densities.			X
Appropriate Building Design. For institutional and other nonresidential uses allowed within lower-density residential areas, provide guidelines for the location and design of buildings, service areas, and pedestrian and vehicular access. In general, street-facing building elements should be attractive, designed for human scale, and have clear points of entry. Service and utility elements should be located out of sight from the street and away from residences.	X		
3.2.2.3 In-Town Residential Neighborhoods			
Density. Areas close to transit lines and the major east-west arterials should be zoned for medium-density residential, which may range from 13 to 90 units per acre, or high-density residential mixed use, which may range up to 140 units per acre. Neighborhoods in these zones would also include reinforcing uses which support resident lifestyle and livelihood choices, such as convenience or neighborhood stores, dining establishments, professional and/or business services, or other similar activities.			X
Building Heights. Establish maximum desired building heights in apartment-zoned districts on the basis of viewplane studies to preserve views of natural landmarks as indicated in Section 3.1. Otherwise, the maximum building height for districts zoned low-density apartment should be approximately four stories or 40 feet. For areas zoned medium-density apartment, the maximum desired building height should be either 60 feet or the present height of the building occupying the lot. It is expected that with these criteria, building heights for most in-town residential neighborhoods, including Moiliili, McCully, and other established neighborhoods between Ala Moana and the University of Hawaii would not exceed currently allowed heights. Given market conditions, development feasibility, and future incentives and standards encouraging the enhancement and development of livable neighborhoods, such districts may experience lower than currently sanctioned building heights.	X		
Building Design and the Streetscape Environment. Neighborhood plans should distinguish between principal or “front door” streets that give a neighborhood the opportunity to “put on its best face,” and secondary or local streets where a variety of activities are appropriate or where service is the main function. Utilitarian elements such as service yards, parking lots, or utilities should be located on nonprincipal streets in ways that support efficient patterns of circulation.	X		
3.2.2.4 Shopping and Retail Business Districts			
Community/Neighborhood Commercial. These commercial areas should be located within and should primarily serve lower-density residential neighborhoods. Generally 10 acres or less in land area, these districts or clusters of establishments typically have service stations, grocery and sundry stores, and other small businesses serving residential customers. Buildings are generally one or two stories in height. While they vary greatly in total size and number of business establishments, a Community/Neighborhood Commercial area typically has no more than 200,000 square feet of commercial floor area.			X
District Commercial. District Commercial includes a wide variety of commercial uses located in the core areas of the Primary Urban Center. These districts typically have larger facilities and serve larger populations than community/neighborhood commercial districts. They may include major office buildings, shopping centers, and older commercial streets that serve a district-wide, regional or islandwide population. Mixed uses, including medium to higher density residential uses where appropriate, and higher densities are encouraged in these areas. Downtown should have the tallest			X

Table 4-6: Primary Urban Center Development Plan	S	NS	N/A
buildings on Oahu. In other areas, maximum building heights should be established on the basis of viewplane studies to preserve views of natural landmarks.			
Commercial streets. Enliven commercial streets by providing wide sidewalks and trees for shade, and encouraging property owners to build to the sidewalk edge. Vital urban neighborhoods rely on high pedestrian activity. Storefronts create interest and stimulate pedestrian activity along the street, especially when they are built to the property line and meet the public sidewalk.			X
District-wide parking. Support older commercial districts and the continued use and rehabilitation of small commercial lots by providing conveniently located municipal parking. In the past, the City organized parking improvement districts and built centralized parking in Downtown and Kaimuki.			X
Integration of shopping centers with adjacent neighborhoods. Ensure that all shopping areas integrate well with adjacent residential neighborhoods. Require safe, pleasant, pedestrian connections between shopping establishments and their host neighborhoods. Encourage the planning and development of centers or clusters of shopping establishments to have their shops rather than parking lots face and be adjacent to abutting neighborhoods. Wherever possible and appropriate, encourage compatible or seamless design and landscape treatment of public routes and thoroughfares between residential and shopping areas. To the greatest extent possible, avoid placing service uses adjacent to resident areas and major frontages. Efforts should be made to appropriately locate and distinguish between front door and service zones.			X
Discussion: The Proposed Action will support the policies of 3.2.2.1 through 3.2.2.3 of the PUCDP. On 9/1/2019 the Manoa Neighborhood Board voted upon developing a system for collaborative neighborhood planning and involved a discussion of the proposed project. The Project will be conform to building height limits specified within UHM's existing Plan Use Review Permit, which establishes their development standards, while the design of the building takes into account the surrounding neighborhood characteristics.			
3.3 In-Town Housing Choices			
3.3.2 Policies			
Promote people-scaled apartment and townhouse dwellings in low- or mid-rise buildings oriented to the street. Promote buildings that are modest in height and have a pedestrian entrance facing the street. Encourage the use of ground-floor space for shops that will serve residents and contribute to a pedestrian-oriented neighborhood. This policy entails revising zoning regulations.	X		
Improve the feasibility of redeveloping small lots. Remove disincentives for townhouse and low-rise apartment development on smaller lots zoned for multifamily dwellings. This policy entails revising zoning regulations.			X
Reduce costs for apartment homes. Reduce construction costs and promote low-rise buildings by allowing less expensive building construction types while maintaining health and safety. Reduce land costs by allowing greater dwelling unit density while limiting building volume consistent with promoting livable neighborhoods. This policy entails revising building and zoning regulations.			X
Provide adequate parks and schools for in-town neighborhoods. Community parks and recreation facilities should be provided in and near residential neighborhoods. To attract young families, access to elementary schools must be assured.			X

Table 4-6: Primary Urban Center Development Plan	S	NS	N/A
Expand the capacity of infrastructure, including water supply, sewers, and storm drains. Government needs to lead both planning and investment in renewing and expanding infrastructure. To remedy district- or neighborhood-scale infrastructure constraints is beyond the capability of individual landowners. Likewise, paying for relief lines and larger-scale projects that will benefit multiple landowners requires government leadership in providing long-term financing and apportioning costs.			X
Support the retention, rehabilitation, and improvement of older, low-rent apartment buildings. Many older, walk-up apartment buildings constructed prior to the 1969 Comprehensive Zoning Code do not conform to current zoning or building standards but collectively comprise a valuable reservoir of low-cost rental housing. The City should relax zoning requirements to encourage the rehabilitation and improvement of these buildings.			X
Preserve the current inventory of affordable rental housing units. The City should assure that the current inventory of affordable rental units, whether owned by the city or not, is preserved and retained as affordable rentals.			X
Provide for special needs housing. Allow housing for people with special needs, such as group homes for the disabled or congregate living and care homes for the elderly, subject to special development standards or permit review. Promote the dispersal of special needs housing among various neighborhoods and avoid overconcentrating facilities in just a few areas.			X
Provide incentives and cost savings for affordable housing. Provide exemptions from zoning and building codes for housing projects that meet established standards of affordability, on a case-by-case basis.			X
Provide for high-density housing options in mixed-use developments around transit stations. This type of “transit-oriented development” facilitates transit use and allows for increased densities without generating increased vehicular congestion.			X
Discussion: The Proposed Action supports in-town housing choices relating to Section 3.3 by providing people-scaled apartment dwellings in a mid-rise building oriented to the street. The proposed project is modest in height and has a pedestrian entrance facing the street. The proposed project will have its zoning revised in order to utilize its ground-floor space for shops that will serve residents and contribute to a pedestrian-oriented neighborhood.			
3.4 The Pacific’s Leading City			
3.4.2 Policies			
3.4.2.1 Honolulu and Pearl Harbor Waterfronts			
Create public open space along the Pearl Harbor waterfront and strengthen the physical and visual connections between the urban center and the water			X
Improve mauka-makai pedestrian and bicycle circulation across Kamehameha Highway. Developing physical access to the Pearl Harbor waterfront demands substantial improvements to pedestrian and bicycle access across Kamehameha Highway.			X
Redevelop the Downtown/Iwilei waterfront. Reroute through traffic to a new Sand Island parkway and harbor tunnel thoroughfare, and replace the makai portion of Nimitz Highway with a new shoreline pedestrian promenade and mixed-use commercial/recreational/residential complexes. Adopt appropriate measures to enhance the attractiveness of the Nimitz corridor and public and private responsibilities to implement and maintain such improvements. By creating a new parkway across Sand Island and a tunnel beneath the Harbor entrance, Airport-to-Waikiki traffic (and all other throughtraffic not destined for the Iwilei/Downtown area) will bypass this			X

Table 4-6: Primary Urban Center Development Plan	S	NS	N/A
unsightly industrial section and significantly reduce the traffic demand on Nimitz Highway through town. This will enable the Ewa-bound mauka section of the highway to be converted to a two-way local access street. It will also allow the Waikiki-bound makai section to be converted to a major shoreline promenade and waterfront activity area, providing space for restaurants, shops, indoor and outdoor entertainment, and recreation areas. This area would also hold potential for development of low- to mid-rise housing.			
3.4.2.2 Visitor Facilities			
Adopt and implement a plan for a vibrant and livable Waikiki. This plan needs to address the quality of the resident experience as well as the quality of the visitor experience. Based on development parameters set by the Waikiki Special District, the plan should encompass mobility, the quality of the street environment for pedestrians, public spaces, the scale and design of new buildings, and Waikiki's relationship to the Convention Center and neighboring districts.			X
Support attractions that are of interest to both residents and visitors in the Ala Moana/Kakaako/Downtown corridor. Opportunities include State sponsored waterfront commercial and cultural attractions around the Kewalo Basin area; retail/entertainment facilities around Ala Moana Center, Victoria Ward Centers and Kamehameha Schools properties; and improvements to serve visitors in the Capitol District, Aloha Tower, and Chinatown.			X
Provide opportunities for the development of visitor units in the Ala Moana/Kakaako/Downtown corridor. Hotels serving the Convention Center should be within a 5-minute walk (one-quarter mile) and located on commercially zoned parcels along major thoroughfares. Those in the Downtown area should be in the area zoned BMX-4 or the Aloha Tower complex.			X
Provide a transit link along the Ala Moana/Kakaako/Downtown corridor. The City should assure that there is convenient transit service between visitor accommodations and the visitor attractions along the corridor. Visitor oriented transit should utilize at-grade trolley types of vehicles and could be publicly or privately operated.			X
Provide opportunities for the development of smaller-scale visitor accommodations (i.e., inns and lodges) in existing commercial centers. These could serve resident and business needs (visiting family, friends and business associates) as well as visitors looking for an alternative to the resort enclave. Potential areas include Kapahulu, Kaimuki, the King/Beretania corridor, Kapalama, Pearlridge, and Pearl City. Development of such facilities should consider the community's preferences and be integrated with the surrounding neighborhood.			X
Allow Bed & Breakfast establishments (but not transient vacation units or TVU's) in residential neighborhoods. With adequate parking, community involvement, and other regulatory controls, B&Bs provide a highly integrated, well-supervised, low-impact form of visitor accommodation. For residents, operating a B&B is a viable home occupation and a means to retain and reuse homes in older neighborhoods.			X
3.4.2.3 Technology Business, Office Facilities			
Stimulate development of high technology and knowledge-based industries. Take advantage of Honolulu's active urban ambience to attract high-technology businesses. Use State lands in Kakaako for a campus dedicated to biomedical research and other high-technology businesses. Encourage investment in infrastructure in commercial buildings to accommodate and attract high-technology and biotechnology businesses.	X		
Encourage street-front retail. Office buildings should have retail stores, entrances, and windows fronting the principal street.	X		

Table 4-6: Primary Urban Center Development Plan	S	NS	N/A
Provide usable open space. Zoning requirements and bonus provisions for open space associated with larger office buildings should specify design guidelines for usable plazas, parks, and arcades. Key elements of usable open space are enclosure, shade, seating, and location at street level.	X		
3.4.2.4 Military, Airport, Harbor, and Industrial			
Support continuation of military uses. National defense objectives and budget priorities determine the military bases and functions located in the Primary Urban Center and the state as a whole. The City should support long-range land use planning by the military services and coordinate with them to achieve common goals of employment, housing, and recreation.			X
Integrate civilian and military residential communities. The City should work with the military services to link adjacent residential communities through the use of connecting roadways, bikeways, walkways, landscape features, and/or architectural scale and character.			X
Allow a mix of industrial and commercial uses. Allow a broader mix of commercial uses in the Airport and Bougainville industrial districts. The Airport district should include office, hotel, and retail uses that are compatible with airport operations, as well as existing light industrial uses. The Bougainville district should include uses that support surrounding residential neighborhoods.			X
Enhance Honolulu Harbor and harbor-related uses. Reserve areas around Honolulu Harbor, particularly around Kapalama Basin and the Sand Island container yards, for harbor-related uses.			X
Support industrial uses in Kalihi-Palama industrial districts. Commercial uses along the Nimitz, Dillingham, King, Kalihi, and Waiakamilo corridors should be recognized and encouraged. In industrial districts where residential uses have endured for many years – i.e., Kalihi Kai and Kapalama – such uses should be allowed to continue, and should be rehabilitated and improved.			X
Promote compatibility with the surrounding urban and natural environment. Where industrial uses are mixed with or adjacent to residential communities or natural areas, mitigate visual, noise, and other environmental impacts by adopting performance standards.			X
Support development of adequate warehousing facilities to support increased economic activity. Encourage development and maintenance of warehouse space of sufficient quality to prevent shortages and support growing businesses.			X
3.4.2.5 Aiea-Pearl City Town Centers			
Define the role of town centers. Establish the “Pearlridge” area as the Pearl Harbor Regional Town Center, and strengthen the physical and visual connection between this urban activity center and the Pearl Harbor waterfront. Other town centers at Pearl City, Waimalu, Aiea, and Halawa should serve as more localized or specialized activity and service areas.			X
Promote mixed land use. Town centers should support some form of mixed land use to respond more flexibly to market needs and to reduce dependency on the private automobile for local travel. The Pearl Harbor Regional Town Center should be designated for a greater diversity of uses than the other town centers, emphasizing an integration of medium- or higher-density residential and commercial development. Land use designations and design standards should be oriented toward assuring compatibility of building forms and uses, creating street connections, and providing a smooth transition between town centers and adjacent residential neighborhoods.			X
Facilitate pedestrian, transit, and bicycle improvements. There should be major			X

Table 4-6: Primary Urban Center Development Plan	S	NS	N/A
improvements to transportation facilities and services, with particular emphasis on pedestrian, bicycle, and public transit modes along Kamehameha Highway, and commuter travel on the H-1 Freeway and in the Aloha Stadium vicinity (see Figure 3.17: Pedestrian Network Concept for Pearl Harbor). Design standards for new development in the town centers – especially the Pearl Harbor Regional Town Center – should encourage pedestrian and transit travel.			
Discussion: The Proposed Action will support the policies of 3.4.2.3. The Proposed Project will create a world class student housing, entrepreneurship / innovation center. The academic programming and research support that will be offered at the Innovation Center has the potential to both: a) develop a much needed third major economic sector for the State of Hawai‘i, that will be able to create high-quality living- wage jobs, and b) prepare students to address the challenges and opportunities faced by Hawai‘i, and the world, in a quickly evolving digital century. The facility will include street front retail spaces coupled with a public plaza in front of the building. Participants will have access to educational programs provided by PACE which also includes free advice by experienced mentors, startup funds, free to low-cost office space, and access to entrepreneurial interns. The academic programs planned for the Innovation Center would support three phases of the startup process including Ideation, Acceleration, and Incubation which is discussed in further detail in Section 2.2. Generally speaking, in the long-term, the Proposed Action will provide significant opportunities for the incubation and development of commercial high-technology-centered start-ups and businesses ventures which may potentially generate jobs in specialized fields otherwise not-common here in the islands.			
3.5 Develop a Balanced Transportation System			
3.5.2 Policies			
Implement land use strategies to achieve a balanced transportation system. To improve the quality of life in the Primary Urban Center and to accommodate growth, development initiatives and regulatory controls should promote the growth of sustainable and appropriate alternative urban travel modes such as transit, walking, and bicycling.			**X**
Improve the public transit system, including development of a rapid transit component. Improvements to the transit system should be targeted to accommodating trans-PUC travel and making neighborhood service more convenient. A rapid transit component is needed to serve the high-volume east-west corridor, connect activity centers, and provide transportation capacity in place of increased roadways.			**X**
Implement Transportation Demand Management strategies. Due to limited land area and high costs, it is increasingly necessary to shift from increasing roadway and parking capacity to policies and practices that reward use of transit and other alternative modes.			**X**
Review existing plans and establish priorities for roads and road improvements. Conduct a comprehensive review of roads and designate those which should receive priority treatment for transit, bike routes, and pedestrian routes, as well as the principal arterial and collector network for automobile travel.			**X**
Implement the Honolulu Bicycle Master Plan. Institutionalize the policy that every street and highway on which bicycles are permitted to operate is a “bicycle street,” designated and maintained to accommodate shared use by bicycles and motor vehicles.			**X**
Enhance and improve pedestrian mobility. Create special pedestrian districts and corridors and a regional network of pedestrian facilities. Comprehensively address pedestrian safety concerns related to vehicle speeding and excessive volumes on local streets and neighborhood collector streets.			**X**

Table 4-6: Primary Urban Center Development Plan	S	NS	N/A
Encourage the full use of existing private and public parking garages. Encourage private parking garage owners to rent underused parking stalls within commercial buildings and large-scale residential projects.	X		
Discussion: The Proposed Action supports Section 3.5 of the Primary Urban Center Development Plan by providing an on-site parking garage that will be open to the public.			
4. Infrastructure and Public Facilities			
4.1 Water Allocation and System Development			
4.1.2 Policies			
Integrate resource management of all potable and nonpotable water sources, including groundwater, stream water, storm water, and wastewater effluent.			X
Adapt water conservation practices in the design of new developments and modification of existing uses, including landscaped areas.			X
Implement upgrades and capacity improvements to serve projected population increases.			X
Protect and maintain watersheds to ensure an adequate supply of high quality water with sufficient infiltration recharge into groundwater aquifers.			X
Discussion: The Proposed Action will not have affect Section 4.2.1 of the Primary Urban Development Plan.			
4.2 Wastewater System			
4.2.2 Policies			
Implement wastewater collection system improvements to provide adequate service and sound facilities to existing neighborhoods and timely increases in system capacity to areas planned to undergo improvement or change in use.			X
Implement adequate and timely upgrades/expansion of wastewater treatment facilities to meet the growth demands of the PUC.			X
Discussion: The Proposed Action will not have affect Section 4.2.2 of the Primary Urban Development Plan.			
4.3 Electrical Power			
4.3.2 Policies			
Support retention and upgrade of the Waiau and Honolulu Power Plants as part of a strategic plan to improve the reliability of the Primary Urban Center's electrical power system.			X
Promote and implement energy conservation measures and integrated resource planning.			X
Planning and building of new or relocated transmission lines should take into consideration system and cost concerns, and the impacts on the environment. Options to place utility lines underground should be considered, and priorities should be established.			X

Table 4-6: Primary Urban Center Development Plan	S	NS	N/A
Discussion: The Proposed Action will not have affect Section 4.3.2 of the Primary Urban Development Plan.			
4.4 Telecommunications Facilities			
4.4.2 Policies			
Minimize the visual impacts and potential health hazard of new facilities.			X
Discussion: The Proposed Action will not have affect Section 4.4.2 of the Primary Urban Development Plan.			
4.5 Solid Waste			
4.5.2 Policies			
Reduce the solid waste stream by encouraging recycling and reuse.			X
Reduce dependence on landfills by encouraging alternative waste disposal technologies.			X
Discussion: The Proposed Action will not have affect Section 4.5.2 of the Primary Urban Development Plan.			
4.6 Stormwater Systems			
4.6.2 Policies			
Require methods of retaining or detaining stormwater for gradual release into the ground as the preferred strategy for the management of stormwater. Where feasible, utilize open spaces including parking lots, landscaped areas, parks, and golf courses to detain or infiltrate stormwater flows to reduce their volume and runoff rates. (City Council Resolution No. 94-296).			X
Manage stormwater flows through best management practices to minimize stormwater runoff and peak discharge rates.			X
Preserve stream and estuarine habitats.			X
Discussion: The Proposed Action will not have affect Section 4.6.2 of the Primary Urban Development Plan.			
4.7 School and Library Facilities			
4.7.2 Policies			
Support the development of a high quality educational system of schools and post-secondary institutions that increase the attractiveness of the Primary Urban Center as a place to live and work.	X		
Work with the Department of Education to develop innovative shared-use facilities, particularly on City-owned school properties.			X
Discussion: The Proposed Action will support Section 4.7.2 of the Primary Urban Development Plan. The Proposed Action will create a world-class student housing, innovation and classroom complex, currently unavailable on the UHM Campus. The Project is an innovative P3 project that will strengthen community assets and facilitate economic growth for UH, as well as the State.			

Table 4-6: Primary Urban Center Development Plan	S	NS	N/A
4.8 Civic and Public Safety Facilities			
4.8.2 Policies			
Provide adequate staffing and facilities to ensure effective and efficient delivery of basic governmental service and protection of public safety.			**X**
Discussion: The Proposed Action will not have affect Section 4.6.2 of the Primary Urban Development Plan.			

4.2.3 City and County of Honolulu Zoning

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

Discussion:

According to the City and County of Honolulu Department of Planning and Permitting (DPP), the project area lies within a residential (R-5) zone (See Figure 4-3). On Oʻahu, the City & County of Honolulu, Department of Planning and Permitting would generally administer zoning regulations under its Land Use Ordinance.

However, following this EA process, the subject Project will begin the Plan Use Review process to bring the property into the UHM Campus. The Project would then be regulated by the development standards described therein, which supersede the City and County zoning regulations.

4.3 Permits and Approvals

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

State of Hawaiʻi

Department of Land and Natural Resources

- Chapter 6E, HRS, State Historic Preservation Law

Department of Health

- National Pollutant Discharge Elimination System
- Disability and Communication Access Board
- Pollution Control - Noise Permit

City and County of Honolulu

Department of Planning and Permitting

- Plan Use Review Major Modification
- Building Permit
- Grading Permit/Trenching Permit
- Certificate of Occupancy
- Construction Dewatering

- Wastewater Sewer Connection
- Stormwater Drain Connection
- Excavation and Repair of Streets and Sidewalks

Board of Water Supply
- Water Connection

Department of Transportation
- Street Usage Permit

Honolulu Fire Department
- Plan Review

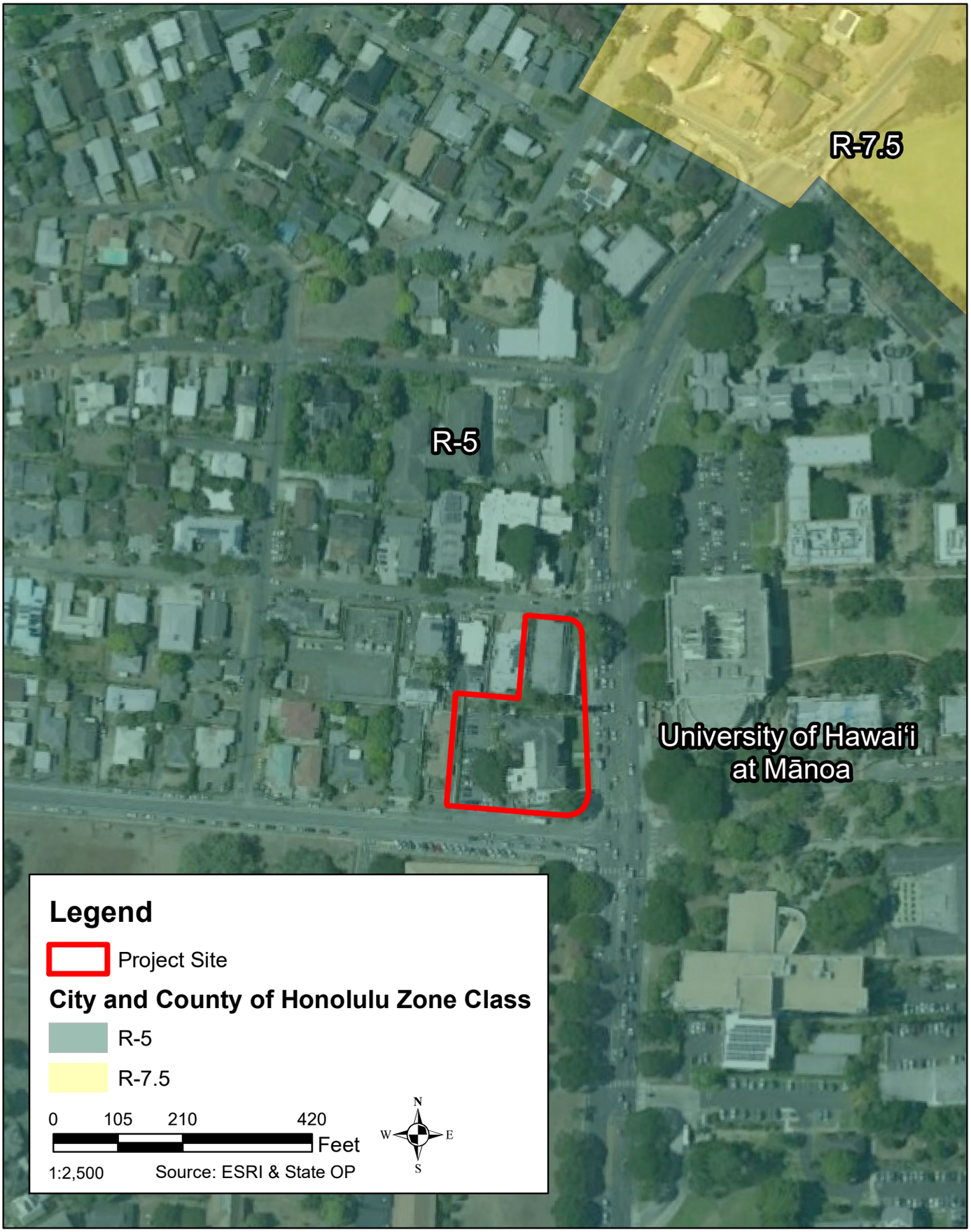

FIGURE 4-3

City and County of Honolulu Zoning Map

Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Honolulu, O'ahu, Hawai'i

5. ALTERNATIVES

Hawaiʻi Administrative Rules (HAR) § 11-200.1-18 (2019) requires an environmental assessment to identify and consider alternative means to realize the purpose and need of the proposed action.

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

5.1 No Action Alternative

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

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

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

5.2 Alternative Design Schemes

In the course of developing the proposed project, the design team considered several different alternative design schemes for the conversion of the existing structure into a functional Mixed Use Student Housing Innovation and Entrepreneurship Center.

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

Alternative locations were not considered because no other suitable lands in the vicinity of the university are available for development under a form of public-private-partnership similar to the one formed for the subject project. Privately owned lands in the project area could accommodate the proposed project however acquisition costs would be prohibitive and counter-productive to the implementation of the proposed action, and such a project would be undertaken entirely as a separate private venture.

Comparable, privately developed facilities would fail to satisfy the purpose and need of the proposed action and would not be capable of integration with the programs and campus of the University of Hawaiʻi. Consequently, the potential development of a similar project on privately held lands is not a feasible alternative.

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6. DETERMINATION OF FONSI

The proposed project involves the following improvements:

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

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

No natural or cultural resources of significance were identified on the proposed project site. As the project area is comprised of heavily disturbed soils, it is unlikely that there are any cultural properties and/or human skeletal remains. In the event of unexpected discovery of historic or archaeological resources, the SHPD will be immediately notified for appropriate response and action. The Project Site features two buildings with historical significance, The Charles H. Atherton House and The Mary Atherton Richards House. As documented, it was identified that both the Charles H. Atherton House and the Mary Atherton Richards House are eligible for listing on the State of Hawai'i and Federal National registers of historic places under Criteria A and C. Pursuant to Criteria A, both structures are eligible due to their association with the development of the YMCA and YWCA in Hawai'i, and the historical association with the development of the University of Hawai'i at Mānoa. Pursuant to Criteria C, the Charles H. Atherton House represents a fine example of Italian Renaissance style and the Mary Atherton Richards represents a fine example of the Contemporary Style. The Mason Architects study (Appendix B) outlines that the proposed demolition of the rear wings of the Charles H. Atherton house along with the construction of a building that extends adjacent beyond its existing envelope could potentially adversely impact the historic character of the structure as the scale and massing of the new building would visually overwhelm the historic YMCA structure. As for the Mary Atherton Richards House the proposed action of demolishing the building and redeveloping a new building adjoined to the existing YMCA building would have an adverse effect due to demolition of the building.

It is important to note that the subject proposed project is currently progressing through an iterative design review process that is typical of early, conceptual project planning at this stage of project development. As project design progresses, the design team will endeavor to minimize, to the extent practicable, the scale and historical context of the proposed development while balancing the density necessary for it to viably achieve the purpose and need as well as the goals and objectives of the proposed action as outlined in the subject EA. Implementation of the mitigation measures discussed in Section 3.6.1, and as further identified through HRS §6E review as condition of final project design and construction would clearly reflect that appropriate measures are taken to avoid, minimize and mitigate potential impacts to historic properties that could result from the construction and operation of the proposed project.

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

The proposed project will not curtail the range of beneficial uses of the environment. The operations and uses associated with the Project are generally consistent with the character of the adjacent / surrounding neighborhood and are anticipated to seamlessly integrate with the campus and programs of UH.

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

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

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

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

In the long-term, the proposed project will serve as a critical facility for a range of programs that serve as a platform for the facilitation of the growth and development of entrepreneurship, technology, and business in Hawai'i.

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

No identifiable adverse short- or long-term impacts on public-health are anticipated to result from the construction and operation of the proposed project. Typical short-term construction-related impacts (e.g., noise and air quality) are anticipated, however, they will be temporary in nature and will comply with State and County regulations.

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

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

(7) Involve a substantial degradation of environmental quality;

The proposed project is not anticipated to substantially degrade environmental quality. Long-term impacts to air and water quality, noise levels and natural resources

will be minimal. Typical short-term construction-related impacts (e.g., noise and air quality) are anticipated, but will be temporary and will comply with State and County regulations.

(8) Be individually limited but cumulatively have substantial adverseeffect upon the environment or involves a commitment for larger actions;

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

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

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

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

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

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

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

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

Exhaust emissions from construction vehicles are anticipated to have negligible impact on air quality in the project vicinity as the emissions would be relatively small and readily dissipated. In the long-term, some vehicular emissions related to

operations at the project site are expected, however, due to the generally prevailing tradewinds, the emissions would be readily dissipated.

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

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

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

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

(11) Have a substantial adverse effect on or be likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;

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

According to the FIRM, the project site is designated Zone X, an area determined to be outside of the 0.2% annual chance floodplain. There are no base flood elevations or depths shown within this zone.

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

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

(13) Requires substantial energy consumption or emit substantial greenhouse gases.

The construction and operation of the proposed project will not require a significant level of energy consumption. The primary demand for energy will be for night-time security lighting.

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7. CONSULTATION

7.1 Pre-Assessment Consultation

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

Federal Agencies

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

State Legislative Branch

Senator Brian Taniguchi
Senator Les Ihara
Representative Dale Kobayashi
Representative Della Au Belatti

State Agencies

✓ Department of Accounting and General Services
Department of Agriculture
Department of Business, Economic Development and Tourism (DBEDT)
DBEDT, Strategic Industries Division
DBEDT, Hawaii State Energy Office
DBEDT, Land Use Commission
DBEDT, Office of Planning
Department of Defense
Department of Education
✓ Department of Health (DOH)
DOH, Office of Environmental Quality Control
DOH, Environmental Management Division
DOH, Hazard Evaluation and Emergency Response Division
✓ DOH, Wastewater Branch
DOH, Safe Drinking Water Branch
Department of Land and Natural Resources (DLNR)
DLNR, State Historic Preservation Division
DLNR, Office of Coastal and Conservation Lands
Department of Hawaiian Home Lands
Department of Transportation (DOT)
DOT, Airports Division
Hawaiʻi State Library
Office of Hawaiian Affairs
Office of Planning
University of Hawaiʻi at Mānoa (UHM)
UHM Environmental Center

City Council

Councilmember Ann Kobayashi

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
- ✓ Honolulu Fire Department
- ✓ Honolulu Police Department
- Office of the Mayor

Utility Companies

- ✓ Hawai‘i Gas
- Hawaiian Electric Company
- Hawaiian Telcom
- ✓ Spectrum Hawai‘i

Other Interested Parties and Individuals

Diamond Head/Kapahulu/St.Louis Heights Neighborhood Board No. 5
Mānoa Neighborhood Board No. 7
McCully/Mō‘ili‘ili Neighborhood Board No.8
Hawai‘i State Library
Mānoa Public Library

7.2 Draft EA Comments

Twelve (12) comment letters were received during the public and agency comment period for the subject EA, which began with the publication of the Draft EA in the State Office of Environmental Quality Control’s *Environmental Notice* March 8, 2020 publication which ended 30 days later on April 7, 2020. The comment letters and responses are reproduced herein as Appendix F.

The following agencies and interested parties commented on the Draft EA:

State Agencies

Department of Health, Clean Air Branch

City and County of Honolulu Agencies

Department of Planning and Permitting

Other Interested Parties and Individuals

Hawai‘i Historic Foundation
Mālama Mānoa
Mānoa Outdoor Circle

Sue Akau
Paula & Chris Crabb
David Hu
Valerie Hu
Elizabeth W. Hueu
Mary Ellen Nordyke-Grace
Tom Nordyke

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Appendix A:

Archaeological Literature Review and Field Inspecition
Honua Consulting, Inc.

Archaeological Literature Review and Field Inspection For Atherton Student Housing Project, Waikīkī Ahupuaʻa, Honolulu (Kona) District, Oʻahu Island TMK: [1] 2-8-016:001

Prepared for

WILSON OKAMOTO CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

Prepared by
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Nathan J. DiVito, B.A., and
Trisha Kehaulani Watson, J.D., Ph.D.

HONUA CONSULTING
Honolulu, Hawaiʻi

December 2019

Management Summary

This Literature Review and Field Inspection (LRFI) was completed by request of the Wilson Okamoto Corporation and is for proposed renovations to the Atherton Student Housing Project, located in Waikīkī Ahupuaʻa, Honolulu (Kona) District, Island of Oʻahu TMK: [1] 2-8-016:001. The property area includes 0.8 acres (34,848 square feet [sq. ft] or 3,237.49 square meters [sq. m]) of property and is located in the lowlands on Mānoa Valley, on University Avenue, at street address 1810 University Avenue. The project area is privately owned by the University of Hawaiʻi Foundation (UHF) Atherton Student Housing LLC, and is leased by the University of Hawaiʻi.

The proposed project plans to redevelop the existing property to a mixed use Student Housing, Innovation & Entrepreneurship Center. The project is proposed to include demolition of an existing historic building on the property (Mary Atherton Richards Home/Atherton YMCA, constructed 1959) and construction of two buildings estimated to be six stories in height. The new buildings are proposed to span the entire length of the parcel, to the north and west of the existing Charles Atherton Home (constructed 1932). Ground disturbance is proposed for demolition of a building, associated utilities, and landscaping.

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

The archaeological field inspection conducted for the current project included a 100% pedestrian survey of the traversable portion of the property area. Two historic buildings were observed within the project area, consisting of the Charles Atherton House (constructed 1932) and the Mary Atherton Richards House, also known as the Atherton YMCA (constructed 1959). Investigation of the two buildings was beyond the scope of the current project. An architectural survey of the interior and exterior of both buildings is currently being conducted by Mason Architects, Inc. Additionally, three surface features were also documented, including a L-shaped rock wall (Feature Honua 1), a stone pathway (Feature Honua 2), and basalt curbing along University Avenue (Feature Honua 3). This study found Features Honua 1 and 2 are not deemed significant under HAR 13-284-6 and no further work is recommended for the features. Honua 3 is deemed to have integrity and significance under Criterion a, as exhibiting a major trend along Honolulu streets in the latter half of the 1800's and early half of the 1900's. It is recommended to avoid and protect the basalt curbstones. If it is not possible to avoid them, then it is recommended that procedures for the treatment of curbstones be developed prior to commencement of construction activities. Where existing curbstones need to be removed for planned work to take place, it is recommended that curbstones should be salvaged and reinstalled in a similar design and pattern using the original materials.

This study finds the project effect determination is "no historic properties affected". However, due to historic use of the property area and the historic significance of the existing Atherton Buildings, it is recommended that archaeological monitoring be conducted in accordance with HAR 13-279 (Rules Governing Standards for Archaeological Monitoring Studies and Reports).

Table of Contents

Management Summary i

Section 1 Introduction 1

1.1 Project Background 1
1.2 Environmental Setting 1
1.2.1 Natural Environment 1
1.2.2 Built Environment 7

Section 2 Traditional and Historical Background 9

2.1 Traditional Background, Place Names, and Mo‘olelo 9
2.2 Mid-1800s, The Great Māhele 16
2.3 Late 1800s through Twentieth Century 19
2.3.1 University of Hawai‘i at Mānoa 24
2.3.2 Charles Atherton House and Mary Atherton Richards House 29

Section 3 Previous Archaeology 31

3.1.1 Thrum 1906a and 1906b 31
3.1.2 Nakuina 1907b 31
3.1.3 McAllister 1933 38
3.1.4 Ching 1968 38
3.1.5 Luscomb 1975 38
3.1.6 Barrera 1985 38
3.1.7 Rosendahl 1987 39
3.1.8 Kawachi 1988 39
3.1.9 Pietrusewsky 1989 39
3.1.10 Douglas 1990 39
3.1.11 Hammatt and Shideler 1991 39
3.1.12 Kennedy 1991, Cleghorn and Anderson 1992, Tomonari-Tuggle 1998a 39
3.1.13 Burtchard 1992a, 1992b, 1994, Liston and Burtchard 1996 40
3.1.14 Jones et al. 1994 40
3.1.15 Wolforth and Haun 1996 40
3.1.16 Tomonari-Tuggle 1998b 40
3.1.17 McIntosh and Cleghorn 2007 40
3.1.18 O’Hare et al. 2007 41
3.1.19 Dey and Hammatt 2008 41
3.1.20 Groza et al. 2008 41
3.1.21 Shideler and Hammatt 2008 41
3.1.22 Groza et al. 2009 41
3.1.23 Loynaz and Hammatt 2009 42
3.1.24 Hunkin and Hammatt 2009 42
3.1.25 Hammatt and Shideler 2010 42
3.1.26 O’Hare et al. 2010a and b 42
3.1.27 Hammatt and Shideler 2013 42
3.1.28 Mintmier et al. 2014 42
3.1.29 McElroy and Duhaylonsod 2016 43
3.1.30 Raff-Tierney et al. 2017 43

3.1.31 Thurman and Thetford 2019 43
3.2 Summary of Background Research 44

Section 4 Archaeological Field Inspection 45

4.1 Methodology 45
4.2 Survey Results 46
4.2.1 Mary Atherton Richards House (Atherton YMCA) 46
4.2.2 Charles Atherton House and Near Vicinity 47
4.2.3 Feature Honua 1 (L-Shaped Stone Retaining Wall) 49
4.2.4 Feature Honua 2 (Historic Pathway) 51
4.2.5 Feature Honua 3 (Historic Curbstones) 52

Section 5 Summary, Site Assessments, and Mitigation Recommendations 54

5.1 Site Assessments and Mitigation Recommendations 55

Section 6 References Cited 57

Appendix A *Ka Leo o Hawaii* 1939, Charles Atherton House Dedication 66

List of Figures

Figure 1. Portion of a 1998 U.S. Geological Survey (USGS) Topographic Quadrangle Map Showing the Project Area 2
Figure 2. Aerial Photo Showing the Location of the Project Area (2011 Orthoimage) 3
Figure 3. Tax Map Key (TMK): [1] 2-8-016 Showing the Project Area....4
Figure 4. Conceptual Construction Plan for the Atherton Student Housing Project 5
Figure 5. Conceptual Image for the Atherton Student Housing Project....6
Figure 6. Portion of a 1998 USGS Topographic Map with Soil Series Overlay Showing Anticipated Soils Within the Project Area (Foote et al. 1972) 8
Figure 7. Portion of a 1882 E.D. Baldwin "Hawaiian Government Survey of Manoa Valley" (Registered Map [RM] 1068) showing the Location of the Project Area....12
Figure 8. Portion of a 1897 M.D. Monsarrat Map of Honolulu showing the Location of the Project Area (RM 1910)....13
Figure 9. Portion of a 1913 W.E. Wall "Hawai'i Territory Survey Map" showing the Location of the Project Area (RM 2554)....20
Figure 10. Portion of a 1923-1924 W.E. Wall "Honolulu Watershed Forest Reserve Map" showing the Location of the Project Area (RM 2718)....21
Figure 11. Portion of a 1927 Sanborn Fire Insurance Map showing the Project Area 22
Figure 12. Portion of a 1927-1950 Sanborn Map showing the Project Area....23
Figure 13. Portion of a 1943 A. Lester Map of the University of Hawai'i Campus and Grounds (RM 3074)....28
Figure 14. 1932 *Ka Leo o Hawaii* Article on the Dedication of the Charles Atherton House 30
Figure 15. Portion of a 1998 USGS showing Previous Archaeological studies within a 1.5 mile radius of the Project Area 32
Figure 16. Portion of a 1998 USGS showing Historic Properties and Recorded Historic Properties in a 1.5 mile radius of the Project Area 33
Figure 17. Aerial Image Showing Pedestrian Survey Tracks and Documented Potential Historic Properties (Honua 1-3)....45
Figure 18. Overview Photo of the Mary Atherton Richards House (Atherton YMCA) from University Avenue looking northwest 46
Figure 19. Photo of the Mary Atherton Richards House (Atherton YMCA) from the Corner of Seaview and University Avenues looking southwest 47
Figure 20. Overview Photo of the Charles Atherton House from University Avenue looking west 48
Figure 21. Overview Photo of the Project Area along Metcalf Street looking west 48
Figure 22. Overview Photo of the Parking Area for the Charles Atherton House looking north..48
Figure 23. Photo of the North-South Portion of Feature Honua 1 looking west 49
Figure 24. Photo showing the Proximity of the East-West Portion of Feature Honua 1 to the Charles Atherton House looking east 50
Figure 25. Photo of the Eastern End of the East-West Portion of Feature Honua 1, looking north; also note Feature Honua 2 in the Foreground....50
Figure 26. Overview Photo of Feature Honua 2 looking west; note the End of Feature Honua 1 in the Background 51

Figure 27. Close-up Photo of Engraved Concrete Paver with Date at Feature Honua 2 looking west 51
Figure 28. Overview Photo showing Historic Curbstones, Feature Honua 3, Running Along University Avenue looking northwest 52
Figure 29. Overview Photo showing Historic Curbstones, Feature Honua 3, Running Along University Avenue looking south 53

List of Tables

Table 1. Listing of Place Names in the Vicinity of the Project Area.....10
Table 2. Table Listing Māhaele Data Near the Project Area.....17
Table 3. Table Listing Buildings and Structures of UH listed on the Hawai‘i Register.....25
Table 4. Table Listing Previous Archaeological Studies in the Vicinity of the Project Area 34
Table 5. Table Listing Encountered Potential Sites and Recommendations 56

Section 1 Introduction

1.1 Project Background

This project was completed at the request of Wilson Okamoto Corporation. Honua Consulting conducted this literature review and field inspection for the proposed Atherton Student Housing project located in Waikīkī Ahupuaʻa, Honolulu (Kona) District, Oʻahu Island, TMK [1] 2-8-016:001. The property area includes 0.8 acres of land (34,848 square feet [sq. ft] or 3,237.49 square meters [sq. m]). It is privately owned by the University of Hawaiʻi Foundation (UHF) Atherton Student Housing LLC, and currently leased by the University of Hawaiʻi. The property is bound by University Avenue to the east, Seaview Avenue to the north, Metcalf street to the south, and residential buildings to the west. The project area is shown on a U.S. Geological Survey (USGS) map (Figure 1), an aerial photo (Figure 2), and a Tax Map Key (TMK) (Figure 3).

The proposed project plans to redevelop the existing property to a mixed use Student Housing, Innovation & Entrepreneurship Center. The project is proposed to include demolition of an existing historic building on the property (Mary Atherton Richards Home/Atherton YMCA, constructed in 1959) and construction of two buildings estimated to be six stories in height. The new buildings are proposed to span the entire length of the parcel, to the north and west of the existing Charles Atherton Home (constructed in 1932). Ground disturbance is proposed for demolition of a building, associated utilities, and landscaping. A conceptual plan and image for the project is included as Figure 4 and Figure 5.

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

1.2 Environmental Setting

1.2.1 Natural Environment

The project area is located within the ahupuaʻa (traditional land division) of Waikīkī. Waikīkī includes the entire southeast portion of Oʻahu and ranges in elevation from sea level at the coast to approximately 1,260 feet (384 meters) above mean sea level (amsl) at the crest of the Koʻolau Mountain Range. Waikīkī Ahupuaʻa includes a vast coast, lowlands, and multiple valleys including Mānoa Valley, where the project area is situated. Mānoa is a deep amphitheater-shaped valley formed some 10 million years ago on the leeward side of Oʻahu. Mānoa was later modified through additional volcanic activity some 250,000 years ago when cones were created in the western portion of the valley, including Puʻu ʻŌhiʻa (Tantalus) in the upper valley, and smaller cones of Puʻu Kākea (Sugar Loaf), Puʻu ʻUalakaʻa (Round Top), and Puʻu o Mānoa (Rocky Hill) in the lower valley (Bouslog et al. 1994:4-5). The east side of the valley is bound by Waʻahila

Figure 1. Portion of a 1998 U.S. Geological Survey (USGS) Topographic Quadrangle Map Showing the Project Area

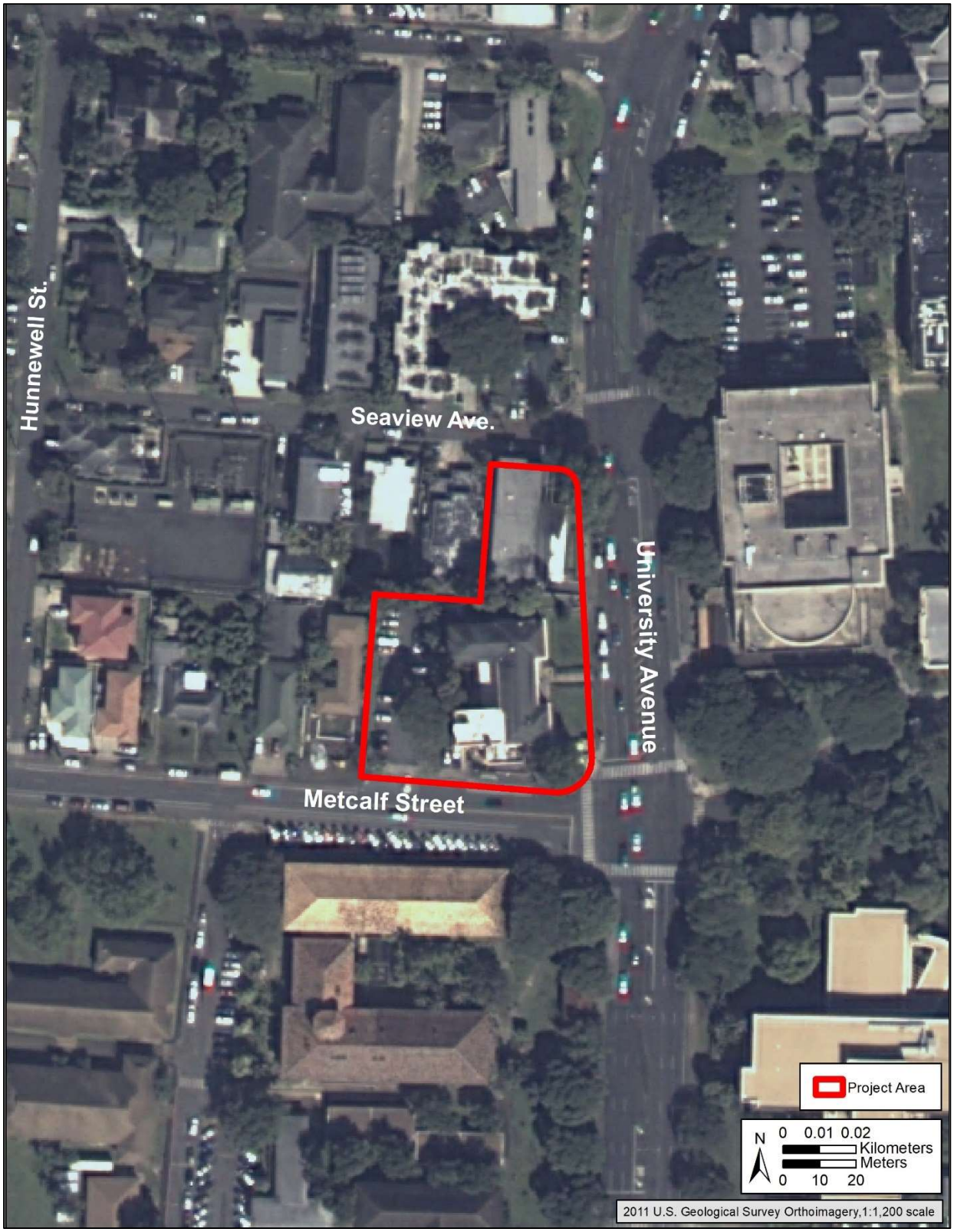

Figure 2. Aerial Photo Showing the Location of the Project Area (2011 Orthoimage)

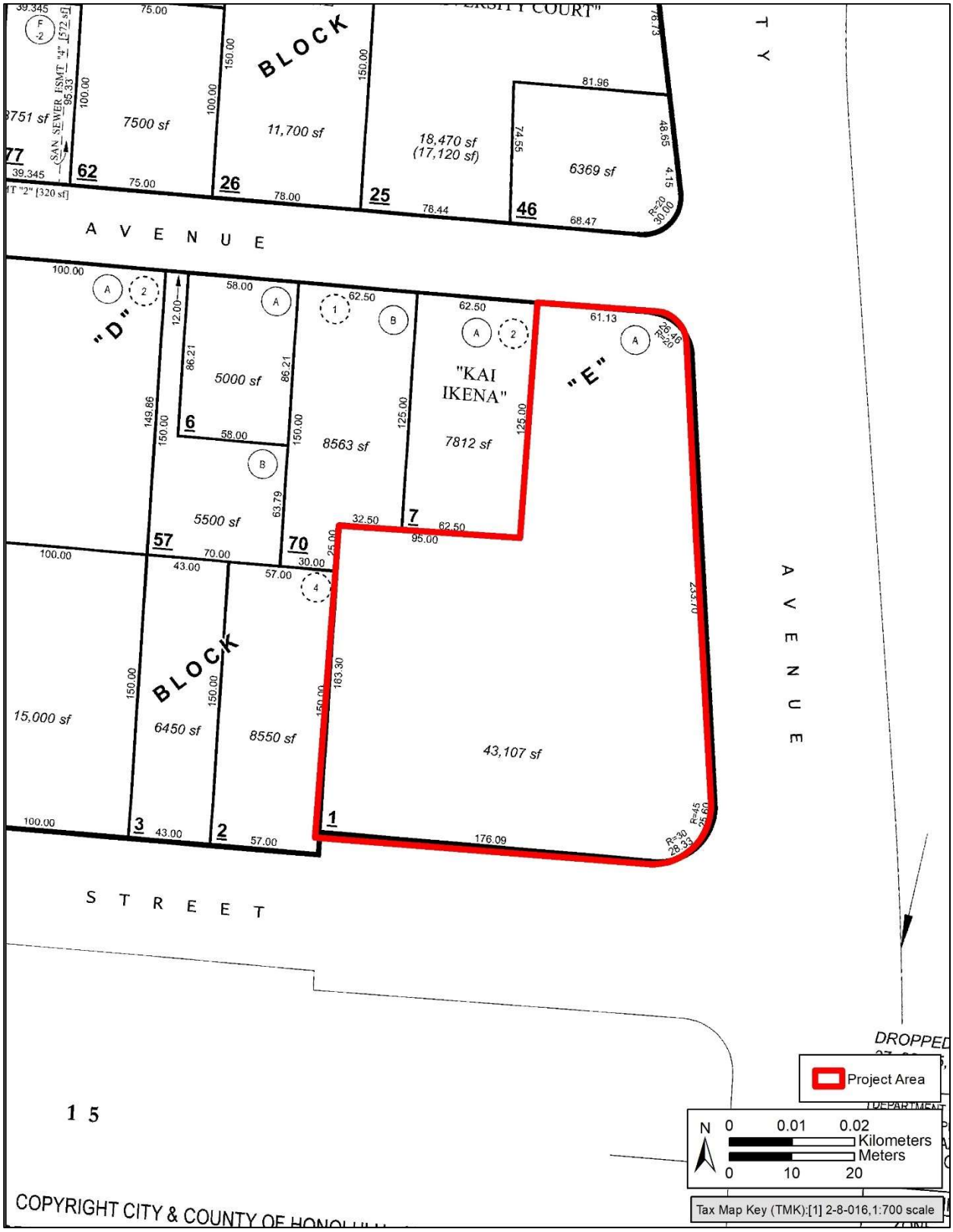

Figure 3. Tax Map Key (TMK): [1] 2-8-016 Showing the Project Area

Figure 4. Conceptual Construction Plan for the Atherton Student Housing Project

Figure 5. Conceptual Image for the Atherton Student Housing Project

Ridge. Koʻolau Mountain peaks at the mauka (inland) boundary of Mānoa include Puʻu Lepalepa, Awāwaloa ("Mount Olympus"), and Kōnāhuanui which is the highest peak of the Koʻolau, standing over 3,100 feet above sea level. Traditionally, there were five streams that flowed through the ahupuaʻa and multiple inland waterfalls. Mānoa also included several natural freshwater springs (pūnāwai), ponds, and agricultural lands.

Atherton Student Housing Project is located within the lowlands of Mānoa Valley. The project area is approximately 2.68 kilometers (km) (1.66 miles) mauka or north of the nearest coastline of Waikīkī Beach. Mānoa Valley receives approximately 59.58 inches of rainfall annually, with the majority of rainfall expected between October to April (Frazier et al. 2016). The average annual temperature of Mānoa Valley is approximately 72° F (Giambelluca et al. 2013).

Expected soil within the project area consists entirely of Tantalus Silty Clay Loam (TCC), at 8-15% slopes (Figure 6). Tantalus soils developed in volcanic ash material weathered from cinders (Foote et al. 1972:121). This soil type has slow runoff with slight erosion hazard. Most commonly Tantalus soils are used for home sites, water supply, and recreation (Foote et al. 1972:121). Vegetation on this soil typically includes ferns, Formosa koa (*Acacia confusa*), koa haole (*Leucaena leucocephala*), kukui (*Aleurites moluccana*), and eucalyptus (*Eucalyptus* sp.).

1.2.2 Built Environment

The Atherton Student Housing Project is located within the heavily developed residential and commercial area of Mānoa Valley, directly across University Avenue from the University of Hawaiʻi campus. The project area is bound by University Avenue to the east, Seaview Avenue to the north, Metcalf Street to the south, and residential buildings to the west. The Charles Atherton Building includes a commercial yoga space and a building extension along Metcalf Avenue containing a yogurt café, Banán. The Mary Atherton Richards House/ Atherton YMCA contains a fitness center and retail space. Surrounding infrastructure includes overhead powerlines, traffic lights, utility boxes and poles, road signage, street lighting, pedestrian sidewalks, a bus stop, and subsurface utilities. Vegetation consists of several large trees including cook pine (*Araucaria c.f. columnaris*), cuban royal palm (*Roystonea regia*), fan palm (*Pritchardia pacifica*), kiawe (*Prosopis pallida*), mango (*Mangifera indica*), monkey pod (*Samanea saman*), plumeria (*Plumeria spp.*), and tamarind (*Tamarindus indicus*).

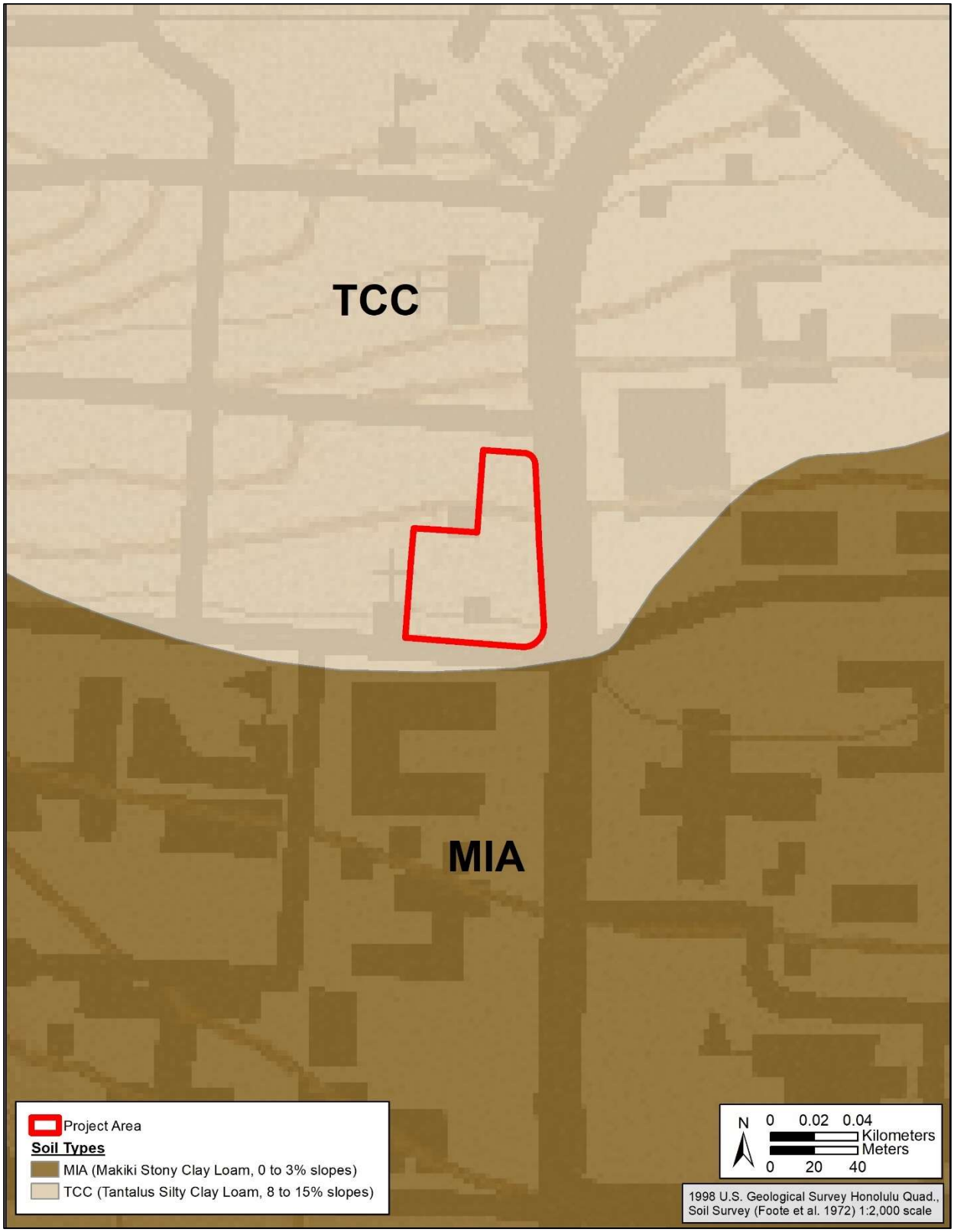

Figure 6. Portion of a 1998 USGS Topographic Map with Soil Series Overlay Showing Anticipated Soils Within the Project Area (Foote et al. 1972)

Section 2 Traditional and Historical Background

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

2.1 Traditional Background, Place Names, and Moʻolelo

The project area is located in the ʻili of Mānoa within the ahupuaʻa of Waikīkī. Traditionally, Waikīkī was a dense population center with extensive agricultural fields and a fertile fringing reef. Waikīkī is translated to "spouting water", said to be named for the swampland that once covered the lowlands (Pukui et al. 1974:223). Multiple streams flowed from the valleys of Makiki, Mānoa, and Pālolo which provided fresh water to feed irrigated taro fields (loʻi), bananas, and sugarcane in the lowlands and makai (seaward) areas. The coastal areas were drier than inland zones and therefore the irrigation systems provided the means for wetland agricultural complexes. The coast of Waikīkī had coconut groves, fishponds, abundant marine resources, and excellent surfing. Inhabitants of Waikīkī lived near the coast, on the fringes of lowland fields, and in the inland valleys. Waikīkī was a favored residence for Hawaiian aliʻi (royalty) (Beckwith 1970, Fornander 1998). The chiefs resided along the coast where conditions were ideal for ocean activities.

Behind Waikīkī, the Koʻolau Mountain Range caught the warm moist air driven by the trade winds. Mānoa, translated as "vast", runs from a projecting spur of the mountain range at the head of the valley called ʻAkaʻaka to the ocean (Nakuina 1907a:119, Pukui et al. 1974:146). Two additional mountain peaks along the Koʻolau were named for twin children, a boy named Kahaukani representing Mānoa wind, and a girl named Kauahuahine (or Kauakuahine) signifying the Mānoa rain (Kalākaua 1887:511, Thrum 1891:111). It is said that Mānoa Valley was divided for chiefs and commoners.

> In Manoa valley a low hill at the head of the valley and Rocky hill above Punahou are said by a kinswoman of mine to have marked the division between the chiefs and the commoners in that valley. The chiefs lived on the west half, the commoners on the east. The chiefs' excrement was buried as secretly in the commoners' ground by the keepers. (Pukui 1943 quoted in Sterling and Summers 1978:283).

Several Hawaiian place names are known for features of the Mānoa region and environment. Table 1 lists place names in the vicinity of the project area, a description of the locations, their English translations, and sources of information. Early historic maps of Mānoa include many of these place names (Figure 7 and Figure 8).

Table 1. Listing of Place Names in the Vicinity of the Project Area

Place Name	Description	Meaning	Reference
‘Aka‘aka	Projecting spur of mountain range at the head of Mānoa valley	Laughter	Nakuina 1907a:119
Awāwaloa (Mount Olympus)	Old name for Mount Olympus peak on Ko‘olau mountain range, separates Honolulu from Ko‘olaupoko	None provided	
Kānewai	Currrent Kānewai Cultural Garden	Water of Kane	Pukui et al. 1974:85
Kauiomānoa	A large rock in the middle of Mānoa Valley, the dwelling place of Kauiomānoa	None provided	*Saturday Press* 1883:5
Kōnāhuanui	Highest peaks of the Ko‘olau Mountain Range, separates Honolulu from Ko‘olaupoko	Large fat innards	Pukui et al. 1974:117
Makiki	A street, land section, stream, and valley, likely named after a type of stone weight used for octopus lures	None provided	Pukui et al. 1974:142
Mānoa	A land section, stream, waterfall, valley, field, and elementary school, location of the project area	Vast	Pukui et al. 1974:146
Pālolo	A land section, homesteads, stream, valley, avenue, elementary school and field	Clay	Pukui et al. 1974:178
Pilipili	‘ili ‘āina (land division)	None provided	Soehren 2019, Grant 882, Baldwin 1882 (RM 1068)
Punahou or Kapunahou	A street and private school established by Hiram Bingham in 1841 on property given by Queen Ka‘ahumanu for the education of the children of missionaries and chiefs	New spring	Pukui et al. 1974:194

Place Name	Description	Meaning	Reference
Puʻu Kākea (Sugar Loaf)	Cinder cone on the Koʻolau Mountain Range on west side of Mānoa Valley, named for a storm wind of Mānoa	None provided	Pukui et al. 1974:197
Puʻu Lepalepa	Peak at the crest of the Koʻolau Mountain Range between Mānoa and Pālolo valleys	None provided	
Puʻu o Mānoa (Rocky Hill)	Old name for Rocky Hill, Punahou	Hill of Mānoa	Pukui et al. 1974:203
Puʻu Ōhiʻa (Tantalus)	Mount Tantalus, behind Honolulu	Ōhiʻa tree hill	Pukui et al. 1974:204
Puʻu Pia	Hill in upper Mānoa	Arrowroot hill	Pukui et al. 1974:205, Baldwin 1882 (RM 1068)
ʻUalakaʻa (Round Top)	The old name for Round Top, also a street, state park, believed that Kamehameha I planted sweet potatoes there	Rolling sweet potato	Pukui et al. 1974:214
Waikīkī	A land division, chieftess, beach, park, elementary school, tennis center, named after the swamps drained after construction of the Alā Wai canal, ahupuaʻa in which the project area is located	Spouting water	Pukui et al. 1974:223
Waʻahila	Former land section, faculty housing at the UH Mānoa campus, and ridge separating Mānoa and Pālolo valleys	None provided	Pukui et al. 1974:218
Wailele or Kawailele	Under the property of the Mid-Pacific Institute	Waterfall	Pukui et al. 1974:224

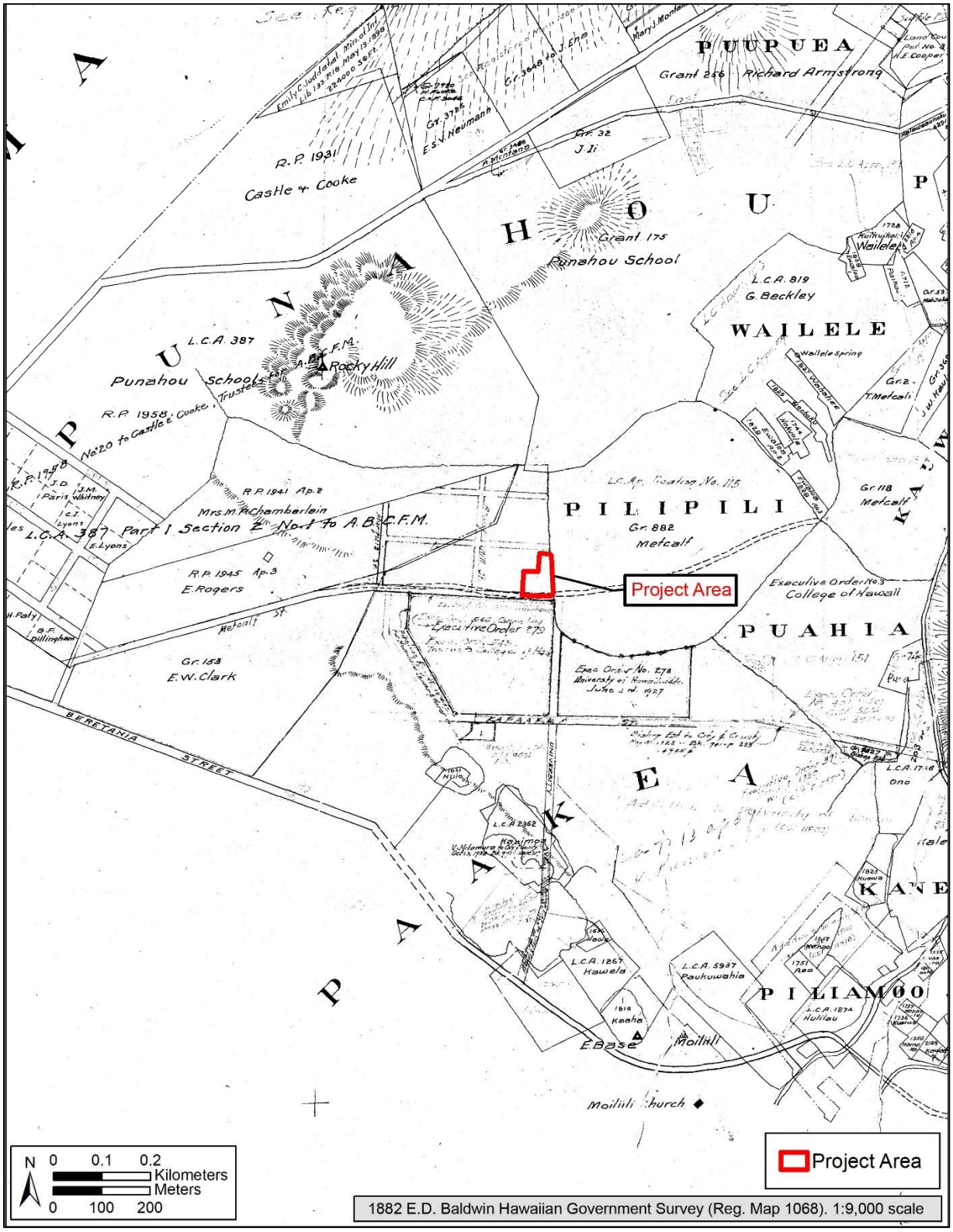

Figure 7. Portion of a 1882 E.D. Baldwin "Hawaiian Government Survey of Manoa Valley" (Registered Map [RM] 1068) showing the Location of the Project Area

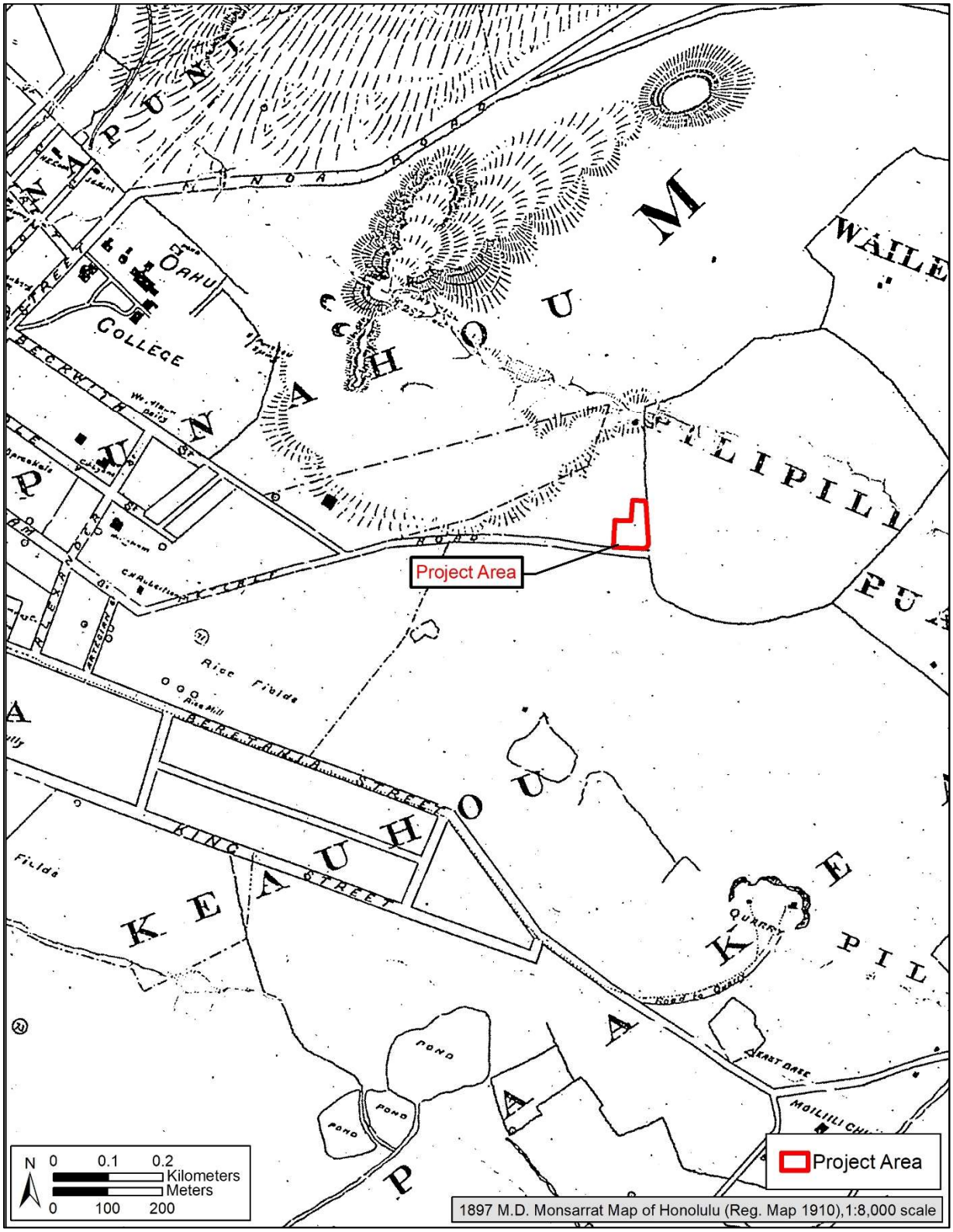

Figure 8. Portion of a 1897 M.D. Monsarrat Map of Honolulu showing the Location of the Project Area (RM 1910)

The environment of Mānoa was ideal for taro (*Colocasia esculenta)* loʻi and it was known to contain a vast spread of taro land (Handy and Handy 1972:270,437, Pukui et al. 1974:146).

> Mānoa Valley had much well-watered level land which was better adapted to terracing than that of Nuʻuanu. In the upper valley all the bottom land was terraced. In 1931 much of this land was abandoned, covered with grass; now it is mostly in residences. In 1931, however, there were still about 100 terraces in which wet taro was planted, although these represented less than a tenth of the area that was once planted by Hawaiians. (Handy and Handy 1972:479)

The presence of freshwater streams or pūnāwai throughout Mānoa is associated with the exploits of Kāne and Kanaloa. The gods are said to have lived on Kōnāhuanui ("large fat innards"), the highest peak of the Koʻolau (Pukui et al. 1974:117). They are said to have created multiple freshwater springs including those at Kānewai (currently the Kānewai Cultural Garden), Wailele (located under property of Mid-Pacific Institute), and Punahou or Kapunahou; as well as several other springs such as Hualani, Kaʻaipū ("the eating together"), Waʻaloa ("long canoe"), and Waiakeakua ("water of the gods") (Pukui et al. 1974:59, 218, 220). Of these springs, the closest to the current project area are Kānewai, Wailele, and Kapunahou.

The moʻolelo (myth or legend) of Kānewai ("water of Kāne") contains a pool of healing waters (Pukui et al. 1974:85). The myth tells of Kāne and Kanaloa trying to rinse off after swimming at the coast of Kahala. They searched many places until Kāne used his ʻōʻō (digging stick) to strike the ground in Mānoa and a huge spring of cool fresh water sprung up (Hawaiʻinuiākea 2007). The university of Hawaiì-Mānoa, Hawaiʻinuiākea School of Hawaiian Knowledge formed Ka Papa Loʻi ʻo Kānewai Cultural Garden. The group uncovered an old ʻauwai (ditch) system running along Mānoa Stream which now continues to support traditional kalo (taro) cultivation and provides as a place of experiential learning and appreciation of Hawaiian culture and mythology.

Wailele ("waterfall") was named for the pūnāwai found on the grounds of Mid-Pacific Institute (Pukui et al. 1974:224). The location of the spring is shown on an 1882 Hawaiian Government Survey map. Those waters are believed to originate from the heights of Puʻu Kākea under the stewardship of the moʻo, or water lizard, named Kākea. When petitioned by the children Kauawaʻahila and Kauakiʻowao, who were hiding from their mean stepmother, Kākea diverted the waters of Wailele Spring so that half flowed to Kanawai (likely Kānewai) and half flowed to Ka-punahou for the benefit of the children (Thrum 1907:136).

Punahou or Kapunahou ("new spring") was described as the following:

> There was a famous terrace area below Punahou School which was watered by the spring from with the school takes its name. Nakuina gives the following note about this area: …Kauawaahila afterwards made some kalo patches, and people attracted by the water and consequent fertility of the place came and settled about…More and more kalo patches were excavated and the place became a thriving settlement. The spring became known as Ka Punahou [The New Spring], and gave its name to the surrounding place. (Handy 1940, quoted in Sterling and Summers 1978:282-283)

Mānoa Valley is associated with several myths including the Princess of Mānoa and the story of Kahalaopuna, the rainbow maiden who lived in Mānoa valley. The Princess of Mānoa is told by Day (1906:1-11) as the story of Hina, the spirit of the rain clouds, and Kani, her husband, god

of the winds, and their beautiful daughter, Kaha. The god of the sea wished for his son, Kauhi, to marry Kaha, however Kaha was not interested. Kaha took notice of a young chief, Mahana, who would sled through Mānoa. One day Kaha was lifted from her perch in the mountains by a thick mist and was brought down to the earth. She was dressed in fine tapa or kapa (bark cloth) and iridescent shells. She joined the group of elders and enjoyed the day with Mahana, soon realizing she had become mortal. Kaha and Mahana married and she came to be known for her sweet songs, diving from the waterfalls of Mānoa, and her ability to make fine flower leis (garland). One day while Kaha was in the ocean, helping to prepare for a large feast in honor of her husband, Kaha was killed by a shark, formed from the son of the sea god, Kauhi.

The myth of Kahalaopuna is a sad story of the death of a wife by her husband, Kauhi. Beckwith (1970:152) provides the legend of Kahalaopuna in condensed form:

> The parents of Kahalaopuna are the twin brother and sister Ka-au-kuahine (The rain of the mountain ridge) and Ka-hau-kani (which names the Mānoa wind) […] Rainbows still play about her former home and Mānoa girls are said to inherit her beauty, She lives under tapu in a house called Kahaimano [likely Kauiomānoa] on the way to the spring of the Water-of-the-gods, and is early affianced to Kauhi of a powerful family of Koolau, belonging some say to the Mohoali‘i. Mischievous persons pretend that they have enjoyed her favor. Kauhi believes them and determines that she must die. He leads her through the wild forest to the uplands of Pohakea close to Kaala mountain [above ‘Ewa], where he beats her to death and buries her body beneath a lehua tree under leaves. Her spirit flies to the top of the tree and chants her story. Passers-by hear her and tell her parents, who search out her body and, finding it still warm, restore it to life.

Fornander (1918-1919:192) includes in the myth of Kahalaopuna that Kauhi heard the news of her life being restored and begs her to love him again, yet she refuses.

King Kalākaua (1887:511-522) and Emma Nakuina (1907a:119-133) tell these myths as one, “Kahalaopuna, Princess of Mānoa”. The myths are somewhat similar to that presented above. Kauhi killed his wife, Kahalaopuna, for unsubstantiated claims. He sees an owl, a relative of Kahalaopuna, following above who resuscitates Kahalaopuna and thus Kauhi kills her several more times. A young man, Mahana, rescued Kahalaopuna from the grave and hatched a plot where the King of O‘ahu was made aware that Kauhi had killed Kahalaopuna and in turn Kauhi as well as several of his followers were put to death. Kauhi and his followers transformed into sharks and later, as a shark, Kauhi, again killed Kahalaopuna.

Another myth tells of the story of Kahala-o-Puna:

> In 1908 Mrs. Pukui attended Kawaiaho Seminary, the girls’ school in Manoa. Two years later the boys’ school was built. Called Mid-Pacific. Later merged into Mills School. In her day, half way between Mills and Kawaiaho there was a spring which Malia Kamana told her was one of the bathing pools of Kahala-o-Puna Ka‘iu-o-Manoa.
>
> (Here is the story of Ka-hala-o-Puna) When the girl was finally dead, her mother melted into the rain called Luahine-o-Manoa. Her father became two things, a hau tree and the wind in that valley. The Hau tree (Kahaukane) existed until the time Queen Emma died. Whenever an alii died the tree would groan and sigh.

> "Afterwards someone acquired the property and destroyed the tree. But he still lives in the wind." (Pukui 1954 quoted in Sterling and Summers 1978:289)

According to the *Saturday Press* (1883) which published a Dictionary of Hawaiian Localities, Kauiomānoa was "a large rock in the middle of Mānoa Valley, and supposed to have been the dwelling place of Kauiomanoa, a mythical beauty of the olden times, who a few years ago was supposed to have left her mantle of beauty to the Manoa girls, as the valley was famous for its beautiful young women thirty years ago" (Saturday Press 1883:5, also quoted in Sterling and Summers 1978:289). Kauiomānoa is mentioned by Westervelt (1915) as the wife of Pikoi the Rat Killer.

Another myth of Mānoa includes ʻUalakaʻa, the rolling sweet potato (Fornander 1918-1919:532). Puʻu ʻUalakaʻa is the name of Round Top hill, at the entrance of Mānoa Valley. It is said that some of the finest sweet potatoes in the islands were grown here, particularly during the reign of Kamehameha I in the early nineteenth century.

2.2 Mid-1800s, The Great Māhele

In the 1840s, private property was introduced into Hawaiian society through formation of the Board of Commissioners to Quiet Land Titles and the adoption of the Great Māhele (the division of Hawaiian lands). In 1845 King Kamehameha III waived his right to full authority over the land, portioning out land for his personal use (crown lands) and then dividing the rest of his territory into land for the government, land for the aliʻi (chiefs) and konohiki (land overseers), and land for tenants or commoners (kuleana land) (Alexander 1891, Board of Commissioners 1929, Moffat and Fitzpatrick 1995). Following thereafter Land Commission Awards (LCAs) were awarded to commoners as kuleana parcels for fee ownership. Kuleana land claims required proof of residency on the land and continued land improvements. LCAs therefore record who resided on the land and how the land was used. Royal Patents were often granted on LCAs awarded from 1847-1853, which finalized the sale and legal title of the lands. Royal Patents (RP) were used until the overthrow of the Hawaiian government in 1892 and thereafter are referred to as Land Patents. Starting around 1846 Land Grants (LG) were established which made it possible to purchase property outright rather than going through the land commission process. Unfortunately because of this process, Land Grant documentation does not commonly specify how the land had been utilized prior to its purchase.

Nearly 70 Land Commission Awards (LCAs) were granted as kuleana land for commoners in Mānoa Valley. The current project is located within LCA 387 O, RP 1941 to Mrs. M.P. Chamberlain of the American Board of Missions (ABCFM) for lands within Punahou and Kawaiahao (Table 2). The Royal Patent was granted in 1855 "for the purpose of affording facilities for the prosecution of Missionary work" (LCA 387 O, Federal Register 26-27v2). This land and others adjacent, including LCA 387 O, RP 1931, RP 1945, RP 1958 and Grant 175 (north and west of the project area), were given to trustees of the ABCFM which set aside the land for the formation of Oahu College. Oahu College was founded in 1841 and is now referred to as Punahou School (Punahou.edu).

Kamehameha the Great farmed in Kapunahou. Particularly at Puʻu Pueo, directly below ʻUalakaʻa (ʻĪʻī 1959:69). At the end of the 18th century, Kamehameha gave Kapunahou to the Maui chief Kameʻeiamoku. After the death of Kameʻeiamoku in 1802, the land passed onto his son, Ulumāheihie (or Hoapili), who was the governor of Maui under Kamehameha II (Liholiho)

Table 2. Table Listing Māhaele Data Near the Project Area

Land Commission Award (LCA), Land Grant (LG), Royal Patent (RP)	Awardee	Location	Acreage	Contents
LG 153	Ephraim W. Clark	‘ili of Pāwa‘a	70.6 acres	
LG 175, RP 175	Punahou School	Punahou	98.18 acres	Not provided
LCA 387 O, RP 1931 (1855)	Samuel N. Castle & Amos S. Cooke, ABCFM	Punahou	36.9 Acres	
LCA 387 O, RP 1941, ‘Āpana 2; Part 1, Section 2, No. 1	Mrs. M.P. Chamberlain, American Board of Missions (ABCFM)	Kawaiahao, Punahou (**includes project area**)	2 ‘āpana, 27.96 acres	
LCA 387 O, RP 1945, ‘Āpana 3 (1855)	Elizabeth M. Rogers	Punahou	3 ‘āpana, 27.97 Acres	
LCA 387 O, RP 1958 O, No. 20	Samuel N. Castle & Amos S. Cooke, ABCFM	Kawaiahao, Punahou		
LCA 819, RP 4548	G. Beckley	Wai‘lele	Not Provided	Not Provided
LG 882	T. Metcalf	Pilipili	54 acres	Not Provided in LG; Thrum (1891:116) notes sweet potatoes and bananas
LCA 1636, RP 5346	Haole	Pa‘akea	3‘āpana, 1.27 acres	Two lo‘i and house lot
LCA 1744, RP 2271	Hakuole	Manoa, ‘ili of Kawailele	0.75 acres	Lo‘i and kula where sweet potatoes are grown
LCA 1827, RP 2581	Wahahee	Manoa, ‘ili of Kawailele	0.89 acres	Mo‘o, hala tree, 8 lo‘i, kula, and house lot
LCA 1829, RP 2582	Hoohoku	Manoa, ‘ili of Kawailele	0.95 acres	Mo‘o, 9 lo‘i, kula, and house lot

Land Commission Award (LCA), Land Grant (LG), Royal Patent (RP)	Awardee	Location	Acreage	Contents
LCA 1828, ʻĀpana 2 and 3, RP 3031	Ewaloa	Manoa, ʻili of Kawailele	3ʻāpana, 2.39 acres	Moʻo, 6 loʻi, kula, and house lot
LCA 2362, RP 7426	Kaaimoa	Paʻakea, Kaiʻaliʻu	5.62 acres	Three loʻi, house lot, 5 hala trees for lei and mats

and Kamehameha III (Kauikeaouli) (Girvin 1910:175-176, ʻĪʻī 1959:70). Hoapili resided in Punahou from 1804-1811 and then passed the lands to his daughter, Kuini Liliha, who married chief Boki, governor of Oʻahu, and they frequently resided in the area (Girvin 1910:176). The lands were also held by Queen Kaʻahumanu, who had a summer home in Mānoa Valley, and later, Charles Kanaʻina. It is known that Liliha and Boki, as well as Queen Kaʻahumanu, granted many lands for missionary work and related endeavors and this is how the lands of Punahou were acquired.

The project area is adjacent to LG 882 to T. Metcalf for Pilipili. The LG documentation states the land was given to T. Metcalf by Kamehameha III in fee simple for $270. It is noted by Thrum (1891) that sweet potatoes and bananas were cultivated on the property. The fruit culture of Mānoa was "encouraged, no doubt, by Mr. Kidwell's success at the mouth of the valley on the old Metcalf homestead" (Thrum 1891:116).

Several LCAs are shown on the 1882 Baldwin map (see Figure 7) well to the south and northeast within Wailele. The LCAs detail abundant cultivation of loʻi fields, kula (pasture), moʻo (narrow path or narrow strip of land), hala trees, and house lots. Land awards to the northeast of the project area include LCA 819 to Captain George C. Beckley for Wailele. According to Moffat and Fitzpatrick (1995:88-92), LCA 819 to Captain Beckley has an interesting history. Beckley was an English navigator who came to Hawaiʻi sometime before 1806, became a military advisor to King Kamehameha, married an aliʻi named Ahia, and was made a high chief in 1815. He was given command of the Honolulu Fort in 1816 and the ʻili (small land section) of Wailele in Mānoa until he died in 1825. In 1827, the governor of Oʻahu, Boki, leased Wailele to British consul Richard Charlton for 25 years with the understanding it would then be returned to the Beckley family (LCA 3124). Richard Charlton, however, began a bitter diplomatic dispute between Hawaiʻi and Great Britain over land claims to him. In 1845, the lease to Wailele was subsequently transferred to Louis Desire Maigret, a pioneer Catholic priest and future bishop of Hawaiʻi (LCA 042). This lease, dated in 1844, is said to be the first recorded instrument in the books of the Registry Office (Moffat and Fitzpatrick 1995:88). In 1855, the property was provided back to the Beckley heirs. Several LCAs are documented within Wailele (also referred to as Kawailele).

The 1882 Baldwin map (see Figure 7) shows lands granted by Executive Orders to the south and east of the current project area. Executive orders were routinely issued as a matter of public land policy. To the east was Executive Order 3 for the College of Hawaii. Executive Order 3 was issued by Governor Walter F. Frear in 1911 for 29.3 acres (Doi and Horwitz 1966:82). To the south of the project area was Executive Order 278 for the University of Hawaii. Executive Order

278 was issued by Governor Wallace R. Farrington in 1927 for 9.07 acres (Doi and Horwitz 1966:82).

2.3 Late 1800s through Twentieth Century

Oahu College was founded in 1841 on the lands of Kapunahou and is now referred to as Punahou School (Punahou.edu). In the early twentieth century some 98 acres of pastureland to the northeast of O‘ahu College was slated for a residential development called College Hills. The development was initiated by the school to pay for school infrastructure (Minatoishi 2015). The lots were extremely popular and raised a large amount of money for the school. The current project area does not appear to be within the slated College Hills development, however, the project area is located within similarly designed city blocks just to the south of the development (Figure 9).

Several other important schools were established in Mānoa within the 19th and early-20th centuries. Mid-Pacific Institute was founded in 1908 with the merger of Kawaiahao Seminary and Mills Institute, located to the northeast of the current project area (Midpac.edu) (Figure 10). The College of Agriculture and Mechanic Arts was originally founded in 1907 on Young Street near Thomas Square (The Heritage Center 2008, UHM College of Education 2018). It moved to Mānoa Valley in 1912 and was renamed the College of Hawaii (manoa.hawaii.edu). The College of Hawaii became the University of Hawai‘i in 1920.

The Honolulu Normal and Training School, a school for training of teachers, opened on Victoria and Young Street in 1896, then in 1905 it moved to Lunalilo and Quarry Street and was renamed to the Territorial Normal and Training School (The Heritage Center 2008, UHM College of Education 2018). In 1930, the school moved to a 15 acre former pig farm at University Avenue and Metcalf Street and the first constructed building later became known as Wist Hall. In 1931, the Territorial Normal and Training School merged with the University of Hawai‘i’s School of Education to form Teachers College, with Benjamin Wist as the first dean (Castle 2004, UHM College of Education 2018). In 1959, the Teachers College was renamed to the College of Education and today two buildings on the property are used for the University High School, where all classes are taught by college seniors majoring in education (The Heritage Center 2008).

The current project area was largely vacant prior to the early 1930s. A 1927 Sanborn Fire Insurance map shows the project area contained only a small private garage in the southwest corner, denoted by a small structure labeled with “A.” (Figure 11). In 1930, the Hawaii School of Religion was built within the northern portion of the current project area (Castle 2004) (Figure 12).

The Hawaii School of Religion was founded by leading Protestant churches in Hawai‘i, the Catholic Diocese, the superintendent of public instruction, and the University of Hawai‘i; and was funded by annual grants from the trustees of the Castle Foundation (Castle 2004).

> In 1933, the interdenominational school was recognized by the university as an affiliated institution. Since the school was organized at a time when it was believed no territorial funds should be used for the teaching of religion, the trustees of the school raised funds for institutional support from churches, foundations, and individuals. Although its enrollment was never higher than 207 (and often much less than that), the value of the School of Religion was greater than its enrollment implied. In addition to providing creditable academic courses in the history and

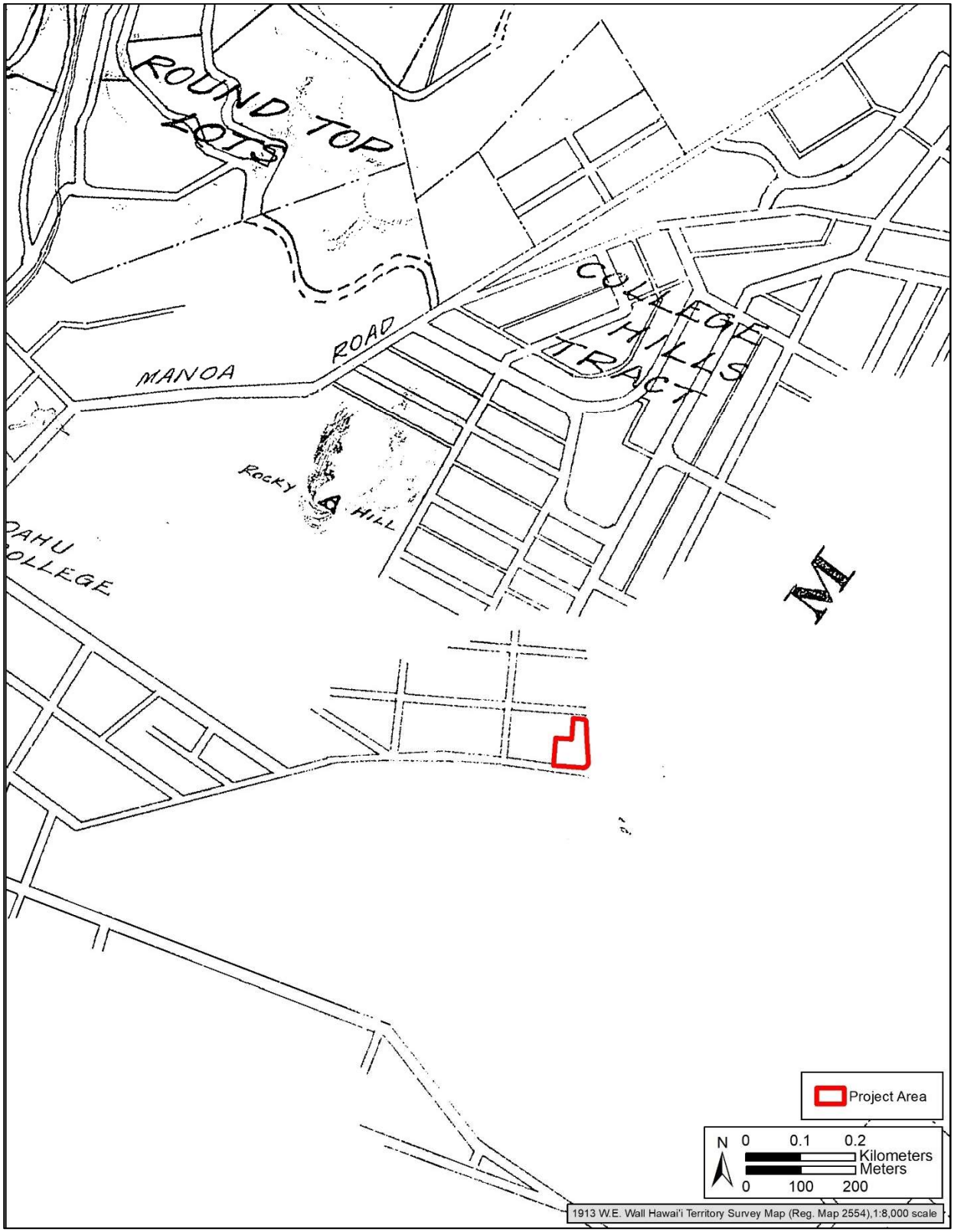

Figure 9. Portion of a 1913 W.E. Wall "Hawai'i Territory Survey Map" showing the Location of the Project Area (RM 2554)

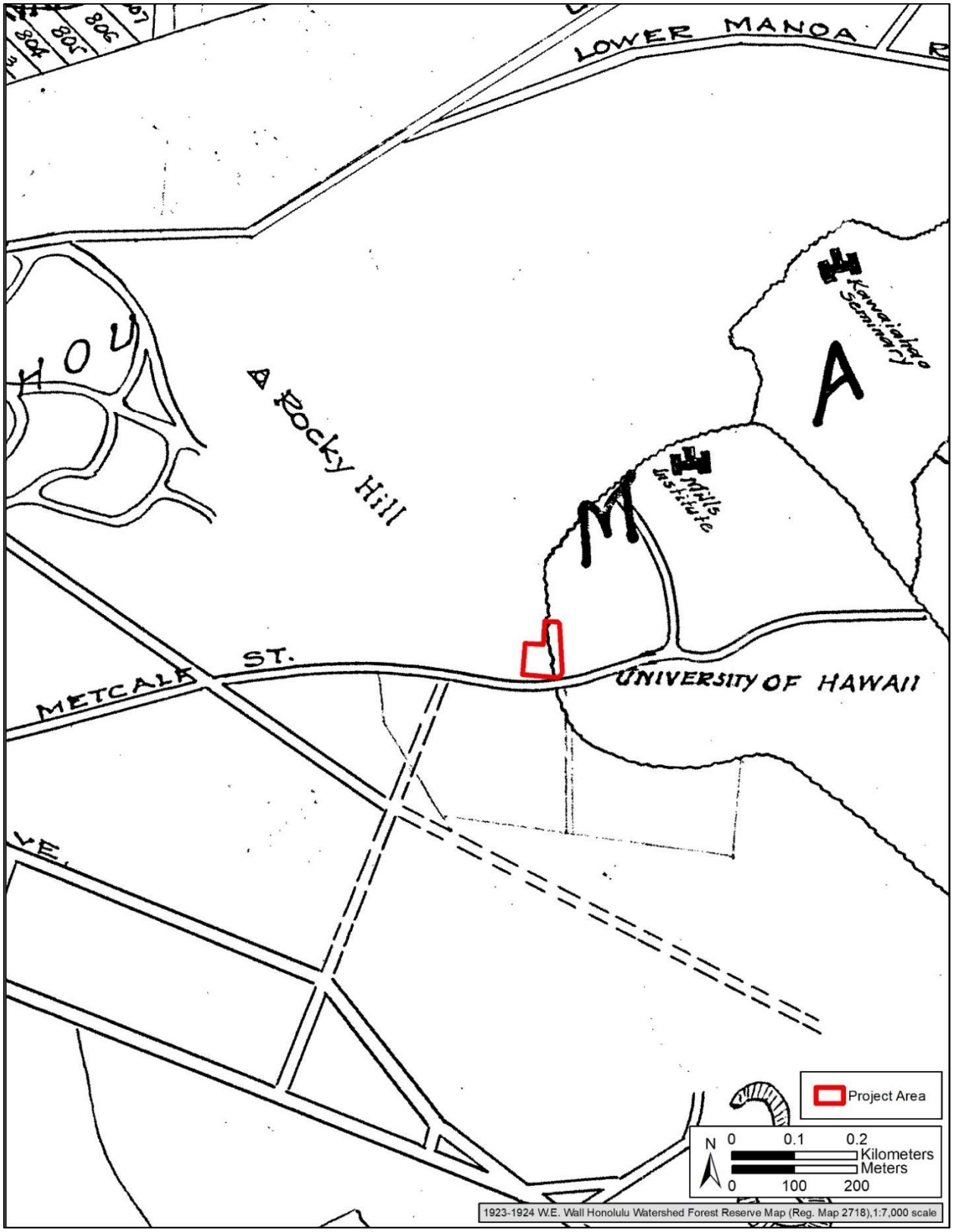

Figure 10. Portion of a 1923-1924 W.E. Wall "Honolulu Watershed Forest Reserve Map" showing the Location of the Project Area (RM 2718)

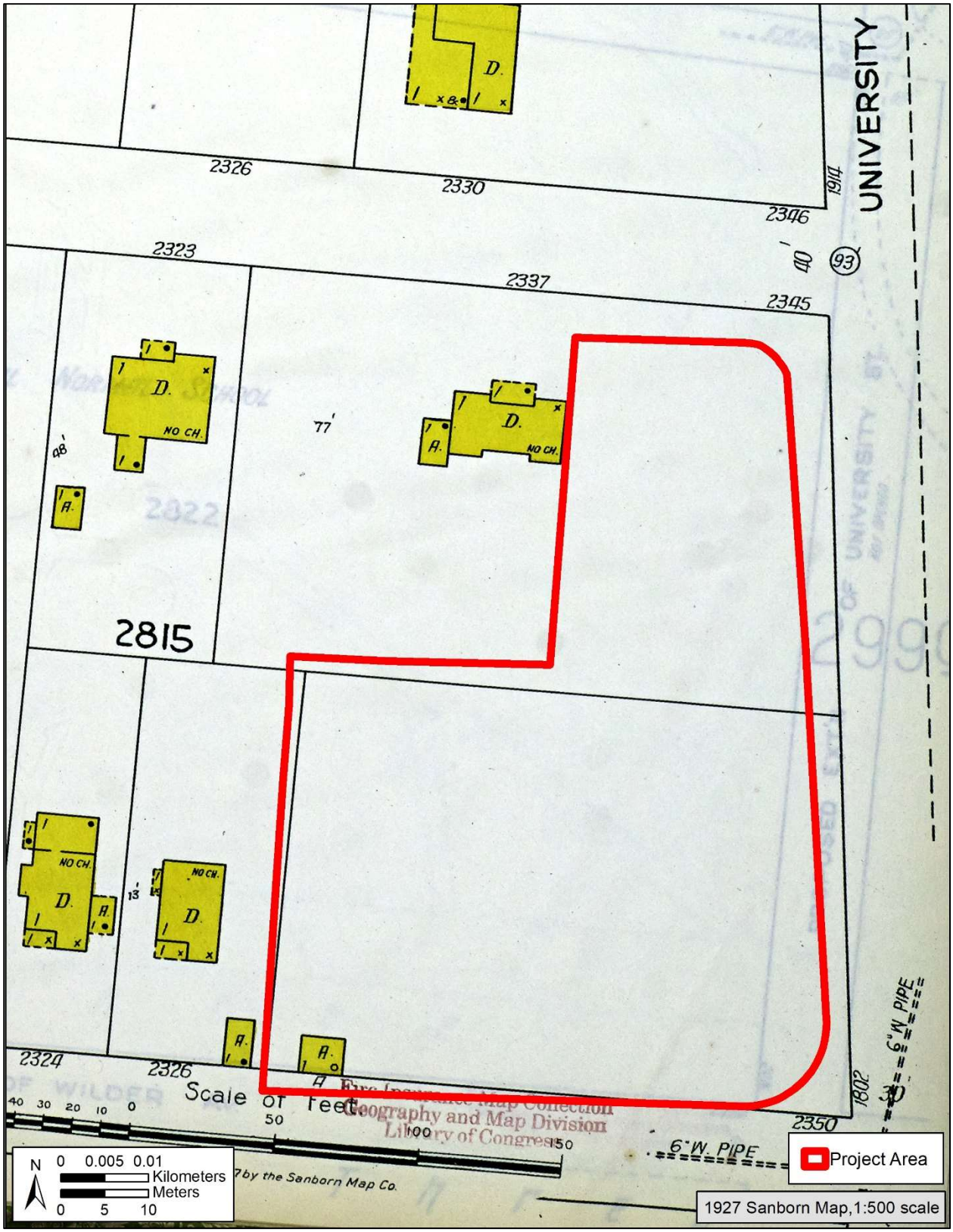

Figure 11. Portion of a 1927 Sanborn Fire Insurance Map showing the Project Area

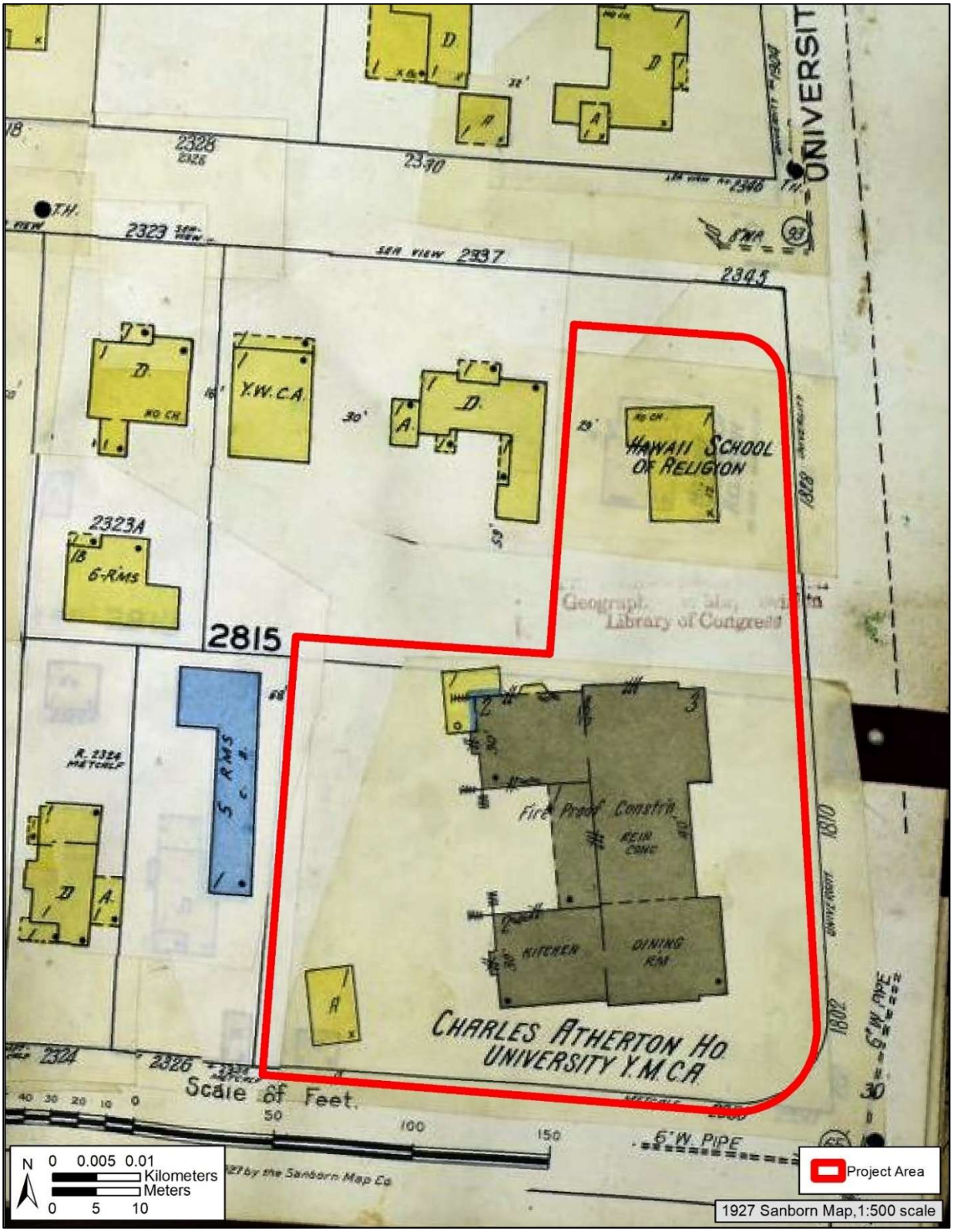

Figure 12. Portion of a 1927-1950 Sanborn Map showing the Project Area

> philosophy of religion, church history, comparative religions, and liturgy, it counseled and encouraged students to continue their studies in seminaries. Many of these students, such as the Reverend Abraham Akaka, became leaders in the Christian community. The challenges to the school were great…
>
> Never adequately funded, and never granted more than $100 a year by the Castle Foundation, the school sought new direction and sources of funding. In 1956, the Territory of Hawaii provided enough financial assistance to the University of Hawaii for it to support the nonsectarian teachings of the Hawaii School of Religion. The school then turned its attention to extracurricular programs. Eventually the school cooperated with the YMCA, the YWCA, and a number of local churches to establish a religious center at the University and Sea View Avenues. The center, which still serves the University of Hawaii community today, contained general clerical offices, a community kitchen, a religious library, a chapel, classrooms, and conference rooms. The Castle Foundation continued its support for one additional year to assist in the transition to this campus-center concept. Though the Castle Foundation's involvement was not substantial, this was clearly one of the best grants made in the area of religion. The number served, particularly through counseling of students, was substantial over the school's twenty-six-year history." (Castle 2004:147-148)

2.3.1 University of Hawai‘i at Mānoa

The University of Hawai‘i at Mānoa (UH Mānoa) is approximately 304 acres in size and is physically bordered by the Mānoa residential community to the north, Wa‘ahila Ridge to the east, the H-1 interstate to the south, and the lower Mānoa and McCully residential communities to the west. When the land was originally purchased for the school, it was prime Hawaiian agricultural land. In 1910, Frederick G. Krauss, a professor of agriculture, described the land as:

> all cut up into small stone-walled fields, ranging in area from one-tenth to one-fourth of an acre. These fields were farmed by individual Chinese and Hawaiian tenants. . . . Most of the tillage was donewith dynamite and crowbar! 5,000 cubic yards of stone was removed . . . from the stone walls alone. Besides that there was a large amount of surface and buried rock. 22-acres were cleared during the first 10 years. . . . The aggregated rocks made a pile at the future site of Hawai‘i Hall five feet deep, spread over an acre. The rock was divided by quality and sold to builders, contractors and as ballasts for ships for ten cents a wagonload. Rocks covered with moss were considered ‘high-class’ building material and sold for 25 cents a wagonload. (Krauss 1937:20 referenced in The Heritage Center 2008: 3:8-3:9)

The UH campus encompasses several historic buildings and is listed as a noncontiguous district on the Hawai‘i Register of Historic Places (HRHP) as State Inventory of Historic Places (SIHP) #50-80-14-1352. It was added to the HRHP in 1984 and was found to be significant as a tangible reminder of the history of the university and the role it has played in the development of higher education in the islands (Napoko and Hibbard 1982:7). Several additional buildings within UH campus have since also been listed on the HRHP (Table 3).

Table 3. Table Listing Buildings and Structures of UH listed on the Hawai‘i Register

SIHP #50-80-14	Name of UH Building or Structure	Location	Year Built	Significance[1]
-1352	Hawaii Hall, George Hall, Gartley Hall, Dean Hall, Crawford Hall, and Varney Circle Fountain	Original UH quadrangle	1912-1938	A and B (The Heritage Center 2008)
-1352	Pineapple Research Institute, Andrews Ampitheatre	Along Dole Street	1931, 1935	A and C, C (The Heritage Center 2008)
-1352	Founders Gates	Intersection of University Avenue and Dole Street	1932	None Listed
-1352	Wist Hall	On University Avenue between Metcalf Street and Dole Street	1930	A and C (The Heritage Center 2008)
-7387	Hemenway Hall (Student Union Building)	Within UH campus	1938	A and C (The Heritage Center 2008, Hyatt and Minatoishi 2011a)
-7388	Sinclair Library	Within UH campus	1956	C (The Heritage Center 2008)
-7389	Paul S. Bachman Hall (UH Administration Building, Liberation Hall)	Within UH campus	1949	A and C (The Heritage Center 2008, Hyatt and Minatoishi 2011b)

[1] National Register criteria for evaluation includes integrity of location, design, setting, materials, workmanship, feeling, and association and: a.) that are associated with events that have made a significant contribution to the broad patterns of our history; or b.) that are associated with the lives of persons significant in our past; or c.) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or d.) that have yielded, or may be likely to yield, information important in prehistory or history. State of Hawai‘i includes one additional significance criteria: e.) have an important value to the native Hawaiian people or to another ethnic group of that state due to associations with cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events, or oral accounts—these associations being important to the group’s history and cultural identity.

SIHP #50-80-14	Name of UH Building or Structure	Location	Year Built	Significance[1]
-7390	UH-Mānoa Music Complex	Corner of University Avenue and Dole Street	1958-1962	A and C (The Heritage Center 2008, Hyatt and Minatoishi 2011c)
-9753	Castle Memorial Hall	Corner of University Ave and Metcalf Street	1941	B and C (The Heritage Center 2008)
-9824	East-West Center Complex	Eastern portion of UH campus	1962-1963	A and C (Gretz 1999)

The university was established in 1907 as the College of Agriculture and Mechanical Arts and was funded through federal appropriations for US territories (Napoko and Hibbard 1982, The Heritage Center 2008). The original university opened in 1908 on Young Street near Thomas Square. In 1912, with the completion of Hawaii Hall in Mānoa Valley, the college was relocated to the current campus and became named the College of Hawai‘i. The campus included a botanical garden near Hawaii Hall and continues to contain an exceptional collection of botanical resources. By 1920, the college was renamed to the University of Hawai‘i and enrollment soared (Napoko and Hibbard 1982). The buildings represent architectural trends of the period and retain their integrity although some have been modified and/or are in need of repair.

The UH Mānoa historic district (SIHP # -1352) includes several distinct areas: the original quadrangle, area on Dole Street, the Founders Gates, and Wist Hall. The original quadrangle was constructed in the early 1910s to 1920s and was the hub of campus life (Napoko and Hibbard 1982:2). The original quadrangle includes a large open lawn with Kamani trees (*Calophyllum inophyllum*) and is bound by 2-3 story buildings of Beaux Arts and Neo-Classical Revival design. Buildings within the original quadrangle include Hawaii Hall, Gartley Hall, George Hall, Dean Hall, and Crawford Hall. Hawaii Hall was built in 1912 as the first permanent building on campus. Hawaii Hall is two stories and of Neo-Classical design with Doric columns. Gartley Hall was built in 1921. Gartley Hall is two stories built in Beaux Arts style with Corinthian columns and an upper level balcony. George Hall was constructed in 1924 and served as the University library until 1956. George Hall is two stories and includes Tudor arches, Doric columns, and arched windows. An L-shape addition was constructed onto George Hall in 1935. Dean Hall was built in 1929. Dean Hall is a two story classroom, originally used a biology laboratory. Crawford Hall was built in 1938. Crawford Hall was the Social Sciences building and is three stories high with Doric columns. Included within the original quadrangle is a circle drive around the Varney Circle Fountain built in 1934.

A section of the UH Mānoa Historic District along Dole Street includes two buildings, the Pineapple Research Institute and Andrews Ampitheatre (Napoko and Hibbard 1982:4). The Pineapple Research Institute was an independent facility although was an integral part of the

campus. In 1971, UH obtained jurisdiction over the Pineapple Research Institute and it became known as Krauss Hall. The building includes three sections, including a one-story board and batten Hawaiian-style building constructed in 1931, a double-hitched roof building with lanai, and two 1948 additions (The Heritage Center 2008). A tropical garden is planted within an interior courtyard. West of the Pineapple Research Institute is the Andrews Ampitheatre, an oval-shaped lava rock structure built in 1935. The Andrews Ampitheatre includes a central lawn, elevated stage, and lush garden backdrop. It is stated that the Andrews Ampitheatre was built upon an old garbage dump (The Heritage Center 2008: 3:17).

At the intersection of University Avenue and Dole Street are two Founders Gates built in 1932 on either side of University Avenue. The gates were designed to commemorate the union of the University and the Territorial Normal and Training School and serve as a memorial to those who formed the prior schools. The Founders Gate is formed of two rounded archways with simple entablatures surmounted by lamps and attached curved benches (Napoko and Hibbard 1982:5). The gates were moved further apart when University Avenue was expanded from two to six lanes.

Wist Hall is located on University Avenue between Metcalf Street and Dole Street. Wist Hall is a two story reinforced concrete building with a stucco veneer built in 1930 (Napoko and Hibbard 1982:5). The building has a red tile double-pitched hipped roof, a round arched entry with art deco designs, and an upper balcony. The building was originally a part of The Territorial Normal and Training School or Teachers College and is currently part of the University Laboratory School, a public charter school.

There are several addition significant buildings on the campus, Hemenway Hall, Bachman Hall, Sinclair Library, East-West Center, UH Music Complex, and Castle Memorial Hall. Hemenway Hall (SIHP #50-80-14-7387) was built in 1938 within the UH campus and is a two story building. Hemenway Hall was originally constructed as a non-academic building for the Student Union and currently it is used as a leisure center as the home for arts and crafts, the Hemenway Theatre, UH radio station, and restaurants (Hyatt and Minatoishi 2011a). Bachman Hall (SIHP #50-80-14-7389) was built in 1949 as an administration building for the university presidents office (Hyatt and Minatoishi 2011b). The building is located in the center of UH campus and was constructed using an international or Hawaiian modern style which incorporated local materials and the indoor/outdoor environment.

Sinclair Library (SIHP #50-80-14-7388) was built in 1956 within the UH campus and is four stories in height with lanais on the first, second and third floors (Hawaii Historic Foundation 2014). Sinclair Library was constructed in an international style to accommodate the climate of Hawai‘i and education needs. The East-West Center Complex was built between 1962-1963 and includes 15 acres of land on the eastern portion of the campus and contains three buildings, Jefferson Hall, Kennedy Theatre, and Hale Manoa. Jefferson Hall is a two story administrative building, Kennedy Theatre is two stories, and Hale Manoa is a thirteen story dormitory (Gretz 1999). The UH Music Complex (SIHP #50-80-14-7390) is located at the corner of University Avenue and Dole Street and consist of four buildings, a music building, practice building, choral building, and the Orvis Auditorium (Hyatt and Minatoishi 2011c). The buildings were one to one and a half stories in height and were constructed in 1958. The auditorium is three stories and was built in 1962.

Castle Memorial Hall (SIHP #50-80-14-9753) is a one story building constructed in 1941 and located at the corner of University Ave and Metcalf Street, directly across from the current project area (Figure 13). Castle Memorial Hall was constructed by funds allocated through the Mary and

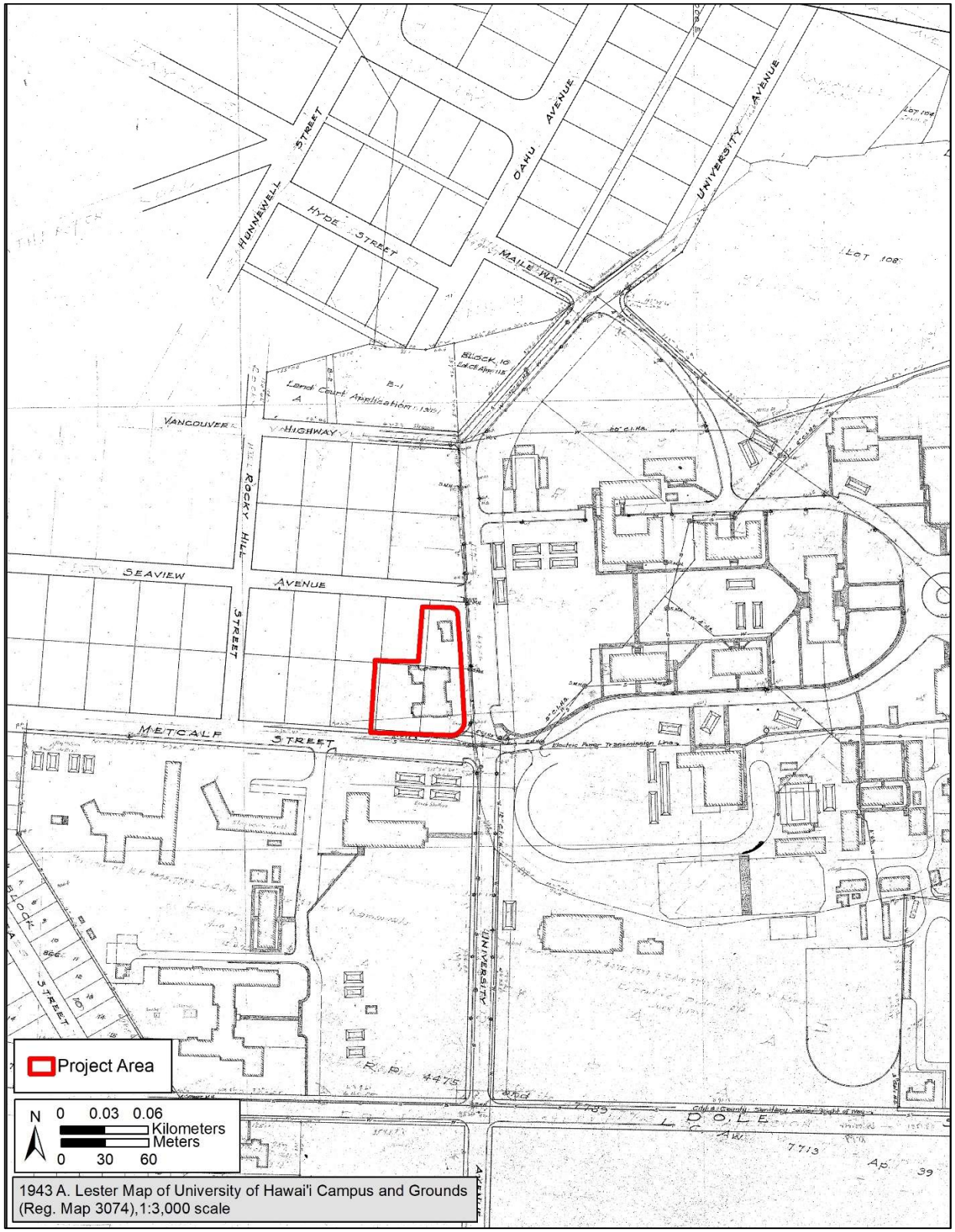

Figure 13. Portion of a 1943 A. Lester Map of the University of Hawai‘i Campus and Grounds (RM 3074)

Samuel Castle Foundation, which had previously established the Henry and Dorothy Castle Memorial Kindergarten in 1899 in recognition and tribute to their son Henry and granddaughter Dorothy who were lost at sea in 1895 (Ogata n.d.). In 1939, the Castle Foundation gifted funds to create Castle Memorial Hall at UH for the training of kindergarten and nursery school teachers on the Teachers College campus (The Heritage Center 2008: 5:16). Castle Memorial Hall originally served as an administration, library, health center, cafeteria, and children's center. The building is currently used for administration services, UH Laboratory Schools Art Department, and kindergarten education. Castle Memorial Hall was designed to incorporate the indoor/outdoor environment where lanai are used as additional classroom space.

2.3.2 Charles Atherton House and Mary Atherton Richards House

Two historic buildings are situated within the current project area, consisting of the Charles Atherton House and the Mary Atherton Richards House. A *University of Hawai'i News* (2016) article states that in 1921 the land fronting University Avenue between Seaview and Metcalf Streets was purchased by the YMCA of Honolulu, then known as the University YMCA. Funds were donated by the Atherton, Castle, and Baldwin families. The Hawaii School of Religion was built in 1930 within the northern portion of the current project area (Castle 2004) (see Figure 12 and Figure 13). The Charles Atherton House was built in 1932 within the southern portion of the project area. By 1959, the Hawaii School of Religion was removed and the Mary Atherton Richards House (also known as the Atherton YMCA) was built in its place (Concillio 2016).

The three-story Charles Atherton House was dedicated on June 1, 1932 (*Ka Leo o Hawaii* 1932, *University of Hawai'i News* 2016) (Figure 14, Appendix A). Articles published in the May 19, 1932 *Ka Leo o Hawaii* newspaper describe the Charles Atherton House as fulfilling the need for a social and residential center for the men of The University of Hawai'i. The building was anticipated to hold many cultural and educational events. Dedicated to Mr. Charles Henry Atherton (1867-1928), the building was a gift to the Young Men's Christian Association (YMCA), an organization that Mr. Atherton served at as an Officer for over thirty years. The building and furnishings were made possible by the late Mr. Atherton's brother and sister, Frank C. Atherton and Mrs. Theodore Richards, wife Mrs. Charles H. Atherton, and daughters Mrs. Violet Harris, Mrs. Juliette Guard, and Mrs. Laura Morgan. Respected by family and community, Mr. Atherton was very involved, had a special interest in development of young men, and was a beloved friend to people of all backgrounds. The newspaper included multiple articles on the Charles Atherton House and described the building in great detail, including that the topsoil around the building had been removed and replaced with imported soil during construction of the building (*Ka Leo o Hawaii* 1932b:1).

The Atherton family was a wealthy, influential, and philanthropic family. Juliette and Joseph Atherton began the Juliette M. Atherton Trust on December 21, 1915 and left 20% of all shares to their children, Charles Atherton, Mary Atherton Richards, and Frank Atherton (Atherton Family Foundation 2015). The shares were held in trust to "continue charitable work" such as "grants, loans and other forms of payment toward assisting in the establishment, maintenance, or promotion of such religious, charitable, educational, benevolent, scientific, or other like purposes" (Atherton Family Foundation 2015). In 1975, all investment properties were transferred to the Atherton Family Foundation, a non-profit corporation which today is one of the largest endowed grantmaking private resources in Hawai'i which is devoted exclusively to support charitable activities.

Ka Leo o Hawaii

THE VOICE OF HAWAII

The next and last issue of Ka Leo for this year will be the Graduation number, June 7. Hence the time which have been put on the writing and editing of a May 26 number, will be given the staff to prepare for the final examinations. Graduation issue, June 7!

HONOLULU, HAWAII, THURSDAY, MAY 19, 1932 — No. 30

Daughters of C. Atherton Donate Dorm Furnishings

With as much interest as if they had been selecting furnishings for their own homes, Mrs. Violet Harris, Mrs. Juliet Guard and Mrs. Laura Morgan, in addition to donating all the furnishings for the new Charles Atherton House, also personally selected them. These three women are the daughters of the late Charles Atherton, and it has been their chief aim to create as homelike an atmosphere as possible in the new building.

In commenting upon the interior decorating, Miss A. McPhail, head of the art department, said as she sat in one of the new comfortable chairs in the lobby of the Charles Atherton House, "The most important thing which impressed me throughout the whole place is the feeling of being so homelike. When I entered, I immediately felt as if I was entering a home, not a hotel or a large, cold boarding house.

"Take the living room, for instance. It has lovely warm colors and simplicity. The neutral color of the woodwork and the gay colors of the curtains all harmonize and produce a charm that is very pleasing.

"The furnishings in the rooms are well chosen. The color is excellent and it all blends well with the architecture. Everything is masculine and should please even the most discriminating he-man.

"The scale of the building has been restrained to pleasing homelike proprotions and I feel that the donors have a warm feeling for those who are going to live here. Those boys who will be chosen to live in this house will certainly be very fortunate."

Yang Chung Hui to Hold Final Meeting

One more meeting of the Yang Chung Hui will be held on the afternoon of June 3 at the home of Mrs. Benigna Green. Election of officers for the next year will be held at that time. All committee reports are to be made then.

The sorority has also planned its invitational dance for June 7 at the home of Mr. and Mrs. C. Q. Yee Hop. Before the dance, the new officers will be installed.

The dance will also honor graduating members, old officers, and friends of the sorority who have helped in its activities during the year

Design of New Dorm Similar To Fernhurst

On the corner of Metcalf and University avenues stands a beautiful, creamy-colored, three-story building of Colonial design—the Charles Atherton House designed after Fernhurst at the wish of the donors.

Fernhurst, designed by Julia Mor-

The Charles Atherton House

CAMPUS CLUB GIVES PLAYS

Three One-Act Plays, Written by Students, Deal With Life in Hawaii

Sponsored by the Women's Campus club, the three one-act plays recently written and produced on the campus were given public presentation at the lecture hall on May 13 and 14 at 7:30 p. m. The proceeds of the programs will be used to refurnish the women's rest room in Gartley hall and also to start a fund for the establishment of a permanent practice house for the home economics department.

To enhance the international spirit of the plays, one of which deals with Japanese life, another with Chinese life, and the third with life in primitive Hawaii, six girls dressed in costumes of different nations acted as ushers.

The plays were written in Dean A. L. Andrews' playwriting class, and they presented a different phase of local life, both past and present. "Baby Clothes," written by Mrs. Beatrice Newport Butt, reveals the misunderstanding and subsequent conflict which occurs today in the local Japanese community between the older and younger generations. Margaret Nakasone, Shizuko Nakano, Grace Kaneshiro and Earl Kubo comprised the cast.

"Mei-ai," or "Beautiful Love," a product of Miss Gladys Li, tells of the love and future which a modern young Chinese girl is about to sacrifice in order that the promise made by her parents may be carried out. Her lover, portrayed by Dan Yee, saves her from an unhappy and sad mar-

(Continued on Page 4)

Dedication of Atherton House June 1 at 4 P.M.

Dedication exercises for the Charles Atherton House, new men's dormitory at the University of Hawaii, will be held Wednesday afternoon, June 1, at 4 o'clock. Presentations will be made by James F. Morgan, chairman of the Building committee, Guy F. Rothwell of the Rothwell and Lester architect firm, and Mrs. Theodore Richards, representing the Atherton family. The formal ceremony will be participated in by Dr. Horace H. Leavitt and Rev. Akaiko Akana.

Frank C. Atherton will deliver an address on "The Future of Hawaii and University Students." Greetings will be given on behalf of the university by President D. L. Crawford. In connection with the dedication the cornerstone will be laid. Lloyd R. Killam, of the Hawaii School of Religion and the Y.M.C.A., will read the contents of the box in the cornerstone.

On account of the limited space in the building the dedication exercises will be invitational. The House will be open for inspection by the students of the University on the days following the dedication.

C. H. ATHERTON ACTIVE IN YMCA

BANKERS OFFER SCHOLARSHIP

N. Y. Bankers' Assn. Choose Schools for Loan Scholarship According to Standards

To encourage students to become leaders in professional and business life, the American Bankers Association Foundation in New York is again offering one of its loan scholarships to a University of Hawaii student majoring in economics and business.

The foundation awards these scholarships to deserving students of integrity, intelligence, character, competency, and aptitude, whose means of support are dependent wholly or in part on their own labor. Such students will be selected by a committee in each institution composed of the head of the business department, the instructor of the banking course, the dean of women or men, and a prominent banker to be selected by the president of the institution.

Institutions, to which loan scholarship awards are made, are chosen because of their type of school, their educational standards, geographical distribution and their desire to cooperate with the foundation.

The maximum loan award to any student in a given school year is $250, total repayment to be made within three years after the student leaves school. Interest of 5 per cent will not be charged until the first day of the second January after the date the student receiving the loan scholarship award leaves the school.

Any business majors interested may call at President Crawford's office for further information regarding details of application.

UH Students Make Good in China College

Favorable reports of students from Hawaii now attending Yenching university, Peiping, China, were made by Dr. Leighton Stewart, president of Yenching, during his visit to the University of Hawaii Thursday morning.

"We should like to have more students from Hawaii," he said. "They bring a valuable infusion of certain American qualities which have greatly enlivened our student life. They are making valuable contributions to extracurricular activities, in the form of college spirit and sportsmanship."

He said that the boys from Hawaii had shown Yenching athletes that it is possible to bear defeat gracefully "without losing face," that they aided in teaching the Chinese youths teamwork, and added volume and spirit to the cheering at games.

Former University of Hawaii students who are now at Yenching university are Kenneth Chun, Calvin Jo Hee Chun, Harry Chang, Philip Chuck and Howard Lum.

Dr. Stewart arrived in Honolulu Thursday morning and will leave today on the Empress of Canada. He is returning to China from a trip to the mainland on university business.

Yenching was founded in 1919 by consolidating several smaller mission schools into one university. It is supported by private endowments, receiving assistance from the Rockefeller foundation. The enrollment is limited to 800 students, of whom 230 are women.

Fantasy to be Given At YW Installation

At the University Y.W.C.A. Installation banquet, to be held at Fuller hall on Friday evening, May 20, the University "Y" Players will present Stuart Walker's fantasy "Six Who Pass While the Lentils Boil."

This delightful one-act play has for its theme the difficulties arising from archaic and useless laws. A cast of eight characters has been working faithfully for some time, under the direction of Mrs. Wendell Thomas.

The characters are:

Memory ..... Belmyra Souza
The Boy ..... Ruth Thomas
The Queen ..... Winifred McLean
The Mime ..... Fred Patterson
The Milkmaid ..... Patsy Shintani
The Blindman ..... Dan Yee
The Dreadful Headsman .... C. Kenn

Phi Kappa Phi To Hold Dinner And Initiation

All members of Phi Kappa Phi in Honolulu are invited to the annual Phi Kappa Phi banquet which will be held in the University of Hawaii

NEW DORM IS SPACIOUS HOME FOR U. H. MEN

Atherton House Fills Long Felt Need for Residential and Social Center

IS GIFT TO Y. M. C. A.

Activities to Center Around Residential Group and Y. M. C. A.

To meet a long felt need for an adequate residential and social center for the men of the University of Hawaii, the Atherton family has provided a spacious home for men on the campus. The building has been given in honor of Charles Henry Atherton, who, during his active life, was deeply interested in young men.

The large gift which made the building and its furnishings possible was made by the late Mr. Atherton's brother and sister, Frank C. Atherton and Mrs. Theodore Richards and by his wife, Mrs. Charles H. Atherton, and daughters, Mrs. Violet Harris, Mrs. Juliette Guard and Mrs. Laura Morgan.

The building is a gift to the Young Men's Christian Association, an organization which Mr. Atherton served as an officer for over thirty years. The House will be under the direct management of a House committee representing the university, the Atherton family and the Young Mens' Christian Association. This committee is composed of Dean A. R. Keller, Dean B. O. Wist, Dr. J. W. Coulter, Frank C. Atherton, Mrs. Theodore Richards, Mrs. John B. Guard, James

(Continued on Page 2)

Eight Students Will Exchange With Yen Ching

New Exchange Plan to Promote Better Understanding With Other Countries

Eight students will go to Yen Ching University as exchange students this year. They are Flora Ho, Irma Tam, Hung Wo Ching, Pin Kyau Zane, Edward Wong, Harry Mau, Sung Lin Yuen, Nellie Chock, and John Fo.

Arrangements have been made with Yen Ching university and University of Hawaii to have students transfer to either institution for one academic year. All the credits earned the year abroad will be accepted by university the student is from.

This mutual agreement is for the encouragement of students to bring on a better understanding of people in other parts of the world with the local university.

The party that is going will be under the leadership of Hung Wo Ching. Arrangements have been made with the Canadian Steamship Line for a special rate and privileges while on board the Empress of Japan, which leaves August 4. Traveling third

Figure 14. 1932 *Ka Leo o Hawaii* Article on the Dedication of the Charles Atherton House

Section 3 Previous Archaeology

Numerous archaeological studies have been conducted within Mānoa Valley. The studies include compilations of research, site visits to significant sites, and many cultural resource management (CRM) investigations conducted in association with residential, infrastructural, and University of Hawai‘i development projects. Historic properties recorded in the near vicinity of the project area include heiau (traditional place of worship), caves, agricultural sites such as stone-stacked terraces, walls, lo‘i (irrigated terraces) and ‘auwai (ditches), as well as buried cultural layers and deposits containing significant pit features and multiple human burials. The locations of previous archaeological studies and recorded sites within 1.5 miles of the project area are presented on Figure 15 and Figure 16 and are listed within Table 4. Each previous archaeological study within Mānoa Valley is further discussed below.

3.1.1 Thrum 1906a and 1906b

Thomas G. Thrum (1906a and 1906b) provided the first lists and descriptions of heiau within Mānoa Valley. He described four heiau, including, Kawapōpō, Hakika, Hipawai, and Kūka‘ō‘ō (Thrum 1906a:45). Kawapōpō was documented as a small heiau within upper Mānoa, torn down prior to 1850. Hakika was found on the east side of the valley in “Paliluahine” and was described as “a round heiau of not large size” with foundations only barely traceable (Ibid). Hipawai was said to be “of large size and po‘okanaka [sacrificial] class, partly destroyed many years ago, then used as a place of burial” with “remaining walls subsequently torn down” (Ibid). Kūka‘ō‘ō was described as the only remaining heiau in Mānoa (Thrum 1906b:60). It was documented as being small and built by Menehune, whom it was “wrestled” from by Kuali‘i and was rebuilt around AD 1700 (Thrum 1906a:45).

In 1892, Thrum described this still-standing heiau of Kūka‘ō‘ō and Pu‘u Pueo (“owl hill”). He referred to the hill as ‘Ulumalu.

> A few hundred feet from the house, on a vast rock pile, still stands a walled enclosure known as the heiau of Kukaoo, now overgrown with lantana and night blooming cereus. This old heathen temple dates back many hundred years. Its erection is credited to the Menehune’s—or class of pigmies—but was rebuilt during the reign of Kualii [circa A.D. 1700s], who wrested it from them after a hard fought battle. The Menehune‘s fort was on the rock hill, Ulumalu, on the opposite side of the road, just above Kukaoo. Previous to the battle, they had control of all upper Manoa. After Kualii obtained possession, he made it the principal temple fort of a system of heiaus, extending from Mauoki, Puahia luna and lalo, Kumuohia, Kaualaa, Wailele, and one or two other points between Kaualaa and Kukaoo. There were also several Muas in the system they controlled—sacred picketed trench enclosures, and altogether, the scene must have been one of priest-ridden despotism. (Thrum 1892:112)

3.1.2 Nakuina 1907b

A 1907 article published by a student at Mid-Pacific Institute discusses several place names and heiau within Mānoa (Nakuina 1907b). The article mentions two heiau, Kauala‘a and Kauwalomaile near Mid-Pacific Institute. The article discusses the eastern and lower ridge of

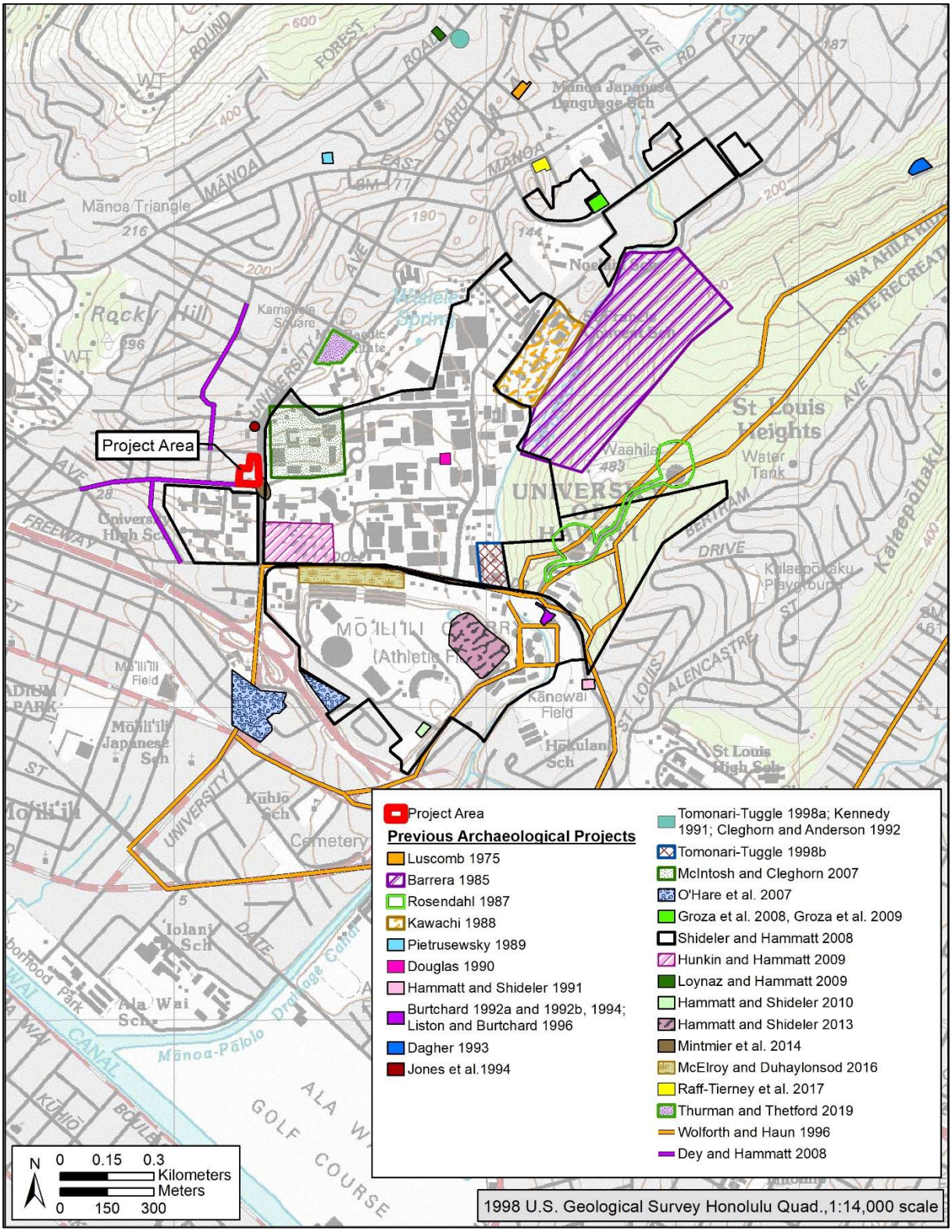

Figure 15. Portion of a 1998 USGS showing Previous Archaeological studies within a 1.5 mile radius of the Project Area

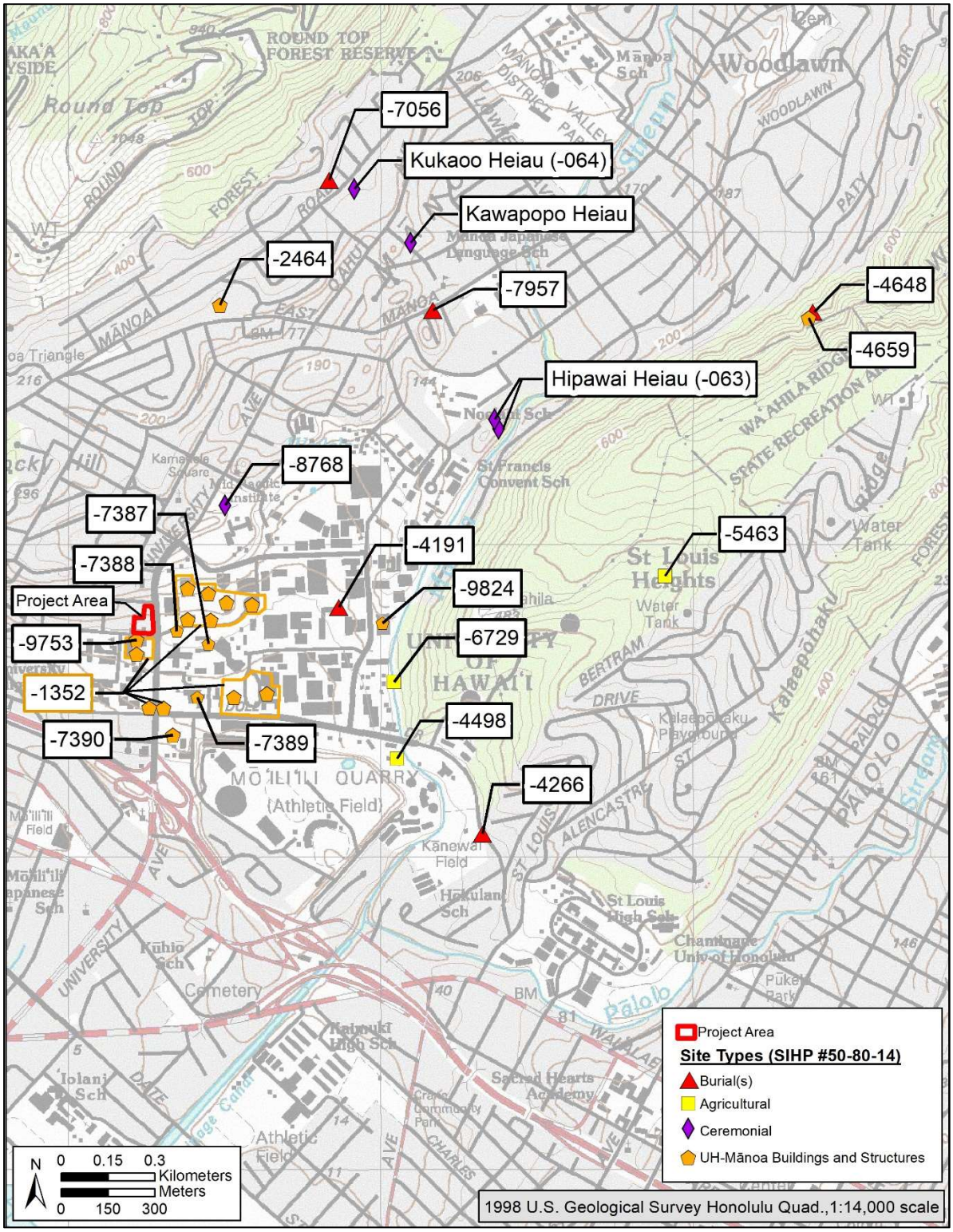

Figure 16. Portion of a 1998 USGS showing Historic Properties and Recorded Historic Properties in a 1.5 mile radius of the Project Area

Table 4. Table Listing Previous Archaeological Studies in the Vicinity of the Project Area

Author(s)	Type of Study	Location	Findings (SIHP #50-80-14)
Thrum 1906a	List of Heiau	Mānoa	4 heiau listed, Kawapōpō, Hakika, Hipawai, and Kūkaʻōʻō
Nakuina 1907b	Heiau descriptions	Mānoa	Describes two heiau, Kaualaʻa and Kauwalomaile near Mid-Pacific Institute
McAllister 1933 (not shown in Figure 15 and Figure 16)	Island-Wide Survey	Oʻahu	Identified 3 sites in the vicinity of the project area: Site 63 (Hipawai Heiau), Site 64 (Kūkaʻōʻō Heiau), Site 65 (Mānoa Valley)
Ching 1968 (shown in Figure 15 and Figure 16)	Archaeological Investigation	UH-Mānoa, North bank of Mānoa Stream, 2-8	Possible house site, burial or heiau identified, no site number assigned
Luscomb 1975	Archaeological Investigation	2626 Avenue Street, TMK: [1] 2-9-020:022	Site determined to be the likely location of Kawapōpō Heiau, no site number assigned
Barrera 1985	Preliminary Archaeological Study	Mānoa Hillside Subdivision, TMK: [1] 2-9-024	No sites recorded
Rosendahl 1987	Archaeological Reconnaissance Survey	Waʻahila Resevoirs Project Area, TMK: 2-5-56: por. 1, por. 2	No sites recorded
Kawachi 1988	Archaeological Field Check	St. Francis High School, TMK: [1] 2-9-004:001	Inspected a boulder and retaining wall, no site numbers assigned
Pietrusewsky 1989	Report on Faunal Remains	2462 East Mānoa Road, TMK: [1] 2-9-010:040	Identified cremated remains of two cats and one dog, likely over 50 years of age; no site number assigned
Douglas 1990	Report on Human Skeletal Remains	UH- Mānoa, Keller Hall, TMK: [1] 2-8-023:003	Documentation of incomplete human skeletal remains found near Keller Hall (SIHP # -4191)
Hammatt and Shideler 1991	Investigation of Human Remains	Dole St. Near Kānewai Park	Identified human remains of 18 individuals (SIHP # -4266)

Author(s)	Type of Study	Location	Findings (SIHP #50-80-14)
Kennedy 1991, Cleghorn and Anderson 1992, Tomonari-Tuggle 1998a	Archaeological Investigation, Inventory Survey & Preservation, and Historic Background Pertaining to Kākaʻōʻō Heiau	Charles Cooke, Jr. residence	Kākaʻōʻō Heiau (SIHP # -064) and the Charles Montague Cooke, Jr. residence (SIHP # -1368, NR #85003402)
Burtchard 1992a and 1992b, Burtchard 1994, Liston and Burthcard 1996	Archaeological Data Recovery (Phase I), (Phase II), (Final)	Kāpapa Loʻi o Kānewai, UH-Mānoa, TMK: [1] 2-8-029:001	Kāpapa Loʻi ʻo Kānewai (SIHP # -4498)
Jones et al. 1994	Archaeological Monitoring Report (AMR)	School of Architecture Building, UH-Mānoa, TMK: [1] 2-9	No sites recorded
Wolforth and Haun 1996	Archaeological Inventory Survey (AIS)	Transmission Line, Upper and Lower Mānoa valley, TMK: [1] 2-7, 2-8, 2-9, 3-2, 3-3, and 3-4	Remnants of a former community park, Site 1726.1 (No SIHP number assigned); SIHP # -5463 (terraces and walls); SIHP # -4266 (a former cemetery); and an ʻauwai associated with SIHP # -4498 (Kāpapa Loʻi o Kānewai)
Tomonari-Tuggle 1998b	Historical Research and Archaeological Assessment	Southwest Fisheries Science Center, Honolulu Laboratory, TMK: [1] 2-8-023:009	No site recorded
McIntosh and Cleghorn 2007	Archaeological Monitoring Report (AMR)	Old Quandrangle Chilled Water Loop, UH- Mānoa, TMK: [1] 2-8-023:003	No sites recorded

Author(s)	Type of Study	Location	Findings (SIHP #50-80-14)
O'Hare et al. 2007	Archaeological Literature Review and Field Inspection (LRFI)	Kamehameha Schools University Parcels, and Varsity Theater, TMKs: (1) 2-8-006:001, 020, 023, 025, 032, 036, 038, 039, 040, 041, 042, 043, 048, 052, 057, 058; 2-8-024:013, 030, 031, 032, 033, 034;2-8-025:047, 048, 049, 050, 051, 052, 053, 054	Agricultural areas identified, no sites recorded
Dey and Hammatt 2008	AMR	Punahou Water Systems, TMK: [1] 2-8-014, -015, -016, -017, -020, -021, and -022:various	No sites recorded
Groza et al. 2008	LRFI	Mānoa Public Library, TMK: [1] 2-9-023:025	No sites recorded
Groza et al. 2009	AMR	Mānoa Public Library TMK: [1] 2-9-023:025	No sites recorded
Shideler and Hammatt 2008 / Monahan and Kaʻuhane 2008	LRFI, Cultural Impact Assessment (CIA)	UH-Mānoa Long Range Development Plan, TMK: [1] 2-8, 2-9, 3-3, and various other parcels	Identified Koana Cave (No SIHP #), SIHP # -063 (Hipawai Heiau), SIHP # -1352 (UH-Mānoa campus), and SIHP # -4498 (Kāpapa Loʻi o Kānewai)
Loynaz and Hammatt 2009	Burial Site Component of an Archaeological Data Recovery Plan	2826 Mānoa Road, TMK: [1] 2-9-016:052	One native Hawaiian burial documented (SIHP # -7056)
Hunkin and Hammatt 2009	AMR	UH-Mānoa, Bachman Hall, TMK: [1] 2-8-023:003	No sites recorded

Author(s)	Type of Study	Location	Findings (SIHP #50-80-14)
Hammatt and Shideler 2010	LRFI	UH Quarry	No sites recorded
O'Hare et al. 2010a and b (not shown on Figure 15 and Figure 16 due to size and extent of PA)	Cultural Resources and Ethnographic Studies (Volume I and Volume II)	Ala Wai watershed project, Makiki, Mānoa, and Pālolo Ahupuaʻa, TMK: [1] 2-3, 2-4, 2-5, 2-6, 2-7, 2-8, and 2-9; [1] 3-1, 3-2, 3-3, and 3-4	Kanewai loʻi (SIHP # -4498) noted, and possible agricultural terrace (SIHP # -6729)
Hammatt and Shideler 2013	Archaeological Literature and Cultural History Review and Field Inspection	UH-Mānoa, Football practice field video platforms, Soccer practice field bleachers, TMK: [1] 2-8-029:001	No sites recorded
Mintmier et al. 2014	AMR	Intersection of University Avenue and Metcalf Street, TMK: [1] 2-8-015:001, 2-8-016:001, and 2-8-023:003	No sites recorded
McElroy and Duhaylonsod 2016	AIS, Archaeological Assessment (AA Report)	UH-Mānoa, William S. Richardson School of Law, TMK: [1] 2-8-029:001 por.	No sites recorded
Raff-Tierney et al. 2017	AIS	First Hawaiian Bank, East Mānoa Road, TMK: [1] 2-9-013:036 and 2-9-022:025	Recorded SIHP # -7957, two human burial pits (with four individuals), a charcoal and ash enriched pit feature, and a possible pig burial
Thurman and Thetford 2019	End of Fieldwork Report	Kamānele Park, TMK: [1] 2-9-003:006	Heiau and site complex (SIHP # -8768)

Mānoa as the area where Kauala‘a Heiau once stood. It describes the temple was dedicated to the cult Uakuahine (translated as “Rain of Mānoa”), a goddess who once lived in this area but became so grief stricken after the death of her mortal husband that she dissolved into the mist and rain and floated to the ridge of Kumauna (Nakuina 1907b:3). The article places Kauwalomaile Heiau near the Mid-Pacific baseball field. It is stated that Kauwalomaile was a sub-heiau of Kauala‘a and that the high priest that presided over both the temples was the son of Uakuahine, and Kauwalomaile was his daughter (Nakuina 1907b:3). It should be noted that. these heiau were not mentioned in Thrum’s (1906a) list of heiau.

3.1.3 McAllister 1933

In the early 1930’s, the Bishop Museum conducted the first systematic island-wide archaeological of the island of O‘ahu. McAllister (1933) mentioned several sites within Mānoa Valley, including Hipawai Heiau (Site 063), Kūka‘ō‘ō Heiau (Site 064), and Mānoa Valley which contained a four-foot sacred stone of Kaipu and great cave on the east side of the valley (Site 065) (Sterling and Summers 1978:281-290). Hipawai Heiau was not further documented by McAllister. Kūka‘ō‘ō Heiau (Site 64) was mapped and documented as a small heiau, 50 by 40 feet in size, built on a natural elevation about 30 feet high (Sterling and Summers 1978:285-286). The site consisted of a small enclosure and two terraces to the west. Kūka‘ō‘ō Heiau is on property known as the Charles Montague Cooke, Jr. residence, which is on the State and National Register (NR) as State Inventory of Historic Places (SIHP) 50-80-14-1368 and NR #85003402.

3.1.4 Ching 1968

In January of 1968, Francis Ching of the State Parks, Historic Sites was called to investigate a site that men working under the University Property Control refused to clear due to their belief of a heiau being present (Ching 1968). The site was located on the vegetated north bank of the Mānoa Stream and was determined to either be a house site, a burial site, or the reported heiau site. No site number was assigned.

3.1.5 Luscomb 1975

In 1975, Bishop Museum archaeologist M.L.K. Luscomb investigated a possible heiau at 2626 Avenue in Mānoa (Luscomb 1975). Luscomb confirmed the feature was likely Kawapōpō Heiau. No further information was obtained about the heiau and it was not given a SIHP number.

3.1.6 Barrera 1985

In 1985, Chiniago, Inc. conducted preliminary archaeological studies at the Mānoa Hillside Subdivision (Barrera 1985). The background research phase of the study involved the inspection of historic maps and photographs of the project area. Fieldwork for the project involved archaeological survey of the lower Mānoa Valley floor and slopes to inspect for past cultural utilization. In addition, consultation with a ten-year resident of the parcel was conducted to gain information on potential archaeological sites in the area. Excavation of two test pits was preformed, one of which contained a small fragment of waterworn coral. The final component of the study involved monitoring of bulldozer grubbing activities on the hillside. During the project, no significant archaeological information was obtained, and no cultural resources were encountered.

3.1.7 Rosendahl 1987

In 1987, Paul H. Rosendahl Ph.D., Inc. (PHRI) was requested to conduct an archaeological reconnaissance survey of the Waʻahila Resevoirs Project area located on the south, south-east slope of Waʻahila Ridge (Rosendahl 1987). No previous archaeological sites were documented, and no significant sites were observed during the reconnaissance survey. Therefore, no further archaeological work was recommended.

3.1.8 Kawachi 1988

In August of 1988, Hawaiʻi Preservation Officer, M. Kawachi conducted a field check at St. Francis High School (Kawachi 1988). Kawachi was asked to inspect a stone feature containing upright boulders that construction workers on the property suspected was a burial location. After inspecting the feature, Kawachi confirmed the feature was likely not a burial, but instead a retaining wall. The surrounding area was inspected and several potential terrace facings along with some modern features were observed. No SIHP numbers were assigned (Kawachi 1988).

3.1.9 Pietrusewsky 1989

In April 1989, Carol Kawachi was requested to investigate animal remains discovered at 2464 East Mānoa Road (Pietrusewsky 1989). The remains consisted of two cats and one dog that were cremated and found in a metal container. The University of Hawaiʻi anthropology lab investigated the remains confirming they were likely over 50 years old. No site number was assigned (Pietrusewsky 1989).

3.1.10 Douglas 1990

On November 28, 1989, human skeletal remains (SIHP # 50-80-14-4191) were uncovered by a construction crew outside Keller Hall at the University of Hawaiʻi at Mānoa (Douglas 1990). The remains were examined by the Department of Land and Natural Resources (DLNR) Historic Sites Laboratory on October 1, 1990. Although preservation of the remains was poor, it was determined they were the partial and fragmented remains of an adult male. Alongside the burial was a waterworn stone and a fragment of cracked rock.

3.1.11 Hammatt and Shideler 1991

In 1991, a total of eighteen sets of human remains (SIHP # 50-80-14-4266) were encountered on Dole Street in front Kānewai Park (Hammatt and Shideler 1991). A hearth feature was observed alongside the remains between 120 and 160 cmbs and charcoal analysis suggested the burials dated to the 15th century A.D. The remains were reinterred on the grounds of the Center for Hawaiian Studies at UH.

3.1.12 Kennedy 1991, Cleghorn and Anderson 1992, Tomonari-Tuggle 1998a

Several archaeological investigations have been conducted at the Charles Montague Cook, Jr. residence, where Kūkaʻōʻō Heiau (Site 64) is located. The residence and heiau are listed on the State and National Registers (SIHP # 50-80-14-1368, NR #85003402). An archaeological investigation (Kennedy 1991), inventory survey and preservation plan (Cleghorn and Anderson

1992), and compiled historic research (Tomonari-Tuggle 1998a) was completed for Kūkaʻōʻō Heiau.

3.1.13 Burtchard 1992a, 1992b, 1994, Liston and Burtchard 1996

In 1992, the International Archaeological Research Institute Inc. (IARII) completed a letter report regarding data recovery for the Kāpapa loi ʻo Kānewai site (SIHP # -4498) (Burtchard 1992a). Later that year, another report was generated for the archaeological data recovery for the project (Burtchard 1992b). Four trenches were excavated, three of which contained pre-contact ʻauwai, and a shallow sedimentary core sample confirming pre- and post-contact use of the agricultural site. Mitigation of adverse effects from construction at the loʻi were discussed in the letters. In 1994, archaeological data recovery and fieldwork were conducted for construction at the site and it was determined that the agricultural irrigation system was in use between 1443 and 1681 A.D. (Burtchard 1994). In 1996, the final archaeological report for Kāpapa loʻi ʻo Kānewai was completed and no further work was recommended (Liston and Burtchard 1996).

3.1.14 Jones et al. 1994

In 1994, the IARII conducted archaeological monitoring for construction of the UH-Mānoa School of Architecture Building (Jones et al. 1994). Several phases of construction were monitored which included subsurface disturbance for tree removal and utility trenches, grading operations, and excavation of footing trenches. Aside from a few pieces of historic bottle glass and unidentifiable metal no cultural resources were observed.

3.1.15 Wolforth and Haun 1996

In 1996, Paul H. Rosendahl, Ph.D., Inc. (PHRI) conducted an archaeological inventory survey for a transmission line to link together existing Hawaii Electric Company (HECO) substations (Wolforth and Haun 1996). During the project two unrecorded sites (Site 1726.1 and SIHP # -5463) were encountered in addition to two previously recorded sites (SIHP # -4266 and -4498). Site 1726.1 (not given an official SIHP number) consisted of remnants from a former community park and SIHP # -5463 consisted of terraces and walls. Previously recorded sites within the project area included a former cemetery, SIHP # -4266, (precise location unknown) and an ʻauwai, SIHP # -4498 (Wolforth and Haun 1996).

3.1.16 Tomonari-Tuggle 1998b

In 1998, the IARII conducted historical research and an assessment of the National Marine Fisheries Service (NMFS) Southwest Fisheries Science Center's Honolulu Laboratory (Tomonari-Tuggle 1998b). The parcel was being redeveloped and construction activities included the demolition of several buildings and addition of a new building attached to the main laboratory. The assessment included previous archaeological studies and the presence of burial finds within Mānoa Valley. No new cultural sites were documented.

3.1.17 McIntosh and Cleghorn 2007

In 2006, Pacific Legacy, Inc. conducted archaeological monitoring during construction of the Old Quadrangle Chilled Water Loop project at UH-Mānoa (McIntosh and Cleghorn 2007). Construction activities involved trench excavation for the installation of new chilled water lines to

the School of Architecture Building, George Hall and Crawford Hall. No cultural resources were observed.

3.1.18 O'Hare et al. 2007

In 2007, Cultural Surveys Hawai'i (CSH) conducted an archaeological literature review and field inspection for the Kamehameha Schools University parcels as well as the Varsity Theater (O'Hare et al. 2007). It was determined that some of the areas were utilized for pre- and post-contact era taro cultivation, as well as for post-contact era rice cultivation. The report was not found in the SHPD library, therefore, only little is known regarding the findings of this report.

3.1.19 Dey and Hammatt 2008

In 2008, CSH conducted archaeological monitoring for Part 1 of the Punahou Water Systems Improvements project (Dey and Hammatt 2008). The project involved replacing old waterlines and connecting new waterlines to residences and fire hydrants. Ground disturbance included trenching within Metcalf Street, Ho'onanea Street, Hunnewell Street and Kamehameha Avenue. The trenches ranged from 100-190 cm in depth. Trenching exposed only previously disturbed sediments and no significant cultural deposits were observed.

3.1.20 Groza et al. 2008

In 2008, CSH conducted an archaeological literature review and field inspection for proposed expansion and site improvements to the Mānoa Public Library (Groza et al. 2008). Proposed construction plans involved the construction of a new library building and underground parking lot. The archaeological field inspection involved a surface survey of the entire project area. No cultural resources were recorded.

3.1.21 Shideler and Hammatt 2008

In 2008, CSH conducted an archaeological literature review and field inspection for a Long Range Development Plan for UH-Mānoa (Hammatt and Shideler 2008). The development plan focused on projects with the Capital Improvement Program which are anticipated for development within 5-10 years, including 17 new buildings and/or expansions. The field inspection visited several sites on the university campus, SIHP #50-80-14-1352 (historic core of the campus), SIHP #50-80-14-4498 (Kānewai Cultural Garden), the posited location of SIHP # 50-80-14-063 (Hipawai Heiau), Koana Cave (no SIHP), and Wa'ahila Ridge. Hipawai Heiau had previously been reported as having been "torn down", yet a potential remnant section of stone wall associated with the heiau was located just outside the boundaries of the campus.

3.1.22 Groza et al. 2009

In 2009, CSH conducted an archaeological monitoring plan for the Mānoa Public Library expansion and site improvements (Groza et al. 2009). No historic properties were observed in the project area, but the southwest portion of the project area overlaps with an LCA that included habitation and agricultural sites. Other LCA's with similar usage are in the vicinity of the project area. On-site archaeological monitoring was recommended for any ground disturbing activities, and spot-check monitoring was recommended should there be any significant finds.

3.1.23 Loynaz and Hammatt 2009

In 2009, CSH completed a Burial Site Component of an Archaeological Data Recovery Plan for a project at 2826 Mānoa Road (Loynaz and Hammatt 2009). In December of 2008 human skeletal remains, recorded as (SIHP #50-80-11-7056) were discovered during excavations for the expansion of a residential structure. The burial was in a flexed position and was found to likely be precontact and of native-Hawaiian ancestry. Following consultation with SHPD, the burial was later reinterred at the property boundary. No other subsurface cultural deposits were encountered during the investigation.

3.1.24 Hunkin and Hammatt 2009

In 2009, CSH conducted archaeological monitoring for renovations at Bachman Hall on the UH-Mānoa campus (Hunkin and Hammatt 2009). Construction activities included the installation of a new elevator shaft which involved the excavation of two pits to a maximum depth of 2.7 meters. No cultural resources were observed.

3.1.25 Hammatt and Shideler 2010

In 2010, CSH conducted an Archaeological Literature Review and Field Inspection for the Hawaiian Electric Company substation at the UH quarry (Hammatt and Shideler 2010). No cultural resources were observed.

3.1.26 O'Hare et al. 2010a and b

In 2010, CSH conducted a two-volume cultural resources and ethnographic study for the Mānoa portion of the Ala Wai Watershed Project. Kānewai lo'i (SIHP # –4498) was noted and an additional possible agricultural terrace (SIHP # -6729) was observed on the west bank of Mānoa Stream, near the East-West Center.

3.1.27 Hammatt and Shideler 2013

In 2013, CSH conducted an archaeological literature review and field inspection for the UH-Mānoa football and soccer fields (Hammatt and Shideler 2013). It was determined that the project area likely once contained a pre- and post-contact era habitational and agricultural site. However, any cultural remains that may have existed were determined to have been destroyed in more recent quarry activities. No further archeological work was recommended.

3.1.28 Mintmier et al. 2014

In 2014, Pacific Consulting Services, Inc. (PCSI) conducted archaeological monitoring for ground disturbing activities associated with traffic infrastructure at the intersection of University Avenue and Metcalf Street (Mintmier et al. 2014). Ground disturbing activities involved the installation of new and improvements of existing traffic control signal infrastructure. Excavation was conducted for 12 pull boxes, eight conduit trenches, three sidewalk trenches, and five traffic signal standards. No cultural materials or deposits were encountered.

3.1.29 McElroy and Duhaylonsod 2016

In 2016, Keala Pono conducted an Archaeological Inventory Survey (AIS) for improvements to the UH-Mānoa William S. Richardson School of Law, a project area of 4.45 acres (McElroy and Duhaylonsod 2016). A pedestrian survey and test excavations of four trenches were conducted and it was determined the entire project area had been disturbed by modern development. No historic properties were observed and no further work recommended.

3.1.30 Raff-Tierney et al. 2017

In 2017, CSH conducted an archaeological inventory survey at the First Hawaiian Bank, East Mānoa Road Branch (Raff-Tierney et al. 2017). The project was intended to move the Mānoa Branch from its original location 1,000 feet makai (seaward). Proposed construction activities for the new Mānoa Branch involved the demolition of three residential buildings and a two-story commercial building. The area beneath the residential buildings was to be mass-graded to level the ground surface and a three-story commercial building would be renovated to include a new two-story wing. Archaeological fieldwork for the project involved a pedestrian survey and subsurface testing. Excavation involved seven backhoe-assisted trenches, two test excavation extensions, and eight shovel test probes. A significant cultural layer (SIHP # 50-80-14-7957) was encountered within the west portion of the project area, containing two human burial pits (with four individuals), a charcoal and ash enriched pit feature, and a possible pig burial. In Test Unit 5 (southeast portion of the project area) historic artifacts were encountered, including a mix of Euro-American and Asian bottles and ceramics. No site number was assigned.

3.1.31 Thurman and Thetford 2019

In 2019, Oceanic Archaeological Science and Educational Services (OASES) conducted an End of Fieldwork Report for Kamānele Park (Thurman and Thetford 2019). The purpose of the investigation was assess the presence of an archaeological site on the park property. The project was not associated with a proposed construction activity, rather it was a community-based archaeological study in which several community vegetation removal efforts occurred alongside archaeological monitoring and investigation. Twelve surface features were documented including a natural lava tumulus respected as a heiau, a C-shape enclosure, a stone alignment, a rockshelter, an overhang, and multiple terraces (SIHP # 50-80-14-8768).

3.2 Summary of Background Research

Traditionally, Waikīkī was a dense population center with extensive agricultural fields and a fertile fringing reef. Multiple streams flowed from the valleys of Makiki, Mānoa, and Pālolo which provided fresh water to feed irrigated taro fields, bananas, and sugarcane in the lowlands and *makai* areas. Inhabitants of Waikīkī lived near the coast, on the fringes of lowland fields, and in the inland valleys. Mānoa Valley was well-watered and fertile land. Nearly 70 LCAs were granted as *kuleana* land for commoners in Mānoa Valley. The current project is located within LCA 387 O, RP 1941 to Mrs. M.P. Chamberlain of the ABCFM for lands within Punahou and Kawaiahao. The Royal Patent was granted in 1855 "for the purpose of affording facilities for the prosecution of Missionary work" (LCA 387 O, Federal Register 26-27v2). This land and others adjacent, were given to trustees of the ABCFM which set aside the land for the formation of Oahu College. Oahu College was founded in 1841 and is now referred to as Punahou School.

Several other important schools were established in Mānoa within the 19th and early-20th centuries. Just across University Avenue from the current project area is the University of Hawai‘i at Mānoa. The UH-Mānoa campus encompasses several historic buildings and is listed as a noncontiguous district on the Hawai‘i Register as SIHP #50-80-14-1352. SIHP # -1352 includes Hawaii Hall, George Hall, Gartley Hall, Dean Hall, Crawford Hall, Varney Circle Fountain, the Pineapple Research Institute, Andrews Ampitheatre, the Founders Gates, and Wist Hall. Several additional buildings within UH campus have since also been listed on the HRHP, including Hemenway Hall (SIHP # -7387), Sinclair Library (-7388), Bachman Hall (-7389), UH Music Complex (-7390), Castle Memorial Hall (-9753), and the East-West Center (-9824) (see Table 3). The historic buildings within UH-Mānoa campus date from 1912-1963.

The current project area was largely vacant prior to the early 1930s. A 1927 Sanborn Fire Insurance map shows the project area contained only a small private garage in the southwest corner, denoted by a small structure labeled with "A." (see Figure 11). In 1930, the Hawaii School of Religion was built within the northern portion of the current project area (Castle 2004) (see Figure 12 and Figure 13). The Charles Atherton House was built in 1932 within the southern portion of the project area. By 1959, the Hawaii School of Religion was removed and the Mary Atherton Richards House (also known as the Atherton YMCA) was built in its place.

Several previous archaeological studies have been conducted within Mānoa Valley and a multitude of historic properties have been documented. Documented sites within 1.5 miles of the current project area include heiau, caves, agricultural sites such as stone-stacked terraces, walls, lo‘i and ‘auwai, as well as buried cultural layers and deposits containing significant pit features and human burials. Significant historic properties, other than historic buildings, have also been recorded on UH-Mānoa campus, including human burials (SIHP # -4191 and -4266), Kāpapa Lo‘i ‘o Kānewai (-4498), and a possible agricultural terrace (-6729).

Based on compiled background research and previous archaeological data, the project area contains existing historic buildings. A 1932 *Ka Leo o Hawaii* article mentions during construction of the Charles Atherton House the ground surface was removed and topsoil was then imported, therefore, it is likely that any pre-contact cultural deposits that may have existed at one time within the project area have been destroyed by building construction activities. It is possible historic artifacts and/or deposits associated with the social and residential center at the Charles Atherton House, the former Hawaii School of Religion, or the Mary Atherton Richards House may be encountered during project construction activities.

Section 4 Archaeological Field Inspection

Fieldwork for this project was conducted on October 14, 2019 and November 27, 2019 by Nathan DiVito, B.A and Radha Martin, B.A., under the supervision of Rosanna Thurman, M.A. (principal investigator). Fieldwork required approximately 5 person-hours to complete. Fieldwork for this project was performed under the archaeological permit number 19-22 issued to Honua Consulting by the SHPD/DLNR in accordance with HAR Chapter 13-282.

4.1 Methodology

The archaeological field inspection consisted of a 100% pedestrian survey of the outdoor portion of the property. Two historic buildings exist on the property, the interior of which were not surveyed. An architectural survey of the interior and exterior of both buildings is currently being conducted by Mason Architects, Inc. The pedestrian survey consisted of the traversal of several north-south and east-west trending transects across the property, spaced at approximately 10 m intervals (Figure 17). A visual inspection of the ground surface of the property was conducted. A hand-held Trimble GeoXT device was used to record survey tracks and potential historic properties. The Trimble maintained an accuracy ranging between 1 to 3 meters (3-10 feet).

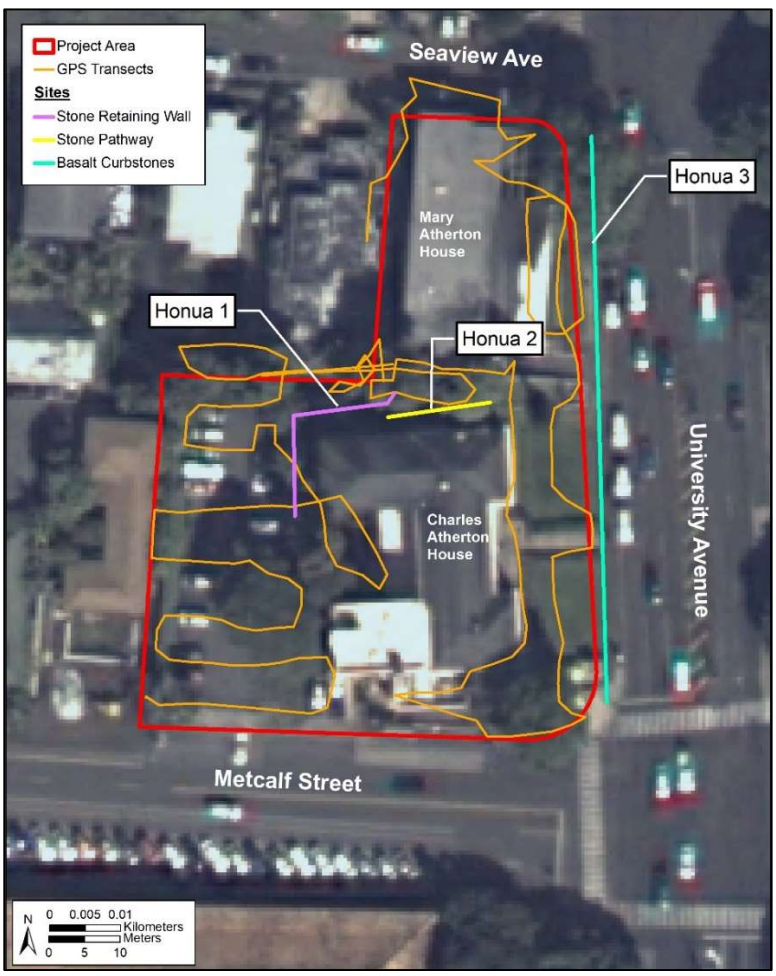

Figure 17. Aerial Image Showing Pedestrian Survey Tracks and Documented Potential Historic Properties (Honua 1-3)

4.2 Survey Results

The project area is located adjacent to University Avenue, Metcalf Street, and Seaview Avenue and comprises the eastern side of a developed residential city block. It is located to the west, just across University Avenue, from the University of Hawai‘i at Mānoa. The topography of the project area gently slopes from Seaview Avenue downward and south toward Metcalf Street and was relatively flat in interior portions. Two historic buildings comprise much of the survey area and consist of the Charles Atherton House and the Mary Atherton Richards House, also known as the Atherton YMCA.

4.2.1 Mary Atherton Richards House (Atherton YMCA)

The Mary Atherton Richards House is a two-story building with a subsurface parking garage located at the corner of University Avenue and Seaview Avenue. The Mary Atherton Richards House was constructed in 1959 (Concillio 2016) (Figure 18 and Figure 19). The Hawaii School of Religion, built in 1930 and shown on a 1927-1950 Sanborn Fire Insurance Map (see Figure 12), was formerly located at this location and was likely demolished during construction of the building. The Mary Atherton Richards House encompasses the majority of the northern portion of the project area and only small strips of manicured and landscaped lawn are present surrounding it. A small area between the Mary Atherton Richards House and a ceramic masonry unit (cmu) property wall running along the east side of the parcel was heavily vegetated with weeds and overgrown ornamentals. Modern rubbish was observed on the surface of the area and exposed surface soil looked slightly disturbed and mixed, likely from construction of a nearby building and parking garage.

Figure 18. Overview Photo of the Mary Atherton Richards House (Atherton YMCA) from University Avenue looking northwest

Figure 19. Photo of the Mary Atherton Richards House (Atherton YMCA) from the Corner of Seaview and University Avenues looking southwest

4.2.2 Charles Atherton House and Near Vicinity

The Charles Atherton House is a three-story building located at the corner of University Avenue and Metcalf Street. The Charles Atherton House was constructed to serve as a men's dormitory and social house for university students in 1932 (*Ka Leo o Hawaii* 1932a:1) (Figure 20). Historic records indicate that no previous structures or features were present on the property in this area prior to construction of the building. A 1932 publication in *Ka Leo o Hawaii* describes that the topsoil around the building had been removed and replaced with imported soil during construction of the building (*Ka Leo o Hawaii* 1932b:1, see Appendix A). A basement is also listed for the building in the City and County of Honolulu parcel records of the Real Property Assessment Division of the Department of Budget and Fiscal Services.

The area around the Charles Atherton House and the surrounding property is entirely developed and landscaped. The portion of the property along University Avenue consisted of sidewalks, low hedges, and manicured lawn grass. The portion of the property along Metcalf Street has been heavily developed and included landscaping, a small addition to the building, sidewalks and access ramps, and a 5 foot tall wall (Figure 21). The area behind the building and to the west provides access from Metcalf Street and serves as a parking area (Figure 22). The area is almost entirely paved with asphalt and the footpath areas near the building have a surface of imported, mechanically-crushed basalt gravel. A small strip of land is present running along the western boundary of the property and was overgrown with weeds. Only modern rubbish was observed on the surface of this area. An approximately 3-5 ft tall cmu property wall was observed along the entire western boundary of the project area.

Figure 20. Overview Photo of the Charles Atherton House from University Avenue looking west

Figure 21. Overview Photo of the Project Area along Metcalf Street looking west

Figure 22. Overview Photo of the Parking Area for the Charles Atherton House looking north

The northwest corner of the Charles Atherton building has been cut into the slope. This is indicated by an L-shaped retaining wall, designated Feature Honua 1, present in that area.

4.2.3 Feature Honua 1 (L-Shaped Stone Retaining Wall)

Feature Honua 1 consists of an L-Shaped retaining wall present around the northwest corner of the Charles Atherton House. The north-south portion of the wall measured approximately 16.5 meters long and is retaining the parking lot adjacent and to the west. A set of 4 concrete steps is present in the middle of the wall to provide access from the parking area to the building. This portion of the wall was approximately 70 cm in height, 40 cm wide, and comprised of sub-rounded and angular basalt cobbles and boulders loosely stacked two to three courses high (Figure 23). Mortar was observed on some of the stones. Nothing else of note was observed around or within this portion of the wall feature.

Figure 23. Photo of the North-South Portion of Feature Honua 1 looking west

The east-west portion of Feature Honua 1 runs very close to the northwest side of the Charles Atherton building (Figure 24). This segment measured 16 m long and includes an approximately 3 meter long curved portion which is truncated on its eastern end. The wall averaged 1.3 meters in height, was 40 cm wide, and was comprised of sub-rounded and angular basalt cobbles and boulders stacked five to six courses high. Mortar chunks were observed within the wall. Nothing else of note was observed around or within this portion of the wall feature.

It is likely that Feature Honua 1 was constructed contemporaneously with the Charles Atherton House in 1932, as it is retaining the area the building has been cut into. The wall is lower and dispersed at its eastern end indicating it may have continued to the east at one time and was possibly truncated during activities associated with construction of the Mary Atherton Richards House in 1959 (Figure 25).

Figure 24. Photo showing the Proximity of the East-West Portion of Feature Honua 1 to the Charles Atherton House looking east

Figure 25. Photo of the Eastern End of the East-West Portion of Feature Honua 1, looking north; also note Feature Honua 2 in the Foreground

4.2.4 Feature Honua 2 (Historic Pathway)

Feature Honua 2 is a historic pathway located between the Charles Atherton House and the Mary Atherton Richards House (Figure 26). The path extends from a sidewalk running parallel to University Avenue which connects the two buildings, and runs westward to the portion of the Charles Atherton House closest to Feature 1 (see Figure 25). The path is comprised of approximately 15 or more oval-shaped concrete pavers measuring approximately 60 cm x 50 cm. The first and eastern-most paving stone was engraved with "Aloha" and the date "7-XX-1962" (Figure 27). This makes it likely that the path dates to shortly after the construction of the Mary Atherton Richards House in 1959. Nothing else of note was observed or collected in association with the pathway.

Figure 26. Overview Photo of Feature Honua 2 looking west; note the End of Feature Honua 1 in the Background

Figure 27. Close-up Photo of Engraved Concrete Paver with Date at Feature Honua 2 looking west

4.2.5 Feature Honua 3 (Historic Curbstones)

Cut basalt curbstones were observed along University Avenue, spanning approximately 78 meters (256 feet) in length (Figure 28 and Figure 29). The curbstones ranged in size from 25 cm to 139 cm in length, with the majority ranging from between 57 cm to 110 cm in length. The width and height measured approximately 15 cm. The basalt curbstones are hand hewn and rectangular on the finished surface and rough and unfinished on the portion beneath the ground. It is likely that the curbstones came from the nearby Mō‘ili‘ili Quarry which produced many of the curbstones used along Honolulu streets in the latter half of the 1800’s and early half of the 1900’s. The quarry is located in what is now known as the lower campus of UH-Mānoa. The curbstones in the project area are typical of curbstones found along many of the older streets of Honolulu.

Figure 28. Overview Photo showing Historic Curbstones, Feature Honua 3, Running Along University Avenue looking northwest

Figure 29. Overview Photo showing Historic Curbstones, Feature Honua 3, Running Along University Avenue looking south

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Section 5 Summary, Site Assessments, and Mitigation Recommendations

This project was completed at the request of Wilson Okamoto Corporation. Honua Consulting conducted this literature review and field inspection for proposed renovations for the Atherton Student Housing Project located in Waikīkī Ahupuaʻa, Honolulu (Kona) District, Island of Oʻahu TMK: [1] 2-8-016:001. The project area includes 0.8 acres and is located at 1810 University Avenue. The property area is privately owned by the University of Hawaiʻi Foundation (UHF) Atherton Student Housing LLC, and is leased by the University of Hawaiʻi.

The proposed project plans to redevelop the existing property to a mixed use Student Housing, Innovation & Entrepreneurship Center. The project is proposed to include demolition of the Mary Atherton Richards House currently existing on the property and construction of two new buildings estimated to be six stories in height. The new buildings are proposed to span the entire length of the parcel, to the north and west of the existing Charles Atherton Home. Ground disturbance is proposed for demolition of the building, associated utilities, and landscaping.

Background research found the project area is located within LCA 387 O, RP 1941 to Mrs. M.P. Chamberlain of the ABCFM for lands within Punahou and Kawaiahao. The Royal Patent was granted in 1855 "for the purpose of affording facilities for the prosecution of Missionary work" (LCA 387 O, Federal Register 26-27v2). No traditional land use practices were noted within the project area.

The current project area was largely vacant prior to the early 1930s. A 1927 Sanborn Fire Insurance map shows the project area contained only a small private garage in the southwest corner, denoted by a small structure labeled with "A." (see Figure 11). In 1930, the Hawaii School of Religion was built within the northern portion of the current project area (Castle 2004) (see Figure 12 and Figure 13). The Charles Atherton House was built in 1932 within the southern portion of the project area. A 1932 *Ka Leo o Hawaii* article mentions during construction of the Charles Atherton House the ground surface was removed and topsoil was then imported. By 1959, the Hawaii School of Religion was removed and the Mary Atherton Richards House (also known as the Atherton YMCA) was built in its place (Concillio 2016).

Based on the results of the field survey it is likely that the construction of the existing two historic buildings, which take up much of the project area, destroyed or displaced any pre-contact and/or early-historic deposits that may have been present in the project area. This is evidenced by the subsurface parking garage for the Mary Atherton Richards House which extends several feet below the current ground surface and by the documentation of Feature Honua 1 (L-shape retaining wall) which indicates the hillside was cut, leveled, and filled with imported soil for landscaping during construction of the Charles Atherton House. Three potential historic properties were documented, including the L-shaped retaining wall (Feature Honua 1), a stone pathway (Feature Honua 2), and basalt curbstones along University Avenue (Feature Honua 3) (see Figure 17).

5.1 Site Assessments and Mitigation Recommendations

Historic properties are assessed based on age, integrity, and significance. Qualifying historic properties must typically be at least fifty years old. Integrity of a historic property is based on the location, design, setting, materials, workmanship, feeling, and association.

The National Register assesses the significance of each historic property under four broad categories (criteria a-d). The State of Hawai‘i uses the same criteria and adds one additional significance criterion (criterion e). Pursuant to HAR 13-284-6, site significance is assessed based on the following criteria:

a Historic property reflects major trends or events in the history of the state or nation.

b Historic property is associated with the lives of persons significant in our past.

c Historic property is an excellent example of a site type, period, method of construction, or work of a master.

d Historic property has yielded or may be likely to yield information important in prehistory or history.

e Historic property has cultural significance to an ethnic group, including, but not limited to, religious structures, burials, traditional cultural properties, cultural practices, and/or beliefs important to the groups history and cultural identity. Kamānele Park Significance Assessment

Feature Honua 1, an L-shaped stone retaining wall, is likely older than 50 years in age and it does contain integrity of location, however, this study does not find it to be significant under any criteria of HAR 13-284-6. No further work is recommended for Feature Honua 1 (Table 5).

Feature Honua 2, a stone pathway, is older than 50 years in age and it does contain integrity of location, however, this study does not find it to be significant under any criteria of HAR 13-284-6. No further work is recommended for Feature Honua 2.

Feature Honua 3, basalt curbstones along University Avenue, are likely older than 50 years in age, they do retain integrity of location, design and materials, and they are found to be significant under Criterion a as a major trend along Honolulu streets in the latter half of the 1800’s and early half of the 1900’s. Similar curbstones studied elsewhere in Honolulu have recommended basalt curbstones be protected through avoidance, as they are character defining features of historic districts (Fung Associates, Inc. 2017). If it is not possible to avoid the curbstones, then it is recommended that procedures for the treatment of curbstones be developed prior to commencement of construction activities. Where existing curbstones need to be removed for planned work to take place, it is recommended that curbstones should be salvaged and reinstalled in a similar design and pattern using the original materials.

Table 5. Table Listing Encountered Potential Sites and Recommendations

Temporary Site Number	Site Type	Recommendation
Feature Honua 1	Historic L-shape stone retaining wall	No further work
Feature Honua 2	Historic stone pathway	No further work
Feature Honua 3	Historic basalt curbstones	Avoid and Protect, if must be impacted salvage and reinstall

This study finds the project effect determination is "no historic properties affected". However, due to historic use of the project area it is recommended that archaeological monitoring be conducted in accordance with HAR 13-279 (Rules Governing Standards for Archaeological Monitoring Studies and Reports). It is possible historic artifacts and/or deposits associated with the social and residential center at the Charles Atherton House, the former Hawaii School of Religion, or the Mary Atherton Richards House may be encountered during project construction activities.

The conducted archaeological investigation is not an archaeological inventory survey (AIS), however, this report was intended to be written using standards outlined within HAR 13-276 for AIS studies and is intended to assist with historic preservation efforts for proposed renovations to the Atherton Student Housing Project.

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Appendix A *Ka Leo o Hawaii* 1939, Charles Atherton House Dedication

Ka Leo o Hawaii

THE VOICE OF HAWAII

HONOLULU, HAWAII, THURSDAY, MAY 19, 1932 — No. 30

The next and last issue of Ka Leo for this year will be the Graduation number, June 7. Hence the time which have been put on the writing and editing of a May 26 number, will be given the staff to prepare for the final examinations. Graduation issue, June 7!

Daughters of C. Atherton Donate Dorm Furnishings

With as much interest as if they had been selecting furnishings for their own homes, Mrs. Violet Harris, Mrs. Juliet Guard and Mrs. Laura Morgan, in addition to donating all the furnishings for the new Charles Atherton House, also personally selected them. These three women are the daughters of the late Charles Atherton, and it has been their chief aim to create as homelike an atmosphere as possible in the new building.

In commenting upon the interior decorating, Miss A. McPhail, head of the art department, said as she sat in one of the new comfortable chairs in the lobby of the Charles Atherton House, "The most important thing which impressed me throughout the whole place is the feeling of being so homelike. When I entered, I immediately felt as if I was entering a home, not a hotel or a large, cold boarding house.

"Take the living room, for instance. It has lovely warm colors and simplicity. The neutral color of the woodwork and the gay colors of the curtains all harmonize and produce a charm that is very pleasing.

"The furnishings in the rooms are well chosen. The color is excellent and it all blends well with the architecture. Everything is masculine and should please even the most discriminating he-man.

"The scale of the building has been restrained to pleasing homelike proportions and I feel that the donors have a warm feeling for those who are going to live here. Those boys who will be chosen to live in this house will certainly be very fortunate."

Yang Chung Hui to Hold Final Meeting

One more meeting of the Yang Chung Hui will be held on the afternoon of June 3 at the home of Mrs. Benigna Green. Election of officers for the next year will be held at that time. All committee reports are to be made then.

The sorority has also planned its invitational dance for June 7 at the home of Mr. and Mrs. C. Q. Yee Hop. Before the dance, the new officers will be installed.

The dance will also honor graduating members, old officers, and friends of the sorority who have helped in its activities during the year

Design of New Dorm Similar To Fernhurst

On the corner of Metcalf and University avenues stands a beautiful, creamy-colored, three-story building of colonial design—the Charles Atherton House designed after Fernhurst at the wish of the donors.

Fernhurst, designed by Julia Morgan, the leading woman architect in America, was donated by the Atherton family to the Y. W. C. A. in memory of Miss Kate Atherton, sister of Charles Atherton in whose memory the new dormitory is being built. The Atherton family has been so pleased with Fernhurst that the architects, Rothwell and Lester, were asked to model the Atherton House after Fernhurst.

The planning of the grounds is under the direction of Richard Tong, former University of Hawaii graduate, and at present in charge of landscape gardening of the University. The top soil has been removed and loads of good soil have been put in. Within the next few weeks, a large number of shrubs will be planted.

Planned to meet the growing life and needs of the University, the Charles Atherton House is a worthy undertaking of the Atherton family. Besides this exterior view, a stroll through the building will make anyone want to live in this beautiful dormitory.

Mrs. Rosalie Flores Overcomes Difficult Situation on Lei Day

Composing of Songs, Words and Music, and Teaching Hula to Lei Pageant Performers, Successfully Accomplished

One does not realize how difficult it is to compose a song until one is forced in a situation where one has to do it. Such was the situation in which Mrs. Rosalie Flores was placed when she was asked to compose a song for the recent Lei Day pageant.

For days Mrs. Flores had this on her mind. She looked at book after book for helpful hints. When she had succeeded in composing the words of the song, the next thing was the music. This was more difficult. She went home every day, got her ukulele, and strummed tune after tune to get something appropriate for her song. When finally she got a tune she liked, she went to her sister to get her opinion on the music.

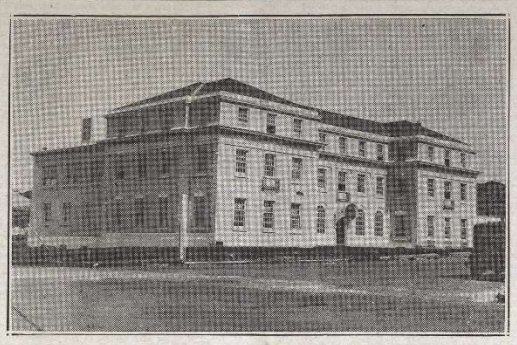
Having received favorable comment from her sister, Mrs. Flores had another task ahead of her—that of teaching her hula to the girls. This was not as difficult as she had thought it would be, because the girls all liked the hula so much that they had no trouble in learning to dance it.

The hula, a result of much hard work on the part of Mrs. Flores, is entitled "Na Kai O Hawaii" or "The Waves of Hawaii." The song which follows describes the waves of the different islands:

(Hawaii) "Hanohano o Kona ike kai
malino a ehu
(Maui) Kilakila Kahului ike kai holu
holu e
(Oahu) Mani wai Waikiki ike kai ha
wanawana
(Kauai) Hanheo Ahukini ike kai
lanamalie
(Molokai) Kaulana Molokai ika ehu
ehu a kekai
Haina kapuana na kai kaulana o
Hawaii."

Although many of her friends had expressed favorable comments, the author herself did not realize how beautiful her song was until she heard her own composition sung over the radio one night. Then she realized that all was not flattery.

The Charles Atherton House



CAMPUS CLUB GIVES PLAYS

Three One-Act Plays, Written by Students, Deal With Life in Hawaii

Sponsored by the Women's Campus club, the three one-act plays recently written and produced on the campus were given public presentation at the lecture hall on May 13 and 14 at 7:30 p. m. The proceeds of the programs will be used to refurnish the women's rest room in Gartley hall and also to start a fund for the establishment of a permanent practice house for the home economics department.

To enhance the international spirit of the plays, one of which deals with Japanese life, another with Chinese life, and the third with life in primitive Hawaii, six girls dressed in costumes of different nations acted as ushers.

The plays were written in Dean A. L. Andrews' playwriting class, and they presented a different phase of local life, both past and present. "Baby Clothes," written by Mrs. Beatrice Newport Butt, reveals the misunderstanding and subsequent conflict which occurs today in the local Japanese community between the older and younger generations. Margaret Nakasone, Shizuko Nakano, Grace Kaneshiro and Earl Kubo comprised the cast.

"Mei-ai," or "Beautiful Love," a product of Miss Gladys Li, tells of the love and future which a modern young Chinese girl is about to sacrifice in order that the promise made by her parents may be carried out. Her lover, portrayed by Dan Yee, saves her from an unhappy and sad mar-

(Continued on Page 4)

Commerce Club to Give Seniors Party

Meeting to Elect Next Year's Officers Will Precede Dinner-Dance

Honoring its senior members, the Commerce Club will have a dinner-dance tonight at the Elizabeth Pulier Hall, Y.W.C.A., from 6:30 to 11:00 p. m. Preceding the dance, there will be a short business meeting at which time the officers for next year will be elected. Chaperons for the affair will be George Peavey and W. M. Taylor, instructors in the Commencement dept.

To defray expenses, a charge of fifty cents will be made for each person attending the dinner. Music for the dance will be provided by a six-piece orchestra.

Dedication of Atherton House June 1 at 4 P.M.

Dedication exercises for the Charles Atherton House, new men's dormitory at the University of Hawaii, will be held Wednesday afternoon, June 1, at 4 o'clock. Presentations will be made by James F. Morgan, chairman of the Building committee, Guy F. Rothwell of the Rothwell and Lester architect firm, and Mrs. Theodore Richards, representing the Atherton family. The formal ceremony will be participated in by Dr. Horace H. Leavitt and Rev. Azuiko Akana.

Frank C. Atherton will deliver an address on "The Future of Hawaii and University Students." Greetings will be given on behalf of the university by President D. L. Crawford. In connection with the dedication the cornerstone will be laid. Lloyd R. Killam, of the Hawaii School of Religion and the Y.M.C.A., will read the contents of the box in the cornerstone.

On account of the limited space in the building the dedication exercises will be invitational. The House will be open for inspection by the students of the University on the days following the dedication.

C. H. ATHERTON ACTIVE IN YMCA

Graduate of Oberlin; Collections of Art and Literature Fine

Charles Henry Atherton, in whose memory the Charles Atherton House was erected, was born in Honolulu, July 12, 1867. He was the son of Joseph Ballard and Juliette Montague Cooke Atherton. He received his early education at Punahou school and at the age of 16 went to Oberlin college. Before returning home he was married to Minnie Merriam, of La Grange, Ohio. For some months after their marriage they lived in Honolulu, then went to San Francisco for a year.

On returning to Honolulu, they established a permanent home and three daughters were born to them. Atherton entered the employ of Castle & Cooke, in which firm he remained until his retirement from active business in 1927. He began as a clerk and retired as treasurer and a director of the company. He died February 21, 1928.

Having been nurtured in a Christian home, he early identified himself with the church and the Young Men's Christian Association, and became an active worker in both organizations. Following his father as treasurer of Central Union church, he served in that position for 25 years. He held a similar office in the Young Men's Christian Association for a number of years.

For many years he took a vital interest in the gymnasium and was captain of the business men's bowling team for several seasons. He also greatly enjoyed tennis and in earlier years played in the tournaments.

During the later years of his life he developed a great love for music, literature and art. Few persons in Honolulu had a larger and more carefully chosen library of Victrola and Pianola records. His collection of etchings was especially choice, while his library of books, particularly of the classics, of English literature, history, editions de luxe of famous authors was well known on the Mainland.

After his death his library of books was presented to the Honolulu Library Association by his daughters. He has served as president of that association for over ten years, and was deeply interested in its development and progress.

(Continued on Page 2)

BANKERS OFFER SCHOLARSHIP

N. Y. Bankers' Assn. Choose Schools for Loan Scholarship According to Standards

To encourage students to become leaders in professional and business life, the American Bankers Association Foundation in New York is again offering one of its loan scholarships to a University of Hawaii student majoring in economics and business.

The foundation awards these scholarships to deserving students of integrity, intelligence, character, competency, and aptitude, whose means of support are dependent wholly or in part on their own labor. Such students will be selected by a committee in each institution composed of the head of the business department, the instructor of the banking course, the dean of women or men, and a prominent banker to be selected by the president of the institution.

Institutions, to which loan scholarship awards are made, are chosen because of their type of school, their educational standards, geographical distribution and their desire to cooperate with the foundation.

The maximum loan award to any student in a given school year is $250, total repayment to be made within three years after the student leaves school. Interest of 5 per cent will not be charged until the first day of the second January after the date the student receiving the loan scholarship award leaves the school.

Any business majors interested may call at President Crawford's office for further information regarding details of application.

McKinley Movie Is Given by Extension

"Aloha" Shows Life of Mainland Student in School of Hawaii

Under the auspices of the University of Hawaii extension service, the McKinley high school movie, "Aloha," was shown at the Lecture hall at 3 p.m. on Monday, May 16.

The story is of a young girl, Evelyn Maples, who comes from the mainland with her parents and decides to attend the McKinley high school to develop contacts with the boys and girls of other races. The picture then takes her through a typical year of school work and life at this high school where the racial elements are cosmopolitan in character.

(Continued on Page 4)

Audacious Co-ed Jumps at Only Chance to Inspect Men's Dorm

Plays Little Goldilocks With Big Chairs; Gives Advance Dope About Girls' Dressing Room; Makes Careful Survey of Bedrooms and Is Pleased

A chance to explore the new Charles Atherton House! Did I grab it? Well, would Moses Come miss a class outing? So, I found myself in what is to be the boys' new dorm with the liberty to look around to my hearts desire. I fully realized that it may be my only chance.

Bright gay colors on a background of green and tan. Cool green curtains, big comfy cushions and a real fireplace. All these drew me to the living room where, like little Goldilocks in the home of the three bears, I tried first one chair and then another—and they were all just right. Comfortable settees, large sprawling armchairs, cute round chairs built like an hour glass and straight upright chairs were placed most conveniently at every nook. With the aid of inner-spring cushions not only on the seats but also over the backs, they all invite one to sink into them and forget that there is supposed to be a depression going around the corner.

From the depths of a big armchair I could see straight across the lobby and into the dining room on the opposite wing of the house. It, too, is furnished with green curtains.

Everywhere the furnishings carried out the color scheme of green and orange. The stick-reed furniture in the living room were natural colored decorated with green and black. The ceiling was ribbed and faintly tinted green. Even the unique lamps which looked like ships' lanterns were a pale green. But the cushions which were everywhere, daunted their bright orange, red, yellow and brown over this background, making the place fairly glow with warmth and cheerfulness. It was all I could do not to pick up a cushion and walk off with it.

From the living room I tripped over to see the hostess' suite. It certainly is sweet! Complete with parlor, bedroom and bath, it also has an open sun porch where the breeze sweeps freely through.

Here's something interesting for

(Continued on Page 4)

UH Students Make Good in China College

Favorable reports of students from Hawaii now attending Yenching university, Peiping, China, were made by Dr. Leighton Stewart, president of Yenching, during his visit to the University of Hawaii Thursday morning.

"We should like to have more students from Hawaii," he said. "They bring a valuable infusion of certain American qualities which have greatly enlivened our student life. They are making valuable contributions to extracurricular activities, in the form of college spirit and sportsmanship."

He said that the boys from Hawaii had shown Yenching athletes that it is possible to bear defeat gracefully "without losing face," that they aided in teaching the Chinese youths teamwork, and added volume and spirit to the cheering at games.

Former University of Hawaii students who are now at Yenching university are Kenneth Chun, Calvin Jo Hee Chun, Harry Chang, Phillip Chuck and Howard Lum.

Dr. Stewart arrived in Honolulu Thursday morning and will leave today on the Empress of Canada. He is returning to China from a trip to the mainland on university business.

Yenching was founded in 1919 by consolidating several smaller mission schools into one university. It is supported by private endowments, receiving assistance from the Rockefeller foundation. The enrollment is limited to 800 students, of whom 230 are women.

Fantasy to be Given At YW Installation

At the University Y.W.C.A. Installation banquet, to be held at Puller hall on Friday evening, May 20, the University "Y" Players will present Stuart Walker's fantasy "Six Who Pass While the Lentils Boil."

This delightful one-act play has for its theme the difficulties arising from archaic and useless laws. A cast of eight characters has been working faithfully for some time, under the direction of Mrs. Wendell Thomas.

The characters are;

Memory ..... Belmyra Souza
The Boy ..... Ruth Thomas
The Queen ..... Winifred McLean
The Mime ..... Fred Patterson
The Milkmaid ..... Patsy Shintani
The Blindman ..... Dan Yee
The Dreadful Headsman .....C. Kenn

Phi Kappa Phi To Hold Dinner And Initiation

All members of Phi Kappa Phi in Honolulu are invited to the annual Phi Kappa Phi banquet which will be held in the University of Hawaii cafeteria at 6:30 p. m. Thursday, May 19.

Dr. Robert E. Park, visiting professor from the University of Chicago, Dr. Royal N. Chapman, director of the experiment station of the Association of Hawaiian Pineapple Canners, and Dr. Arthur L. Dean, former president of the University, will speak on different phases of the subject, "Scholarship and Research."

The banquet will follow the annual initiation of new members which will be held in Hawaii hall, beginning at 4:30 p. m.

Phi Kappa Phi is a national honor society which chooses its members for their high scholastic standing. The University of Hawaii chapter was founded in 1930 by Prof. A. Howry Espenshade of Pennsylvania State college who was at the time visiting professor to the University of Hawaii.

NEW DORM IS SPACIOUS HOME FOR U. H. MEN

Atherton House Fills Long Felt Need for Residential and Social Center

IS GIFT TO Y.M.C.A.

Activities to Center Around Residential Group and Y. M. C. A.

To meet a long felt need for an adequate residential and social center for the men of the University of Hawaii, the Atherton family has provided a spacious home for men on the campus. The building has been given in honor of Charles Henry Atherton, who, during his active life, was deeply interested in young men.

The large gift which made the building and its furnishings possible was made by the late Mr. Atherton's brother and sister, Frank C. Atherton and Mrs. Theodore Richards and by his wife, Mrs. Charles H. Atherton, and daughters, Mrs. Violet Harris, Mrs. Juliette Guard and Mrs. Laura Morgan.

The building is a gift to the Young Men's Christian Association, an organization which Mr. Atherton served as an officer for over thirty years. The House will be under the direct management of a House committee representing the University, the Atherton family and the Young Men's Christian Association. This committee is composed of Dean A. R. Keller, Dean B. O. Wist, Dr. J. W. Coulter, Frank C. Atherton, Mrs. Theodore Richards, Mrs. John B. Guard, James

(Continued on Page 2)

Eight Students Will Exchange With Yen Ching

New Exchange Plan to Promote Better Understanding With Other Countries

Eight students will go to Yen Ching University as exchange students this year. They are Flora Ho, Irma Tam, Hung Wo Ching, Pin Kyau Zane, Edward Wong, Harry Mau, Sung Lin Yuen, Nellie Chock, and John Fo.

Arrangements have been made with Yen Ching university and University of Hawaii to have students transfer to either institution for one academic year. All the credits earned the year abroad will be accepted by university the students is from.

This mutual agreement is for the encouragement of students to bring on a better understanding of people in other parts of the world with the local university.

The party that is going will be under the leadership of Hung Wo Ching. Arrangements have been made with the Canadian Steamship Line for a special rate and privileges while on board the Empress of Japan, which leaves August 4. Traveling third class to Shanghai will cost $70.50.

Dr. Stuart, president of Yen Ching University, who passed through Honolulu a week ago, said that with the present rate of exchange, $200 gold will be sufficient for tuition and dormitory expenses.

The party will be limited to 15 students only. There are twelve who have signed up to join. Four are from McKinley high school. Those who are interested should see Hung Wo Ching soon.

YW to Hold Dance And Banquet May 20

Bringing the year's program to a close, the University Y. W. C. A. will hold its first annual banquet and dance tomorrow evening at Puller hall, Y. W. C. A. The banquet, in which only members of the Y. W. C. A. will participate, will begin at 6 o'clock.

President David L. Crawford, Mrs. Frank Atherton, Mrs. Arthur L. Andrews, chairman of the organization's advisory board, and Violet Fang, president of the club, will be the speakers at the banquet.

The feature of the evening's program will be the candle lighting ceremony at which time the officers and members of the cabinet for the next year will be installed into offices. The retiring officers will pass lights to the new officers, and the members of the Y. W. C. A. will also carry lighted candles. The newly-elected officers are Violet Fong, vice-president, Frances Dunn, secretary, Sakiko Ohtsubo, and treasurer, Rebecca Ing.

Following the installation of the officers the dance will take place, probably at 8 o'clock. A short play by some members of the Y. W. C. A. and Y. M. C. A. has been included in the dance program. Guests of the members of the Y. W. C. A. and the members of the University Y. M. C. A. have been invited to the dance.

Special guests of the evening include President and Mrs. Crawford, Mr. and Mrs. F. Atherton, Miss Ethel Mitchell, Miss Mary Cady, Dean and Mrs. Arthur L. Andrews, Dean and Mrs. Arthur R. Keller, Dr. and Mrs. Earl M. Bilger, Dr. and Mrs. T. Harada, Mr. and Mrs. Shiro Chang Lee, Dr. and Mrs. Charles H. Edmondson, Dr. Mary Chase, Miss Lorna Jarrett, Mr. and Mrs. Walter Frear and Miss T. Nishimoto.

Phi Delta Sigma to Hold Formal Dance

As a fitting climax to a year of extensive activity in campus social life, Phi Delta Sigma, a Greek letter social fraternity, will give its formal dance of the year at the Royal Hawaiian hotel on the night of June third. Dancing will begin at 9:30 o'clock and will last until 1:30 a.m.

Committees in charge of the dance have arranged for several features in the course of the evening's entertainment, among which will be novelty dances.

The chaperons for the evening will be Col. and Mrs. Adna G. Clarke and Prof. and Mrs. Carl Stroven. Prof. Stroven is adviser to the fraternity. Other members of the faculty are invited as special guests of the evening.

The popular Farden-Pospos orchestra will supply the music for the dance. The affair promises to be one of the most outstanding dances of the college year.

Chinese Cook Book Published by Club

"Practical Recipes in Chinese Cooking," a forty page cookbook containing from 90 to 100 recipes of the more popular dishes, will appear at the end of the week, published by the Te Chih Shah.

Marion Tam, with the assistance of Irma Tam and Flora Ho, edited the little pamphlet, which will be sold on the campus at the bookstore at sixty cents.

Spare ribs, fried noodles, chop sui, and many other popular dishes are found in the booklet, which is simplified with illustrations.

Reprints of Articles On Chinese Theater Presented to Library

The University library has just been presented with a number of reprints of articles on the Chinese theater written by George Kin Leung, now making a detailed study of the subject in Peiping. He was formerly associated with the North China Daily News in Shanghai.

The reprints were given to Mr. George J. Peavey, Public Speaking instructor at the university, by Mr. Leung when the former was visiting in Peiping last summer. They include results of the more recent research into such phases of the Chinese stage as "The Sheng or Male Characters," "The Cantonese Theatre Today," "The Ching or Painted Face characters," "Comedians of the Chinese Stage," and "The Contributions of Mei Lan-fang to Chinese Drama."

The pamphlets will be placed in the regular section on Chinese drama.

Yan Sing Leong Is Author of Article In Business Journal

Yan Sing Leong, an alumnus of the University of Hawaii, is the author of an article entitled "Indexes of the Physical Volume Production of Producers' and Consumers' Goods" which appeared in the Journal of the American Statistical Association for March, 1932.

Mr. Leong was graduated in 1924 with honors. Later, he was granted the Ph.D. degree by Columbia University. He is now associated with the Brookings Institution, Washington, D. C.

New Dormitory Is Spacious Home

(Continued from Page 1)

F. Morgan, Stanley Livingston, Lloyd R. Killam and Rolla K. Thomas.

It is intended that the activities centering in Atherton House will be focussed around two groups, the residential group which will plan its own house events, and the University Y. M. C. A. which will endeavor to make the building serve the campus at large. Plans for the latter activities are in process of being worked out.

It is anticipated that many events of a cultural and educational nature, such as forums, music, drama and social gatherings which are new to Local campus life will be planned. Those in charge are making a study of the programs carried on at the International Houses at Berkeley and New York to see what features can be used here. The residents in the House will be free to choose the activities in which they participate.

The facilities of the House will be open to any male student of the university regardless of race, religion or membership in the University Y. M. C. A. Three meals will be served to all residents daily. The price for board is to be $30 per month and the cost of the rooms varies from $12.50 for double rooms to $25 for the choice single rooms.

An attractive booklet describing the features of the House has been issued this week by the House committee. Since its appearance a large number of inquiries and applications have come in to the committee. Applications will be made to the hostess, Mrs. Cora E. Sabin, and referred to her by the committee for decision.

Applications are to be made before July 1. It is anticipated that all present university students will file their applications before the close of school on June 7.

Aggie Club Will Hold Farewell Luau

Will Honor Departing Seniors With Luau and Dance on Saturday, May 21

The Agricultural club will honor the seniors at a farewell luau and dance on Saturday evening, May 21. The luau will be at the University cafeteria and will start at 6:30 p. m. Immediately after the luau the members and their guests will go to the gymnasium where dancing will be held till 12 o'clock.

Invitations have been extended to all the Aggie instructors, to other members of the faculty, and to those who are interested in the welfare of the Agricultural club. About 150 people will be present at the affair.

The special guests of the club are Pres. and Mrs. D. L. Crawford, Dean and Mrs. A. R. Keller, Dr. and Mrs. E. M. Bilger, Mr. and Mrs. B. H. Allen, Mr. and Mrs. J. M. Westgate, Prof. and Mrs. H. A. Wadsworth, Prof. and Mrs. F. E. Armstrong, Dr. and Mrs. F. G. Krauss, Dr. and Mrs. C. P. Wilsie, Mr. and Mrs. A. S. T. Lund, Mr. and Mrs. E. M. Ehrhorn, Mr. and Mrs. F. Botelho, Mr. and Mrs. N. K. Pekolo, Mark Wesgate, Milungi Maneki, George Goo, Philip Lam, Makoto Takahashi, and Francis Yap.

Mr. and Mrs. A. S. T. Lund, and Prof. and Mrs. L. A. Hencke will be the chaperons for the evening.

Seniors who will be honored are David Akana, Tamotsu Horii, Tai Loy Ho, Kwock Wo Tom, Yoshio Omura, Won Yill Wnang, Matsuhei Nishimura, Isao Toyama, Genbi Tonaki, Lawrence Kinoto, Kenneth Ohara, Henry T. Lum, and Jushin Kaneshiro.

The general chairman of the affair is Charles Y. O. Wong, assisted by Norito Kawakami, Yaso Abe, Nobue Tauji, and Henry Kusunoki.

A very elaborate and tempting menu is being planned by the boys. It is to consist of kalua pig, laulau, chicken cooked in coconut juice with taro tops, lomi salmon, opihi, haupia, butterfish laulau, kulolo, pineapples, watermellons, soda water, cake, sweet potatoes, poi, and other Hawaiian delicacies.

Atherton Active In YMCA Work

(Continued from Page 1)

He used to say that his music records, his etchings and his library were his tobacco and liquor money, for he neither smoked nor drank during his sixty years of life.

Of Charles Atherton it could well be said, "He was a friend to man." Few men could count as many friends as he—young and old, rich and poor, men of many races and religions found in him a friend. They sought his advice, sympathy and aid when in sorrow, sickness, or need. Seldom did he turn a deaf ear to any appeal.

Charles Atherton knew what real work meant and how to live on a small salary. Even in the early days he was generous and as his means increased, his gifts increased in proportion. He seldom let his left hand know what his right hand gave, and his constant thought of others in the little courtesies of life were countless and are most lovingly remembered.

Many will remember him for his cheery, ready smile, cordial handshake, jolly stories and unusual memory for names and faces; for his love of birds and his ministrations to the flocks that followed him on his daily walk to town.

He enjoyed the society of young men and would rejoice that his memory is to be perpetuated in such a building as this which is to serve the students of the University during their life on the campus—as a home, and as a center of social and religious life, where the highest ideals shall be maintained.

All students who have rented art or book lockers at the University are requested to return their keys to the business office and obtain their refund on May 26. No refunds will be made after June 3.

SOCIETY

YANG CHUN HUI HAS PARTY FOR GRADUATES

Yang Chung Hui held a "bud" party at Sadi Li's home last Saturday afternoon in honor of the graduating members. Each senior guest received a pretty corsage of tea roses and sweet peas.

After a short business meeting the girls enjoyed some interesting parlor games including a hilarious "treasure hunt" for candy. May Day Lo and Lurena Yee entertained with comic monologues.

Seniors present were Theodore Ching-Shai, Elizabeth Leong, Phoebe Leong, Sadi Li, Bernice Lum-King and Rose Chang.

In charge of the affair were Peace Tan, Eleanor Liu, Dorothy Nip, Eileo Achuck, Lurena Yee, May Day Lo, Clara Chun, Eleanor Chun, and Florence Liu.

The next meeting of the club will be held at the home of Mrs. Benigna Green on the afternoon of June 4. Election of officers will take place then.

NIHONGO KENKYU KAI TO HOLD BEACH PARTY

The Nihongo Kenkyu Kai will hold a farewell beach party in honor of the seniors at the Y.W.C.A. Beach House this Saturday afternoon from 2 to 7 p. m.

Games, swimming, and cards will form the chief diversion of the afternoon. Isao Toyama is in charge of the program.

The graduating seniors are Sumiyo Hoshino, Harumi Okimura, Mollie Koike, Shizuko Nakagawa, Isao Toyama, Kenneth Morinaga, Isamu Miyoshi, and Shigeki Hayashi.

The outgoing officers of the organization are president, Shizuko Nakagawa; vice-president, Kenneth Morinaga; secretary, Gladys Harada; treasurer, Isao Toyama.

WAKABA KAI SENIORS HONORED

Senior members of Wakaba Kai were honored at a farewell party given by the sorority at the Y.W.C.A. last Saturday afternoon. Each senior was presented with a beautiful corsage of tea roses, pansies and sweet peas.

Carla Mirikitani, president of the organization, introduced the officers of the coming year—Ayako Kimura, president; Gladys Harada, vice-president; Shizuko Nakano, secretary; Michi Suzuki, treasurer.

A surprise feature of the program was the announcement of the recipient of the Wakaba Kai scholarship. The scholarship for this coming year was awarded to Masako Kubota, a sophomore.

The seniors honored were Sumiyo Hoshino, Tsuru Higa, Mollie Koike, Florence Morimoto, Carla Mirikitani, Betty Murota, Moto Machida, Shizuko Matsuki, Yukiko Nakamura, Shizuko Nakagawa, Harumi Okimura, Asako Suzuki, Alice Tahara, Edith Tokimasa, Kasumi Takeshima and Hazel Uemura.

Miya Harada was general chairman of the affair, assisted by Ruth Kojima, program; Elsie Hayashi, refreshments; Fumiko Kimura and Inoyo Kojima, invitations.

GRADUATION BALL A SUCCESS

Gayly colored carps and huge fishing nets were used in a most unique manner in the decorations of the gymnasium for the Senior Graduation ball on Saturday evening, May 14. The stage likewise was strikingly decorated with a lovely marine painting carrying out the idea of the fishes and the nets which were artistically strung from the ceiling.

The special guests of the evening were President and Mrs. David L. Crawford, Dean and Mrs. Arthur R. Keller, Dean and Mrs. Arthur L. Andrews, Dean William H. George, Dean and Mrs. Benjamin O. Wist, Dr. and Mrs. Earl M. Bilger and Colonel and Mrs. Adna G. Clarke.

Dr. and Mrs. Donald W. Ronald, Dr. and Mrs. Paul S. Bachman, Capt. and Mrs. Ernest A. Rudelius and Capt. and Mrs. Cecil J. Gridley were the chaperons for the affair.

Eugene T. Ichinose was chairman of the dance. Helping him were Hortense Mossman, assistant; Christine Laird, decorations; Shizuko Nakagawa, refreshments; Edwin Chun, tickets; Roy Mitsuka, publicity.

Seniors may obtain their caps and gowns on June 3 and 4 in room 119, Hawaii hall. A rental fee of $1 will be charged.

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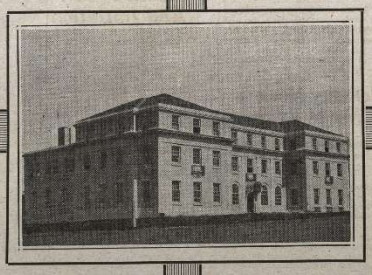

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CHARLES ATHERTON HOUSE

The University is to be congratulated upon the opening of the beautiful Charles Atherton House. While given for the special use of the students it will be of great value to the whole life of the University.

It is generally recognized that at least half of the value of an education comes from what is termed college life. The best part of college life comes in the leisure hours when students have the time to sit around and share their problems and ideas with each other. The friendships formed and the atmosphere of culture and refinement will make Charles Atherton House a home to which those who have the privilege of living there will look back to as long as they live.

The new House will also serve as a social and religious center for all the men of the University. Such a center has long been needed. It is anticipated that this phase of the House will be appreciated by all the students of the University.

The members of the Atherton family have shown great confidence in the University in providing a building which doubtless will serve the men of the University for over a hundred years. They have also shown great confidence in the Young Men's Christian Association in entrusting the management of the building to its care. This organization which began in London in 1844 and is now organized in every civilized country has had a great deal of experience in the management of residences and social centers for men.

The foresight of the Atherton family in making Charles Atherton House possible will doubtless be an example to other persons to make provision for the growing life of the University. Already the girls are hoping that such a building will be provided for them.—L. K.

Co-ed Inspects New Dormitory for Men

(Continued from Page 1)

the girls. I peeked into the girls' dressing room—ah! yes, they didn't forget that—and saw that it was all that a feminine heart can desire. There are mirrors and dressing tables, but best of all there is a full length looking glass covering a whole door. How's that for thoughtfulness? There are two charmingly furnished guest rooms, too, and I noticed that in one of them there was also a full length looking glass. Don't tell me that they expect to have only men guests there.

It was fun skipping up the stairs and looking at all the rooms. Some of them have one bed and others have two. And the mattresses, oh! they must have been at least a foot thick. Here again green and orange were used in all the decorating. Every room is completely furnished with steel beds, study tables, bureaus, deep armchairs, rugs, floor and table lamps and even a "costumer" or in other words, a hat and coat stand.

I sat in one of the armchairs to see if it were large enough. It was, for my legs stuck straight out in front when I sat in it. The rooms are said to be better than those at Yale or Harvard and one can easily believe that.

After wandering around, I found myself once more in the lobby. It is a large central hall furnished with fiber furniture. The card tables and smoking stands ought to make the lobby a favorite retreat. It is here that there are curtains the like of which has never before been seen in Hawaii. They have been specially designed and are round to conform to the shape of the windows and look very pleasing.

There is no doubt that those who planned the house have succeeded in their effort to have it seem like a home. From every corner—and cushion—there radiates a homey atmosphere. Charles Atherton House has beauty, color and warmth, and as I reluctantly left it, I wished for the time that I were a boy.

Campus Club Gives Three Short Plays

(Continued from Page 1)

riage. Other members of the cast included Sadie Li, Bernice Kim, Nellie Chock, Dan Wong, Lizzie Yee, Alice Yap, and Raymond Won.

Mrs. Nancy Andrews, author of "Puhenehene," gives a glimpse of life in old Hawaii, before the arrival of Captain Cook. Maile's passion for "puhenehene," a gambling game, almost causes her to forfeit herself to Paoa, the crafty villain. But his cheating is discovered in time. Eva King took the part of Maile, with Fred Kruse as her lover and Roy Craw as the thwarted rival. Others included Harrison Hsen, Marion McGregor, Irmgard Farden, Sadie Kelekahi, and Margaret Yonge.

Dean Andrews, in speaking of the plays, stated that he was attempting to accomplish in his playwriting class what Professor George Pierce Baker of Harvard and Dr. Koch of the North Carolina players were doing—to encourage students to use local themes in their writings.

College Chatter

by
Betty Co-ed

Iowa State Teachers College:—Co-eds will know just what to do in that embarrassing situation soon after the publication of "Good Form," etiquette book for I. S. T. C., this fall. The book will teach the girls what fork to select for salad and how to introduce the boy friend.

Members of the Inter-Sorority council are sponsoring the publication. The aid of a professor of English and one of home economics has been sought.

The new "Emily Post" will contain sections devoted to correspondence, social affairs, correct behavior in public places, and entertaining in the home.

University of North Carolina:—This University community was thrown open to a congregation of high school students during High School Week. Athletic events, debates, and presentation of awards made by the University for contests conducted by the university during the school year were featured during the week.

The athletic events drew ten school teams including 200 men. The contest for the Aycock cup and the debating championship drew 228 speakers from 57 schools. Speakers debated on compulsory insurance for unemployment.

Pomona College:—About half of the incoming freshman class of this college has already been chosen by the committee on admissions. More than 50 men and 50 women have been admitted, and the remaining number of 50 more men and 50 more women will be considered at a slower rate.

The college freshman class is limited to 200. Entrance applications have come for the most part from California, but one is planning to come from Hawaii and one from Korea.

University of Redlands:—The University men and women debate teams presented the student body with two cups, the National Women's Extempore Cup and the Men's National Debate Cup, after their return from the National Pi Kappa Delta convention at Tulsa, Oklahoma.

This double victory was the first ever made by any school at a national convention of the debate fraternity, and the Redlands team was the first to go through any tournament without any defeat. The debate was won from 102 teams.

University of Washington:—In spite of the fact that college has blasted most of our notions of theology and we have become flippant, blase, or jazzy, we are religious if we are basically honest as believes Dr. Herbert A. Willett of the University of Chicago. Dr. Willet is a well-known religious educator.

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An Interpretation of Things Hawaiian

Comments on Customs Past and Present

Nowadays one cannot always believe what one hears or reads about. This week's contribution will consist of attitudes toward the Hawaiian in the early days as they have been expressed by explorers, missionaries, and visitors. The recent Kahahawai and Massie-Fortescue cases have prompted me to state the following attitudes. The reader will note that the explorers and traders have, as a rule, dealt more with the good attributes of the natives, whereas the missionaries have spoken and written of the "heathenish practices" of the Hawaiians. A close study of the various points of view will prove quite helpful to sociologists, phychologist, and even layman.

The hula was frowned upon by the missionaries, but Cook commented favorably, saying that they were probably ceremonial dances. Vancouver, after having been entertained by an exhibition of the hula on which occasion there were several acts described them as being interesting and not in any way offensive, with the exception of the last one. Menzies, botanist with Vancouver also comes in for some speculation. He writes enthusiastionally of a dancer whom he saw whose actions with "measured paces, fascinating movements and graceful attitudes, so punctually timed, were beyond the power of description."

Kotzebue, the Russian whose French artist painted a portrait of Kamehameha I, adds his statements in praise of the hula. "The whole bore the impression of pure nature and delighted me more than the European ballet. The hula filled me with admiration." Even Arago, whose arrival here in 1819 gave him an opportunity to witness of hula spoke of it as being "gay and agile."

Stewart, the missionary who arrived in 1823 raises no objection to the hula because of indecency.

Ellis, whose "Tours Through Hawaii" is available in the Hawaiian library tells of seeing the hula on six occasions, and describes it as having nothing objectionable to it. "Their movements were slow and though not always graceful, exhibited nothing offensive to modest propriety."

Bingham, one of the first missionaries makes the most inhuman criticism of all. His "History of The Sandwich Islands" describes the natives as if they were lower than the lowest of animals, and speaks of the religion of the people as allowing them to indulge in the lowest forms of social morality in the eyes of the white man. A haole (W. Bates) describes a hula which he saw in a remote part of Molokai as a licentious dance. He was dressed as a runaway sailor on the occasion. He further states: "Islanders conceal many things from the missionaries as they have a secret dread of their spiritual teachers." But.....he adds that this was but human nature and it is the same in professedly Christian countries.

In David Malo's accounts, the hula is spoken of as a popular amusement, which was used to confer distinction upon the ali. In the forepart of Malo's book, Emerson writes that the hula degenerated and went to the bad when the white man came. Even Dr. Alexander, who does not agree with Emerson states that there were several kinds of hula and that the worst have survived.

Mark Twain, who was here during the reign of Kamehameha IV, writes: "The Bishop (Staley) revived the half forgotten howling and hula dancing and other barbarisms in the palace yard and officiated there as a sort of Master of Ceremonies. For many a year before he came that wretchedest of all wretched instruments, the tom-tom, had not been heard in the heart of Honolulu but he has reinstated it.....There were not ten men in the kingdom who had seen the like before in public." Bishop Restarick calls what Mark Twain had to say, "a bit of nonsense," for "on the death of Kamehameha III there had been the usual wailing and other customary native ceremonies, as people now living remember, and most of us who have lived here long have seen and heard such things and have not been shocked."

The following taken from Restarick's "Hawaii, From the Viewpoint of a Bishop" gives his attitude toward old Hawaiian morals.

"I have seen many hulas, some of them graceful, and some quite the contrary, but I have never seen anything indecent. No doubt this was because I was not a tourist seeking that kind of thing and paying well to see it."

There is no doubt, however, that as Dr. Alexander said, the worst forms of the hula have survived when the dance is performed in the presence of those who wish to see an immodest show, but anyone who travels knows that if one wishes to see indecent or nude exhibitions he can find such in any city if he pays the prices asked. One thing those who do not know the Hawaiians would find it hard to believe, and that is, that they are modest in regard to exposure of their persons, but it is nevertheless a fact, as we kamaainas know.

Peoples in different parts of the world regard clothing and modesty differently. Some consider it immodest for a young lady to show her face, others believe it inconsistent with good breeding for a woman to expose her legs, arms and ears. Some people wear very little clothing and think nothing of it, as is evidenced by a young Boston girl, when she said: "Why should I hide the body which God has given me? I am not ashamed of it."

The following article appeared in a Honolulu paper commenting on the hula which was given at the Opera House (present Federal Building site).—"We think a great mistake was committed by those who had the moulding of Hawaiian habits and morals in forbidding as sinful athletic sports and innocent amusements....The native people love music and dancing so. So does the foreign population....The puritanism which condemned all dancing as sinful by this extreme encourages the assault upon good morals and decency of the hula. There is no relaxation of this rigid rule even now....We state the point plainly because the hula has been a social ulcer which must be healed....It must be stopped....The hula may have protectors but it must go....At the same time innocent amusements should be provided for the native peoples. They should be taught dancing and innocent amusements."

In the Bulletin of December 9, 1886, the following was printed: "Not one word can be said in its defense. Any one who defends the hula does so from ignorance or perversion....The hula is bad, decidedly bad, unmitigatably bad. There is no element to palliate its badness." And yet, many of the earlier visitors did not notice such badness.

Going from the hula to other remarks made as regards Hawaiian make-up, I would like to take statements from the journals of various visitors. An account appeared in THE FRIEND for August, 1856, of the way in which the Fourth of July was celebrated. "The king had ordered his servants to prepare a feast and the result was a spread which could only have been seen then. The tables and mats were loaded with all that royal beneficence could provide. It was a grand day and all the Americans from the ships and those who were residents sat down. The king, his chiefs, and his priests were there, as were also Manini (De Marin) and John Young. At the earnest request of the foreigners the king had removed the sacred tabu from Liholiho and the 19-year-old prince was present. Ten thousand natives crowded around to see the feast. Such was the first Fourth of July ever celebrated in the Hawaiian kingdom."

Stephen Reynolds, a trader, also tells in his journal of how the Americans in Hawaii would gather for the Fourth of July. He mentions that he strenuously objected to inviting young Americans who had become subjects of the Hawaiian kingdom. Bishop Restarick in an article which appeared in the Honolulu Star-Bulletin for July 5, 1930, makes the assertion that Americans in Hawaii of old made the eagle scream on Independence Day.

Reminiscences of Missionary life in Hawaii are always available in the accounts of Julia Fish Judd, Mrs. Whitney, Paris, Bingham, and scores of other journals. Within their pages are words of praise for the "Kanaka" and words of disgust toward him. However, it is perfectly safe to say here that Missionary women had always found the Hawaiian a pleasing, hospitable and moral character, and had no troubles in their contacts with the native. This point may be clearly illustrated by Jarvis in his "Kiana"—"Love had remained passive in the soul of Beatrix. Its might was all there, but the torch that was to kindle the flame had not yet reached it. She only knew its power for joy by the pleasure she felt in seeing its effects in others. Thus she welcomed within herself all that she saw in another that was noble and lovable, while she shrank instinctively from every base action or degrading thought.

"Kiana's ardent, generous nature, had from the first been her captive. This she saw, but it inspired in her no deeper sentiment than the respect due his qualities. He, however, unlike most men, did not fancy that to love, implied of necessity to be loved. His passion was open and honorable. To the praise of the Hawaiian race, be it recorded that no white woman ever received other than courtesy at their hands. Rich or poor alone among thousands of natives, they and theirs with no other protection than their own virtue, have ever been, not only respected, but cared for, and to a certain extent, venerated. White men, it's true, have in general been as hospitably received. But by their passions they speedily place themselves upon the level of the native.

"The white woman, . . . from the first went among them as a missionary—being superior in virtue as in knowledge to themselves—and by the affinity of respect which human nature everywhere shows for the truly good, she has ever maintained over this semi-barbarious race an ascendency more real than hostile fleets have ever effected.

"An exception in one instance to this fact, so creditable to the Hawaiians is said to have occurred to one of the American missionary ladies, to whom a native behaved with so much rudeness that the king, Liholiho, only spared his life at the intercession of her husband. The contemplated punishment for a breach in their national hospitality, shows in what abhorrence they regarded a wanton insult to a white woman!" (From Kiana by J. J. Jarvis—pgs. 104-105.)

For a view of the activities of the missionaries in Hawaii we may profit by the following as related in the journal of a Dr. Meyen aboard a Prussian vessel arriving here in 1831:—"The Sandwich Island missionaries were natives of North America, and it is against them that the severe censure comes from all quarters. They have undermined the prosperity of the country, they have banished hospitality, expelled mirth and joyousness from these happy islands." Almost throughout the entire journal of Meyen the actions of the American missionaries are highly criticized.

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Music Somewhat After Mother Goose
Tweedle-dum and Tweedle-dee
Resolved to have a battle
For Tweedle-dum said Tweedle-dee
Had kids that act like cattle,
Just then there stopped before the door
Of Tweedle-dee a grocer
With Love's Fig Bars and Ginger Snaps
And did the kids keep up the row?
We beg to answer—Nosir!
(Reach for a Fig Bar instead of a crowbar. They pacify.)

Appendix B:

Historic Resources Evaluation for Atherton Mixed Use Student Housing Environmental Assessment

Mason Architects, Inc.

Historic Resources Evaluation for Atherton Mixed Use Student Housing Environmental Assessment, University of Hawaii at Manoa, Oahu, Hawaii

Prepared by MASON under contract to
Wilson Okamoto Corporation for
Hunt Companies /
Moss & Associates

February, 2020

Table of Contents

Introduction 5
Study Area 5
Identification of Historic Properties 7
Table 1: Historic Resources Summary 7
Historical Overview 7
Charles H. Atherton House YMCA 7
Mary Atherton Richards House YWCA 8
Historic Districts 9
Evaluation of Significance 10
Proposed Action 11
Evaluation of Effects on Historic Properties 14
Table 2: Evaluation of Effect of Proposed Action on Historic Resources 14
Mitigation 15
Preservation 15
Architectural Recordation, Historical Data Recovery, Ethnographic Documentation 16
Bibliography 17
Appendices 20
Appendix A: SHPD Correspondence regarding eligiblity of Charles H. Atherton House 21
Definitions: Assessment of Adverse Effects 22

Introduction

Mason Architects, Inc., (MASON) was hired by Wilson Okamoto to perform an historic architectural inventory in support of the Environmental Assessment (EA) being prepared for the Atherton Mixed Use Student Housing project proposed by the University of Hawai'i Foundation. MASON evaluated both of the architectural resources on the site as eligible for listing on the State and/or National Register of Historic Places (NRHP).

Study Area

The proposed project site is situated within TMK [1] 2-8-016:001. This parcel is bounded by Seaview Avenue to the north, University Avenue to the east, and Metcalf Street to the south, and contains two buildings. See Figure 1. The Charles H. Atherton House Young Men's Christian Association (YMCA) is located on the makai portion of the block, at the corner of Metcalf Street, facing University Avenue. The Mary Atherton Richards House Young Women's Christian Association (YWCA) is directly mauka of the Atherton House, also facing University Avenue, with its north end along Seaview Avenue.

Although the majority of the project site is comprised of the two buildings, a few additional hardscape and landscape features are present. At the rear of the Charles H. Atherton House is a parking lot, and along the Metcalf Street side of the building is a white painted masonry wall, enclosing a stepped terrace.

Within the setback along University Avenue is minimal vegetation, comprised mainly of a grassy lawn, a concrete walkway to the front entrance of the building flanked by small shrubs. The sidewalk on University Avenue from Metcalf Street to Seaview Avenue is edged with lava rock curbs. The front of the Mary Atherton Richards House YWCA is set back with a small grassed lawn, edged by a shrub that extends along the façade. A Kiawe tree with a large canopy dominates the entrance courtyard at the Metcalf Street/University Avenue corner. Between the two buildings are a few tall trees.

The buildings are shown in Table 1: Historic Resources Summary. The historical overview sections to follow provide additional information on these historic structures.

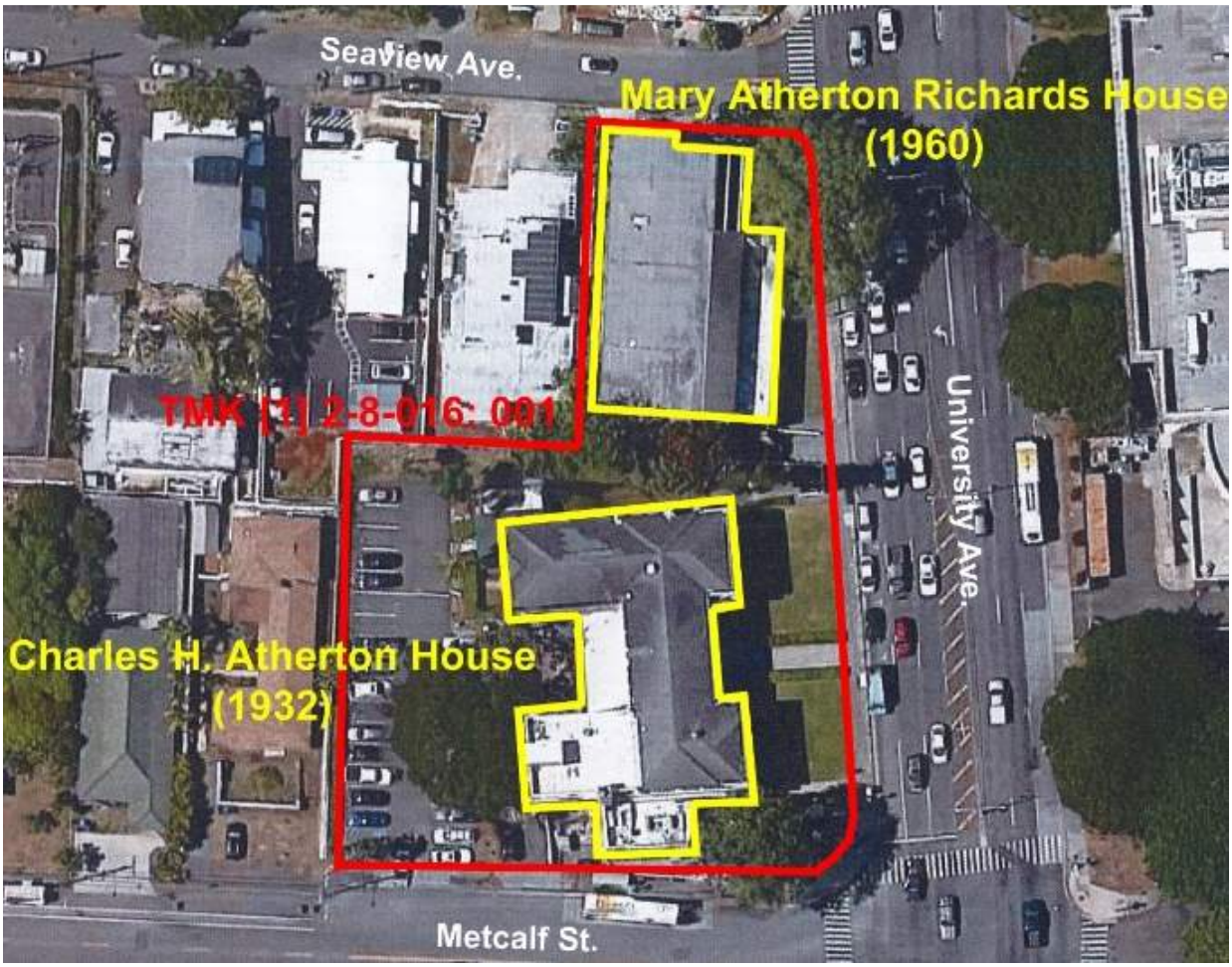

Figure 1: Aerial view showing the project site. Source: MASON overlay on Googlemaps.com image

Identification of Historic Properties

Two buildings were identified as historic resources. These are summarized in Table 1 below. The Historical Overview section to follow provides additional information about these buildings.

Table 1: Historic Resources Summary

Building Address	Built	Significance Evaluation	Photo
Charles H. Atherton House YMCA	1932	Eligible for the State and National Registers: • Criterion A: Associated with the history of the YMCA on Oahu and the University of Hawaii at Manoa. • Criterion C: Example of the Italian Renaissance style, designed by prominent architect Guy Nelson Rockwell	
Mary Atherton Richards House YWCA	1960	Eligible for the State and National Registers: • Criterion A: Associated with the history of the YMCA on Oahu and the University of Hawaii at Manoa. • Criterion C: Excellent example of Contemporary Style of architecture by a prominent Honolulu architect, Allen R. Johnson.	

Historical Overview

Charles H. Atherton House YMCA

The Charles H. Atherton House, headquarters for the University YMCA, was built in 1932. The building was designed by the Honolulu architecture firm of Rothwell and Lester and built by contractors Walker and Olund at a cost of about $100,000. Until Atherton House was built, the University Branch of the YMCA in Honolulu (first organized in 1922) held most meetings at Hawaii Hall on the University of Hawaii at Manoa campus. By 1930, the University YMCA owned land along University Ave. between Metcalf Street and Seaview Avenue. In 1931, the Atherton Family had the building built in honor of Charles H. Atherton, who died in 1928. Atherton (b: 1867) was one of the original 1919 petitioners to propose the establishment of the University of Hawaii and a supporter of the YMCA in Hawaii.

The building opened on June 1, 1932 as the Charles H. Atherton Memorial Dormitory for Men. It had thirty-one rooms for university student housing on the second and third floors with a dining room, social hall, reading room, offices, and meeting rooms on the first floor. Room rent was from $10 - $20 monthly and board was an additional $30 per month. Although the house promoted Christian thinking, rooms were available to male students and young faculty regardless of religion, race, or YMCA membership. When built, Atherton House provided much needed dormitory space for the University, which had stopped funding campus construction due to the Great Depression. Although Atherton House eventually began to require YMCA branch membership to obtain a room, the building provided valuable student housing after World War II when Honolulu and the university experienced a severe housing shortage. The building also served as a campus social center and meeting place.

Architectural Design

The Charles H. Atherton House was designed in the Italian Renaissance style, which was commonly employed in the United States and its territories through the mid-1930s. The building displays a number of features of this style, including: low pitched hip roof, upper story windows that are smaller and less elaborate than windows below, arches or cornice above first floor windows and doors, pilasters, quoins, sill course, and a symmetrical facade with two small wings at either end and a recessed central block in between.

The building has three first floor additions. A relatively small, flat-roofed addition was made to the south side of building sometime prior to 1961 and now functions as a restaurant. (Its surrounding terrace is also a modification of the original design.) An approximately 40' x 14' extension with a shed roof was made at the rear of the building, between the two building wings, at an unknown date. At the northwest corner, a 22' x 18' hip roof addition was also made.

The Atherton House was designed by Guy Nelson Rothwell, who was born a citizen of the Kingdom of Hawaii on November 9, 1890, in Honolulu. He attended Punahou School and graduated from high school in Seattle, WA. Rothwell earned an architectural engineering degree from the University of Washington in 1911 and returned to Hawaii to work for the Navy at Pearl Harbor. In 1923 he opened his architectural and engineering firm in Honolulu. Taking on John H. Kangeter and Marcus Lester as his partners in 1925, the firm became Rothwell Kangeter & Lester. Kangeter left the firm in 1928 and Lester left the firm between 1932 and 1946. An extremely prolific designer, by the time Rothwell retired in 1967 his firm had participated in the design of hundreds of buildings on Oahu. These include: Honolulu Stadium (1926 – no longer extant), OR&L Terminal (1925), Palama Settlement (1925), Honolulu Hale with Hart Wood and Charles W. Dickey (1929), Roosevelt High School (1932), Liberty House Kailua (1953, 1960), and Kahala Mall (1955). Guy Rothwell died on March 27, 1971, in Honolulu.

Mary Atherton Richards House YWCA

The University Young Women's Christian Association (YWCA) began as a branch YWCA in 1932. It was housed within the Atherton YMCA building until 1946. That year, the University YWCA received its charter from the national YWCA and moved into a residential building at 2337 Seaview Avenue. Plans were made for the construction of a new dedicated building, and the YWCA revived an earlier fund drive to finance its construction.

The two story concrete building was designed by Honolulu architectural firm Johnson & Perkins. On August 30, 1959 the YWCA awarded a construction contract to Harry I. Kobayashi. The total construction cost was about $187,000. The YWCA moved into the new building from its former 2337 Seaview Avenue location, and it was dedicated on April 24, 1960. It was named after Mary Atherton Richards (1869-1951), who was a long-serving president of the Women's Board of Missions for the Pacific Islands. She was also a member and generous supporter of the YWCA in Hawaii, donating about $25,000 to the building fund for a YWCA building at the University.

In 1987, the University YWCA separated from its parent organization, the Oahu YWCA, which was owner of the Mary Atherton Richards House building. In September 1995, the Oahu YWCA

sold the Mary Atherton Richards House building to the Atherton YMCA, which incorporated the building into its campus, utilizing it for women's housing.

Architectural Design

The Mary Atherton Richards House was designed in a distinctive mid-century modern style. The two-story concrete building displays a number of the style's characteristics, which avoid traditional form and detail. These include: contrasting wall materials and textures (such as its weeping mortar joins), a breeze block wall, a flat roof with a wide eave overhang, and wing walls that support the roof overhang and create a deep rim that frames sections of windows.

Architects Allen R. Johnson and Thomas D. Perkins both had received architectural degrees from the University of California at Berkeley. Perkins secured a position in the office of renowned Honolulu architect Claude A. Stiehl, and Johnson arrived in Honolulu in 1936 on the suggestion of Perkins. Johnson and Perkins established their architectural partnership in 1939, and both spent time in Japan before the outbreak of World War II. During the war, Johnson worked for the Hawaii Housing Authority as an inspector and then for the Navy as an architect with Contractors Pacific Naval Air Bases (CPNAB). Perkins traveled throughout Asia but in 1944 was called to active duty, and briefly served in the army until the war ended.

After the war, in 1947, Johnson and Perkins re-established their partnership. They opted to keep their architectural office small so that they could remain as designers, rather than becoming the managers of a large team of employees. In addition, keeping their firm small allowed them the freedom to collaborate with several other notable Honolulu architects, including Philip Fisk, Alfred Preis, and Vladimir Ossipoff (who was another Berkeley classmate), to form Associated Architects. This collaboration was awarded larger projects that the smaller individual firms would not have been able to bid on successfully.

Johnson and Perkins were renowned in Hawaii for uncluttered building designs that opened interiors to the outdoors, and for a close attention to design details. Some of their more notable buildings are the Moanalua Shopping Center (under Associated Architects), built in 1954, and Tropic Seas Apartments (1958), and the Manoalani condominium (1967). They also designed the Wahiawa Intermediate and High School. They continued working together until 1992. Thomas Perkins died in 1996, and Allen Johnson died in 2000, both in Honolulu.

Historic Districts

The proposed Atherton Mixed Use Student Housing project site is located near, but outside of, two historic districts. It is outside of the non-contiguous University of Hawaii Thematic District, which was added to the Hawaii Register of Historic Places in 1988. The buildings are also located near, but outside of, the College Hills Tract Thematic Nomination, added to the Hawaii Register in 2002.

Evaluation of Significance

The Charles H. Atherton House is evaluated as eligible for the Hawaii and National Registers of Historic Places under Criteria A and C. Under Criterion A, it is eligible for its association with the development of the YMCA in Hawaii, and with the historical development of the University of Hawaii at Manoa. Under Criterion C it is eligible as a fine example of the Italian Renaissance style, as designed by prominent architect Guy Nelson Rockwell. Although this building is not listed on the Hawaii Register of Historic Places, a letter from the State Historic Preservation Officer (SHPO) to the Department of Transportation Services, City and County of Honolulu, dated November 8, 1991, concurred with DOT that the "Atherton House" meets the National Register of Historic Places (NRHP) eligibility criteria[1] (Appendix A).

The Mary Atherton Richards House is also evaluated as eligible for the Hawaii and National Registers of Historic Places under Criteria A and C. Under Criterion A, it is eligible for its association with the development of the YWCA in Hawaii, and with the historical development of the University of Hawaii at Manoa. Under Criterion C it is eligible as a fine example of the Contemporary Style, as designed by prominent architect Allen Johnson. No documentation was found showing any previous eligibility determinations by SHPD or others for this building.

[1] William W. Paty, Letter to Joseph M. Magaldi, Jr., Department of Transportation Services, concurring that Atherton House meets the National Register of Historic Places criteria of eligibility. November 8, 1991.

Proposed Action

The proposed project entails demolition of the Mary Atherton Richards House YWCA, and demolition of the rear wings of the Charles H. Atherton House YMCA. A new mixed-use student housing/innovation and entrepreneurship center will be constructed. The new center will occupy the Mary Atherton House YWCA site completely, and abut the north and west sides of the Charles H. Atherton House YMCA, fully occupying the entire project site. See Figures 1-4 for current day views as compared to the proposed concept.

Figure 2: Current view of project site. Source: MASON

Figure 3: View of conceptual rendering of the Proposed Action. Source: Hunt Companies

Figure 4: Present-day view of the Atherton Complex showing the current open sky background behind the Charles H. Atherton House YMCA, as viewed from University Avenue. Source: MASON.

Figure 5: Rendering showing conceptual view of project, from University Avenue. Source: Hunt Companies

Figure 6: Proposed Action conceptual plan. Source: Hunt Companies

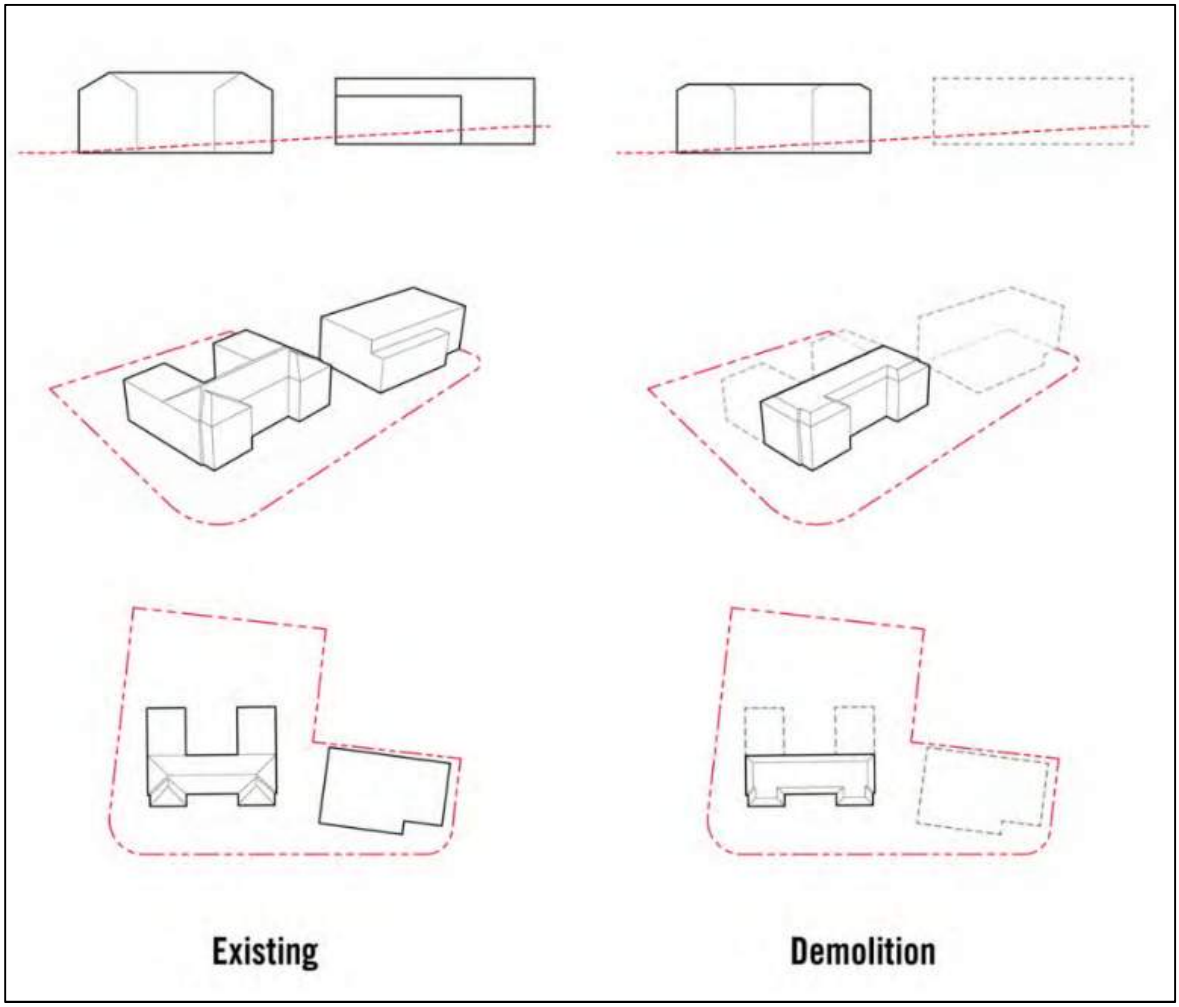

Figure 7: Sketch showing portions of the site that will be demolished. Source: Hunt Companies.

Evaluation of Effects on Historic Properties

Hawaii Administrative Rules chapter 13-275-7 (b) describes effects on historic properties as:

> Effects include, but are not limited to, partial or total destruction or alteration of the historic property, detrimental alteration of the properties' surrounding environment, detrimental visual, spatial, noise or atmospheric impingement, increasing access with the chances of resulting damage, and neglect resulting in deterioration or destruction.

Effects to historic properties are federally defined by 36 CFR 800.5(1), Assessment of Adverse Effect (See Appendices) and include undertakings that impact the integrity of a historic resource's location, design, setting, materials, workmanship, feeling, or association. An adverse effect is found when an action alters, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register. Effects may include destruction, alteration, removal, change of use, change of setting - be that physical, visual or audible; neglect; or a transfer, sale or lease that could endanger long-term preservation of the resource.

With this in mind, the proposed action was evaluated for its effects on the historic properties, and a finding of adverse effect was determined. See Table 2, below, and images showing existing conditions as compared to the proposed design are provided in Figures 2-5. See also the Figure 7 sketch which shows the extent of the proposed demolition.

Table 2: Evaluation of Effect of Proposed Action on Historic Resources

Historic Resource	Proposed Work	Evaluation of Effect
Charles H. Atherton House YMCA	Demolish rear wings. Construct a new building that extends to the adjacent building site.	Adverse Effect due to removal of the historic rear wings, and construction of a new structure that abuts its north and west sides. The scale and massing of the new building would visually overwhelm the historic YMCA structure.
Mary Atherton Richards House YWCA	Demolish building. Fill site with new building adjoined to existing YMCA building.	Adverse Effect due to demolition of the building.

Mitigation

Mitigation measures are required for adverse effects to historic resources. Appropriate mitigation commitments and detailed mitigation plans are developed in consultation with SHPD, and cannot be determined without SHPD involvement.

According to the Administrative Rules Chapter 13-275 (Rules Governing Procedures for Historic Preservation Review for Governmental Projects Covered Under Sections 6E-7 and 6E-8, HRS) mitigation for an architectural resource may take the form of one or more of the following:

> A. *Preservation. Preservation may include avoidance of the effect and protection, rehabilitation, restoration, or reconstruction.*
> B. *Architectural Recordation. Recordation involves the photographic documentation and possibly the measured drawing of a building, structure or object prior to its alteration. Architectural recordation plans and photos shall meet the minimal standards as provided by Historic American Building Survey (HABS).*
> C. *Historical Data Recovery. Data recovery involves researching historical source materials to document an adequate and reasonable amount of information about the property when a property will be altered or destroyed.*
> D. *Ethnographic Documentation. Ethnographic documentation consists of interviewing knowledgeable individuals and researching historical materials to document an adequate and reasonable amount of information about the property.*

Preservation

As outlined in item A above, "preservation" may include 'avoidance of the effect.' For this project, it may be possible to undertake design modifications to minimize the adverse effects of the proposed action. However, it may be difficult to avoid an adverse effect determination altogether without significant project changes.

Changes to the design, height, and massing, as well as landscaping, for the proposed building within the site could reduce the way in which it overshadows the historic and low-scale height of the Charles H. Atherton House YMCA;

- Consider stepping back upper floors to emphasize the historic building's base height;
- Consider removing the top floor equipment screen walls to reduce the appearance of a seventh floor;
- Consider removing the restaurant addition facing Metcalf Street to express the original appearance of the building's Makai end, and consider removing or renovating the existing terrace to express the original landscaping of this building corner;
- Consider increasing the amount of outdoor space and landscaping mauka of the Charles H. Atherton House YMCA (such as with an outdoor courtyard), to support the appearance of a freestanding building;
- Retain the lawn in front of the Charles H. Atherton House YMCA, and the central pedestrian pathway into the front central entrance of the building;
- Consider other landscaping and hardscaping measures to soften adverse effects.

Architectural Recordation, Historical Data Recovery, Ethnographic Documentation

Architectural recordation, in the form of HABS/HAER/HALS recordation and large-scale photography, would be an appropriate method to document the site before it is modified with the addition of new buildings. Architectural Recordation, Historical Data Recovery and Ethnographic Documentation may take the form of a HABS report, National Register Nomination, or other context study.

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Appendices

Appendix A: SHPD Correspondence regarding eligiblity of Charles H. Atherton House

NOV 1 7 1991

JOHN WAIHEE
GOVERNOR OF HAWAII

WILLIAM W. PATY, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

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FILE RT584v
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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 6TH FLOOR
HONOLULU, HAWAII 96813

REF:HP-AAL

NOV 8 1991

Joseph M. Magaldi, Jr.
Department of Transportation Services
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Magaldi:

SUBJECT: Honolulu Rapid Transit Program

Thank you for your letter of September 25, 1991, regarding determinations of eligibility of sites along the Honolulu Rapid Transit route. We concur that the following sites meet the National Register of Historic Places criteria of eligibility:

1. Mahogany trees on Kalakaua Avenue between Ala Wai Boulevard and McCully Street
2. Kuhio Theater
3. Conrad Apartments at Kuhio and Lewers
4. Atherton House
5. Mother Waldron Park

We also concur that because of their demolition, the Oahu Prison Administration Building on Dillingham Boulevard and the Hawaii Brewing Corporation Building on Kapiolani Boulevard no longer meet the National Register criteria.

To update your records, the Church of the Crossroads and the OR&L Station and Office Building, listed in the attached table 3.17, have been placed on the Hawaii Register of Historic Places.

Very truly yours,

WILLIAM W. PATY, Chairperson and
State Historic Preservation Officer

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION SERVICES

91 NOV 12 P2:17

RECEIVED

Definitions: Assessment of Adverse Effects

As outlined in the Assessment of Adverse Effect 36 CFR 800.5(1),

> An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

Assessment of Adverse Effect 36 CFR 800.5 section (2) provides the following examples of adverse effects, stating that;

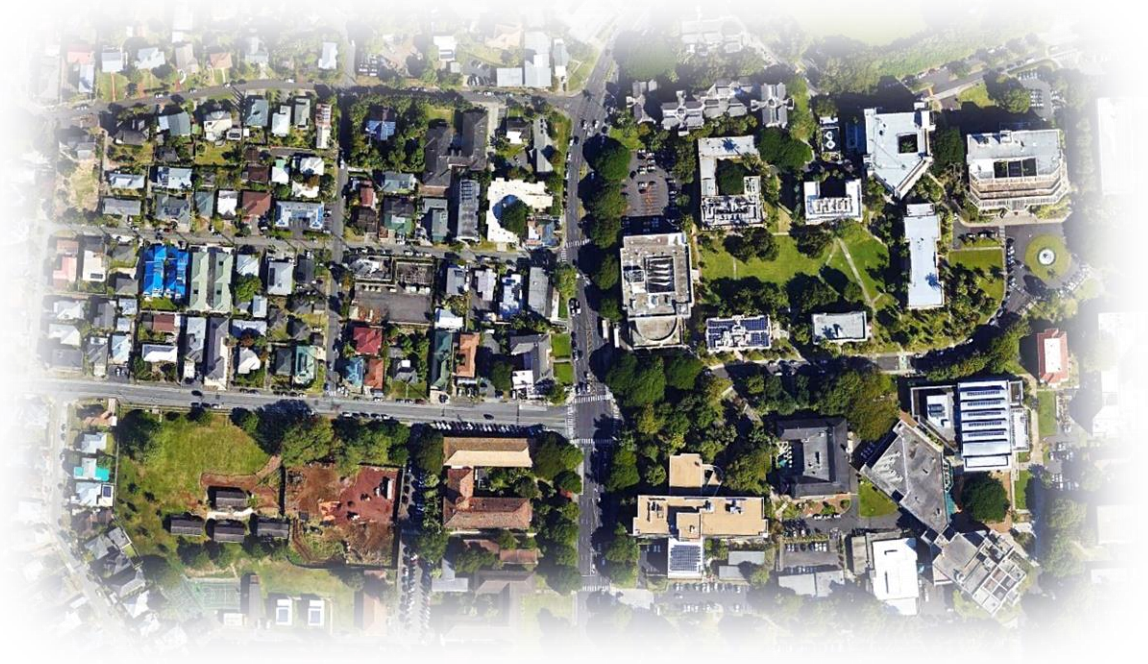
> "Adverse effects on historic properties include, but are not limited to:
>
> (i) Physical destruction of or damage to all or part of the property;
>
> (ii) Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines;
>
> (iii) Removal of the property from its historic location;
>
> (iv) Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;
>
> (v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;
>
> (vi) Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and
>
> (vii) Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance."

Appendix C:

Traffic Impact Report for the Atherton Mixed Use
Student Housing Innovation & Entrepreneurship Center
Wilson Okamoto Corporation

Traffic Impact Report

Atherton Mixed-Use Student Housing Innovation and Entrepreneurship Center



Prepared for:
Hunt Companies/Moss & Associates

Prepared by:
Wilson Okamoto Corporation

February 2020

TRAFFIC IMPACT REPORT

FOR THE

ATHERTON MIXED-USE STUDENT HOUSING INNOVATION AND ENTREPRENEURSHIP CENTER

Prepared for:

Hunt Companies/Moss & Associates
737 Bishop Street, Ste 2700
Honolulu, HI 96813

Prepared by:

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, Hawaii 96826
WOC Ref #10490-02

February 2020

TABLE OF CONTENTS

		Page
I.	Introduction	1
	A. Purpose of Study	1
	B. Scope of Study	1
II.	Project Description	1
	A. Location	1
	B. Project Characteristics	3
III.	Existing Traffic Conditions	5
	A. Area Roadway System	5
	B. Traffic Volumes and Conditions	6
	1. General	6
	a. Field Investigation	6
	b. Capacity Analysis Methodology	6
	2. Existing Peak Hour Traffic	7
	a. General	7
	b. University Avenue and Maile Way	7
	c. University Avenue and Metcalf Street	10
	d. University Avenue and Dole Street	12
	e. Wilder Avenue and Metcalf Street	13
IV.	Projected Traffic Conditions	14
	A. Site-Generated Traffic	14
	1. Trip Generation Methodology	14
	2. Trip Distribution	16
	B. Through-Traffic Forecasting Methodology	18
	C. Other Considerations	18
	1. University of Hawaii Long Range Development Plan	18
	2. NOAA Graduate Housing Development	19
	D. Total Traffic Volumes Without Project	19
	E. Total Traffic Volumes With Project	21
V.	Traffic Impact Analysis	23

VI. Multimodal Facilities 24
- A. Pedestrian Facilities 24
- B. Bicycle Facilities 24
- C. Transit Facilities 26

VII. Recommendations 30

VIII. Conclusion 32

LIST OF FIGURES

FIGURE 1	Location Map and Vicinity Map
FIGURE 2	Proposed Site Plan
FIGURE 3	Existing Lane Configurations
FIGURE 4	Existing Peak Hour of Traffic
FIGURE 5	Distribution of Site-Generated Vehicles With Project
FIGURE 6	Year 2023 Peak Hour of Traffic Without Project
FIGURE 7	Year 2023 Peak Hour of Traffic With Project
FIGURE 8	Pedestrian Facilities
FIGURE 9	Existing and Proposed Bicycle Facilities
FIGURE 10	Bicycle Facilities (On-Site)
FIGURE 11	Transit Facilities

LIST OF APPENDICIES

APPENDIX A	Existing Traffic Count Data
APPENDIX B	Level of Service Definitions
APPENDIX C	Capacity Analysis Calculations Existing Peak Period Traffic Analysis
APPENDIX D	Capacity Analysis Calculations Projected Year 2023 Peak Period Traffic Analysis Without Project
APPENDIX E	Capacity Analysis Calculations Projected Year 2023 Peak Period Traffic Analysis With Project

I. INTRODUCTION

A. Purpose of Study

The purpose of this study is to identify and assess the traffic impacts resulting from the Atherton Mixed-Use Student Housing Innovation and Entrepreneurship Center (hereafter referred to as the "Atherton Mixed-Use" development) adjacent to University Avenue in Manoa on the island of Oahu. The proposed project entails the redevelopment of the existing Charles Atherton House and Mary Atherton Richards House to include residential, educational, and restaurant uses.

B. Scope of Study

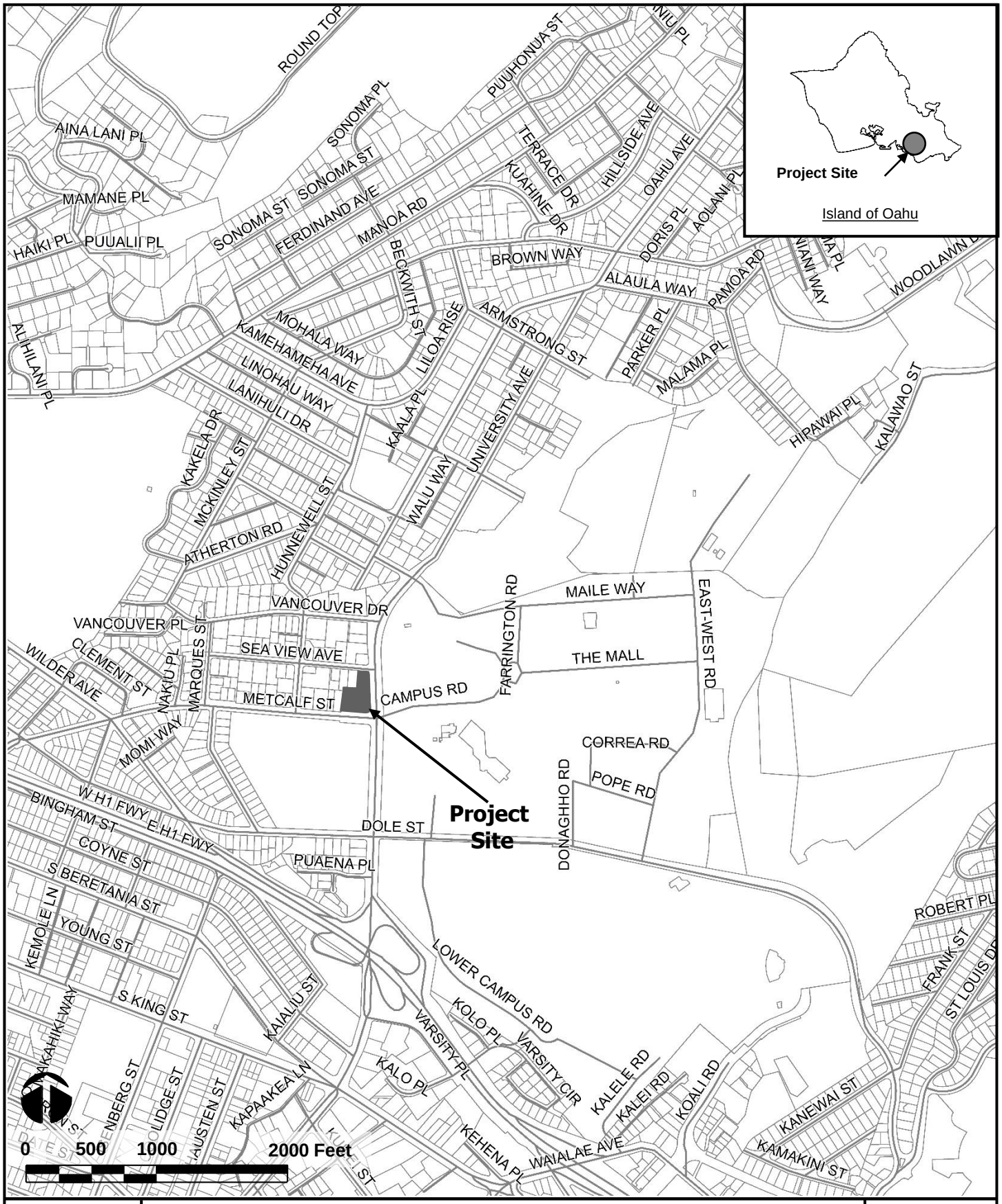
This report presents the findings and conclusions of the traffic study, the scope of which includes:

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

II. PROJECT DESCRIPTION

A. Location

The existing site for the proposed Atherton Mixed Use development is located adjacent to the University of Hawaii in Manoa on the island of Oahu (see Figure 1). The project site is bounded by University Avenue to the east, Seaview Avenue to the north, Metcalf Street to the south, and residential uses to the west. The project site is further identified as Tax Map Keys (TMKs): 2-8-016: 001. Access to the project site is expected to be provided via driveways off Metcalf Street and University Avenue.



ATHERTON MIXED-USE STUDENT HOUSING
INNOVATION AND ENTREPRENEURSHIP CENTER

LOCATION MAP AND VICINITY MAP

FIGURE 1

WILSON OKAMOTO CORPORATION

B. Project Characteristics

The site for the proposed project is currently comprised of the Charles Atherton House which includes ~600 square feet (sf) of restaurant uses and the Mary Atherton Richards House which formerly served as the Atherton YMCA. The proposed project entails the redevelopment of the existing uses into the Atherton Mixed-Use Student Housing Innovation and Entrepreneurship Center which is expected to include residential, educational, and restaurant uses. Under the proposed project, the existing Charles Atherton House is expected to be repurposed as a research and educational facility (referred to as the "Innovation Center") with classrooms and office spaces intended to advance and support the entrepreneurial programs currently offered by the University of Hawaii's Pacific Asian Center for Entrepreneurship (PACE), as well as ~2,000 sf of restaurant uses. The remainder of the site will house two new residential buildings expected to accommodate approximately 350 university students. Parking for the new development is expected to be provided on-site within two separate parking areas. The south parking area is expected to serve the development's restaurant and residential uses with access provided via a driveway off Metcalf Street. It should be noted that the driveway off Metcalf Street also expected to provide access to the development's primary loading area which is located within the south parking area. The east parking area is expected to only serve the development's residential uses with access provided off University Avenue. Similar to existing conditions, the driveway off University Avenue is expected to be restricted to right-turn in right-turn out traffic movements only due to the existing raised median along that roadway. Since the proposed educational uses within the Innovation Center are intended to support existing university programs, parking for those uses are expected to be accommodated within the university's existing parking facilities. It should be noted that the parking areas associated with the Atherton Mixed-Use development are not expected to be included into the university parking pool. In addition, although there is not a designated loading area off Seaview Avenue, there is a roll up door intended to facilitate the delivery of large materials associated with the Innovation Center. The proposed development is

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ATHERTON MIXED-USE STUDENT HOUSING
INNOVATION AND ENTREPRENEURSHIP CENTER

PROJECT SITE PLAN

FIGURE
2

expected to be completed and occupied by the Year 2023. Figure 2 shows the proposed project site plan.

III. EXISTING TRAFFIC CONDITIONS

A. Area Roadway System

In the vicinity of the project site, University Avenue is a predominantly six-lane, two-way roadway generally oriented in the north-south direction. North of the project site, University Avenue intersects Maile Way. At this signalized intersection, the northbound approach of University Avenue has an exclusive left-turn lane, two through lanes, and an exclusive right-turn lane, while the southbound approach has an exclusive left-turn lane and a shared through and right-turn lane. Maile Way is a two-lane, two-way roadway that provides access through the University of Hawaii at Manoa campus. The eastbound approach of Maile Way includes one wide lane that serves all traffic movements while the westbound approach includes an exclusive left-turn lane, a through lane, and an exclusive right-turn lane.

Near the southeast corner of the project site, University Avenue intersects Metcalf Street. At this signalized intersection, the northbound approach of University Avenue includes an exclusive left-turn lane and three through lanes, while the southbound approach is comprised of two through lanes and a shared through and right-turn lane. The eastbound approach of the intersection is comprised of Metcalf Street, a predominantly two-lane two-way roadway generally oriented in the east-west direction. At the intersection with University Avenue, the eastbound approach includes exclusive turning lanes.

South of the intersection with Metcalf Street, University Avenue intersects Dole Street. At this signalized intersection, the northbound approach of University Avenue has an exclusive left-turn lane, two through lanes, a shared through and right-turn lane, and an exclusive right-turn lane. The southbound approach has an exclusive left-turn lane, two through lanes, and a shared through and right-turn lane. Dole Avenue is a predominantly two-lane, two-way roadway generally oriented in the east-west direction between Punahou Street and St. Louis Drive. The westbound and

eastbound approaches of Dole Avenue have a shared left-turn and through lane and a shared through lane and right-turn lane.

West of the project site, Metcalf Street intersects Wilder Avenue. At this signalized intersection, the eastbound approach of Metcalf Street includes one lane that serves all traffic movements while the westbound approach includes a through lane and an exclusive right-turn lane. Wilder Avenue is a predominantly four-lane two-way roadway that starts as north-south roadway near the H-1 Freeway off-ramp but transitions to an east-west roadway west of the intersection with Metcalf Street. At the intersection with Metcalf Street, the northbound approach includes a shared left-turn and through lane and a shared through and right-turn lane, while the southbound approach includes an exclusive left-turn lane and a shared through and right-turn lane. It should be noted that there is a sign at the northbound approach prohibiting left-turn movements during the AM peak period between 6:30 AM and 8:30 AM.

B. Traffic Volumes and Conditions

1. General

a. Field Investigation

Field investigations were conducted on April 18-23, 2019 which consisted of manual turning movement count surveys during the morning peak hours between 6:00 AM and 9:00 AM, and the afternoon peak hours between 3:00 PM and 6:00 PM at the following intersections:

- University Avenue and Maile Way
- University Avenue and Metcalf Street
- University Avenue and Dole Street
- Wilder Avenue and Metcalf Street

Appendix A includes the existing traffic count data.

b. Capacity Analysis Methodology

The highway capacity analysis performed in this study is based upon procedures presented in the "Highway Capacity Manual", Transportation Research Board, 2010, and the "Synchro" software,

developed by Trafficware. The analysis is based on the concept of Level of Service (LOS) to identify the traffic impacts associated with traffic demands during the peak periods of traffic.

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

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

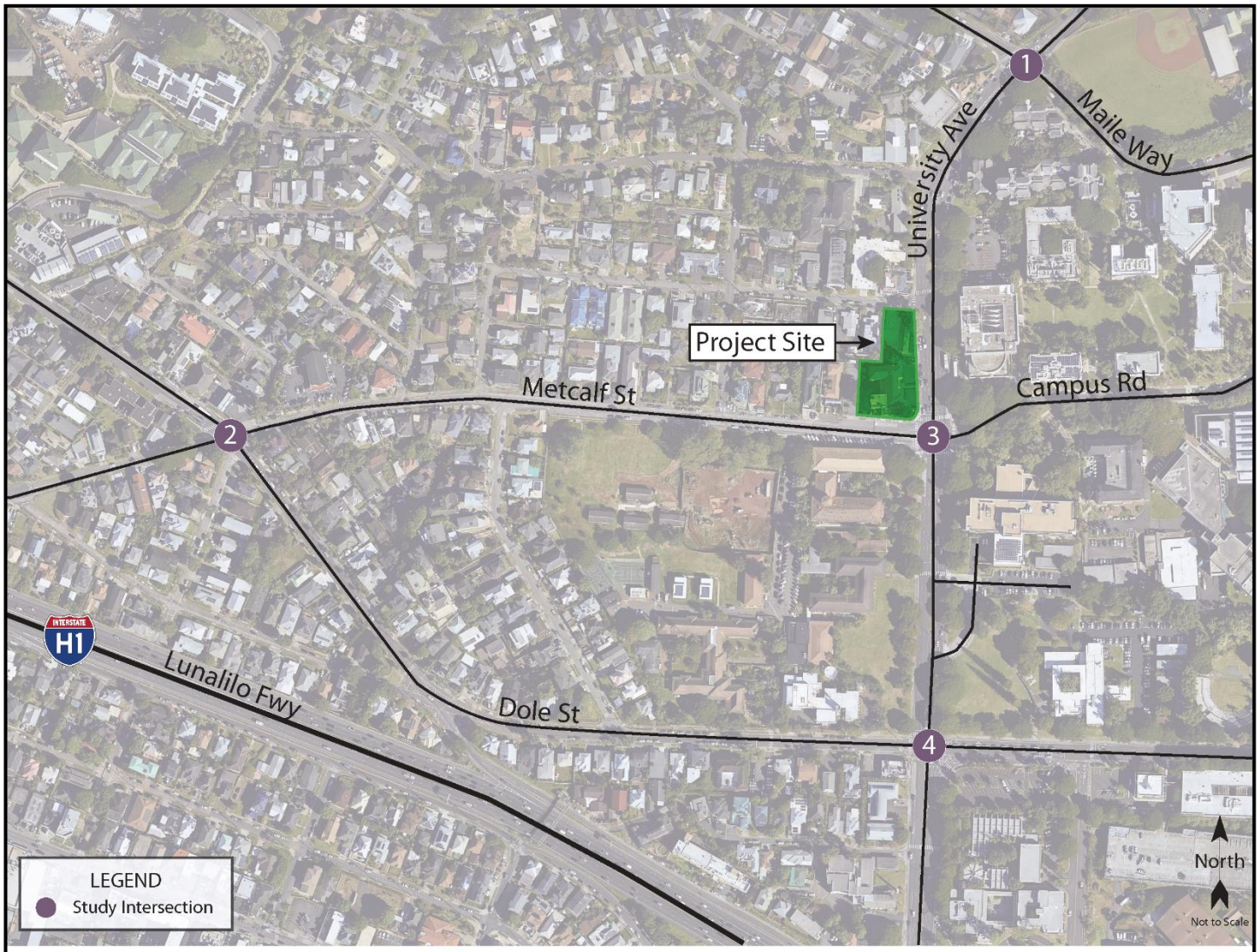
2. Existing Peak Hour Traffic

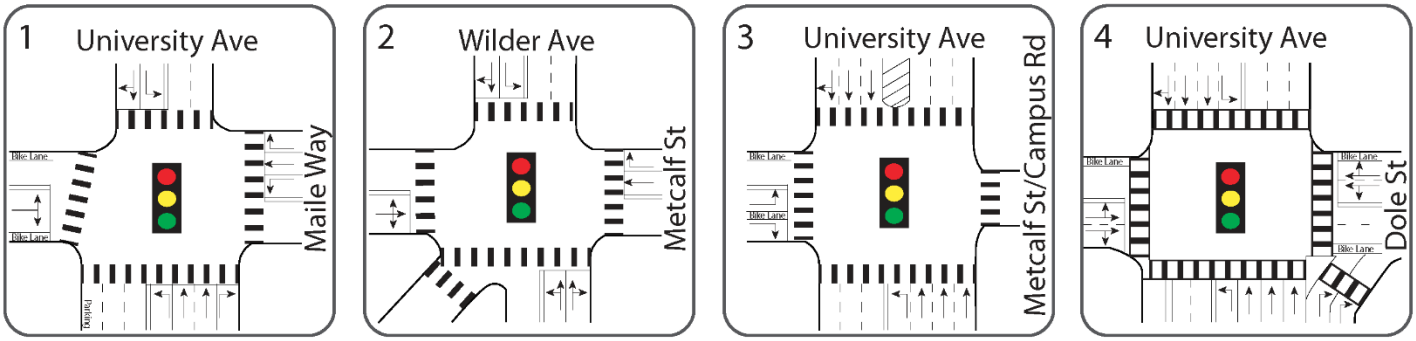
a. General

Figures 3 and 4 show the existing lane uses and peak traffic volumes. The AM peak hour of traffic generally occurs between 7:00 AM and 8:00 AM while the PM peak hour of traffic generally occurs between 4:15 PM and 5:15 PM. The analysis is based on these peak hour time periods for each intersection to identify the traffic impacts resulting from the proposed project. LOS calculations are included in Appendix C.

b. University Avenue and Maile Way

At the intersection with University Avenue and Maile Way, University Avenue carries 887 vehicles northbound and 542 vehicles southbound during the AM peak period. During the PM peak period, traffic volumes are higher with 945 vehicles traveling northbound and 595 vehicles traveling southbound. The northbound approach operates at LOS "C" and LOS "B" during the AM and PM peak periods,





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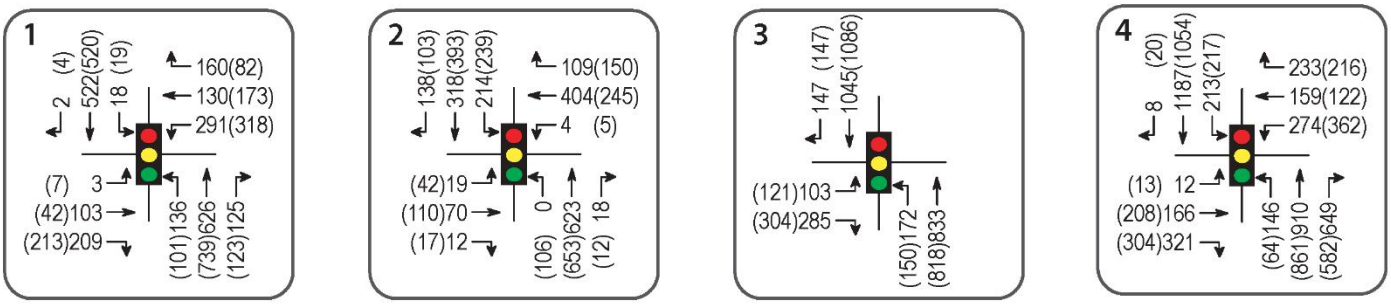
EXISTING LANE CONFIGURATION

FIGURE 3



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EXISTING PEAK HOURS OF TRAFFIC

FIGURE 4

respectively, while the southbound approach operates at LOS "C" during both peak periods. Traffic queues occasionally formed on the University Avenue approaches of the intersection. Average queue lengths of 8-10 vehicles were observed at both approaches during both peak periods.

Maile Way carries 315 vehicles eastbound and 581 vehicles westbound during the AM peak period. During the PM peak period, traffic volumes are lower with 266 vehicles traveling eastbound and 434 vehicles traveling westbound. The eastbound approach operates at LOS "B" during both peak periods while the westbound approach operates at LOS "C" during both peak periods. Traffic queues occasionally formed on both approaches of the intersection with the most significant queueing observed on the westbound approach. Average queue lengths of 9-10 vehicles were observed on the westbound approach during both peak periods.

Crosswalks are provided on all sides of the intersection. During the AM peak period, 10 pedestrians and 68 pedestrians were observed crossing University Avenue on the north and south sides of the intersection, respectively, while 3 pedestrians and 9 pedestrians were observed crossing Maile Way on the east and west sides of the intersection, respectively. During the PM peak period, 11 pedestrians and 81 pedestrians were observed crossing University Avenue on the north and south sides of the intersections, respectively, while 1 pedestrian and 10 pedestrians were observed crossing Maile Way on the east and west sides of the intersection, respectively.

c. University Avenue and Metcalf Street

At the intersection with Metcalf Street, University Avenue carries 1,005 vehicles northbound and 1,192 vehicles southbound during the AM peak period. During the PM peak period, traffic volumes are slightly lower with 951 northbound vehicles and 1,129

southbound vehicles. The northbound approach operates at LOS "B" and LOS "A" during the AM and PM peak periods, respectively, while the southbound approach operates at LOS "B" during both peak periods. Queues occasionally formed on the northbound and southbound approaches of the intersection. Average queue lengths of 10-12 vehicles were observed on the northbound approach during the AM peak period with average queue lengths of 5-7 vehicles observed on the southbound approach during the same peak period. During the PM peak period, average queue lengths of 5-7 vehicles were observed on the northbound approach while average queue lengths of 6-8 vehicles were observed on the southbound approach. Field observation indicates that traffic operations at this intersection are influenced by the nearby University Laboratory School as the traffic queues were primarily clustered around the start and end of the school day.

Metcalf Street carries 388 eastbound vehicles during the AM peak period and 393 vehicles during the PM peak period. The eastbound approach of Metcalf Street operates at LOS "C" both peak periods. Traffic queues occasionally formed on the Metcalf Street approach of the intersection with average queues of 1-2 vehicles observed during the AM peak period and 2-3 vehicles during the PM peak period. Field observation indicates traffic operations on the eastbound approach of Metcalf Street are influenced by the high volume of conflicting pedestrian crossings at this intersection.

Pedestrian crossings are provided on all sides of the intersection. During the AM peak period, 17 pedestrians and 146 pedestrians were observed crossing University Avenue on the north and south sides of the intersection, respectively, while 23 pedestrians were observed crossing Metcalf Street at the west side of the intersection. During the PM peak period, 51 pedestrians and 155

pedestrians were observed crossing University Avenue on the north and south sides of the intersection, respectively, while 38 pedestrians were observed crossing Metcalf Street on the west side of the intersection.

d. University Avenue and Dole Street

At the intersection with Dole Street, University Avenue carries 1,705 northbound vehicles and 1,408 southbound vehicles during the AM peak period. During the PM peak period, the traffic volumes are lower with 1,507 vehicles traveling northbound and 1,291 vehicles traveling southbound. The northbound and southbound approaches of University Avenue operate at LOS "D" during both peak periods. Traffic queues periodically formed on the University Avenue approaches of the intersection during both peak periods. Average queue lengths of 12-14 vehicles were observed at both approaches during the AM peak period while average queue lengths of 10-12 vehicles were observed during the PM peak period.

Dole Street carries 499 eastbound vehicles and 666 westbound vehicles during the AM peak period. During the PM peak period, the traffic volumes are higher with 525 vehicles traveling eastbound and 700 vehicles traveling westbound. The eastbound approach operates at LOS "F" during both peak periods while the westbound approach operates at LOS "F" and LOS "E" during the AM and PM peak periods, respectively. Traffic queues periodically formed on both approaches of the intersection with the most significant queueing observed during the PM peak period. Average queues of 5-7 vehicles were observed on the eastbound approach during this peak period, while average queues of 10-12 vehicles were observed on the westbound approach during the same peak period. Field observation indicates that the high volume of traffic along University Avenue, as well as the split phasing of the eastbound and westbound approaches

contribute to the queueing and delays at this intersection with westbound queues occasionally extending to the upstream intersection with Lower Campus Road.

Pedestrian crossings are provided on all sides of the intersection. During the AM peak period, 39 pedestrians and 21 pedestrians were observed crossing University Avenue on the north and south sides of the intersection, respectively, while 22 pedestrians and 14 pedestrians were observed crossing Dole Street on the east and west sides of the intersection, respectively. During the PM peak period, 49 pedestrians and 53 pedestrians were observed crossing University Avenue on the north and south sides of the intersection, respectively, while 41 pedestrians and 26 pedestrians were observed crossing Dole Street on the east and west sides of the intersection, respectively.

e. Wilder Avenue and Metcalf Street

At the intersection with Metcalf Street, Wilder Avenue carries 653 vehicles northbound and 670 vehicles southbound during the AM peak period. During the PM peak period, traffic volumes are higher with 782 vehicles traveling northbound and 673 vehicles traveling southbound. The northbound approach operates at LOS "C" and LOS "B" during the AM and PM peak periods, respectively, while the southbound approach operates at LOS "B" and LOS "A" during the AM and PM peak periods, respectively. Traffic queues occasionally formed on the northbound and southbound approaches of the intersection. Average queue lengths of 8-10 vehicles were observed on the northbound approach while average queue lengths of 5-7 vehicles were observed on the southbound approach during both peak periods.

Metcalf Street carries 101 vehicles eastbound and 513 vehicles westbound during the AM peak period. During the PM peak period,

the overall traffic volume is higher with 163 vehicles traveling eastbound and 400 vehicles traveling westbound. The eastbound and westbound approaches operates at LOS "B" during both peak periods. Traffic queues occasionally formed on the Metcalf Street approaches of the intersection with the most significant queueing observed on the westbound approach. During the AM peak period, average queue lengths of 8-10 vehicles were observed on the westbound approach while average queue lengths of 5-7 vehicles were observed at the same approach during the PM period.

Pedestrian crossings are provided on all sides of the intersection. During the AM peak period 10 pedestrians and 18 pedestrians were observed crossing Metcalf Street on the east and west sides of the intersection, respectively, while 17 pedestrians and 13 pedestrians were observed crossing Wilder Avenue on the north and south sides of the intersection, respectively. During the PM peak period, 6 pedestrians and 7 pedestrians were observed crossing Metcalf Street on the east and west sides of the intersection, respectively, while 14 pedestrians were observed crossing Wilder Avenue at both the north and south sides of the intersection.

IV. PROJECTED TRAFFIC CONDITIONS

A. Site-Generated Traffic

1. Trip Generation Methodology

The trip generation methodology used in this study is based upon generally accepted techniques developed by the Institute of Transportation Engineers (ITE) and published in "Trip Generation, 10th Edition," 2017. The ITE trip generation rates are developed empirically by correlating vehicle trip generation data with various land use characteristics such as the number of vehicle trips generated per dwelling unit or 1,000 square feet of development. The trip generation methodology developed by ITE also includes provisions for multi-modal trips. Multi-modal trips are trips made utilizing non-

motorized modes of travel such as walking and biking, as well as trips made using transit. Due to the proximity of the proposed project to the University of Hawaii campus, a significant portion of the trips to/from the site are expected to be walking or biking trips. In addition, the project site is served by established bus routes that may be accessed via pedestrian facilities along University Avenue and Metcalf Street. As such, the trips generated by the proposed project were adjusted to account for students using alternate modes of transportation. The modal split for trips generated by the project was based on the results of a transportation survey included in the Campus Transportation Demand Management Plan (2012) prepared for the University of Hawaii. Tables 1 and 2 summarize the trip generation characteristics related to the existing and proposed Atherton Mixed-Use development applied to the AM and PM peak hours of traffic.

Table 1: Adjusted Existing Peak Hour Trip Generation

FAST FOOD RESTAURANT (WITHOUT DRIVE-THRU) INDEPENDENT VARIABLE: 1,000 sf of development = 0.6		
		PROJECTED TRIP ENDS
AM PEAK	ENTER	3
	EXIT	2
	TOTAL	5
PM PEAK	ENTER	3
	EXIT	2
	TOTAL	5

Table 2: Adjusted Projected Peak Hour Trip Generation

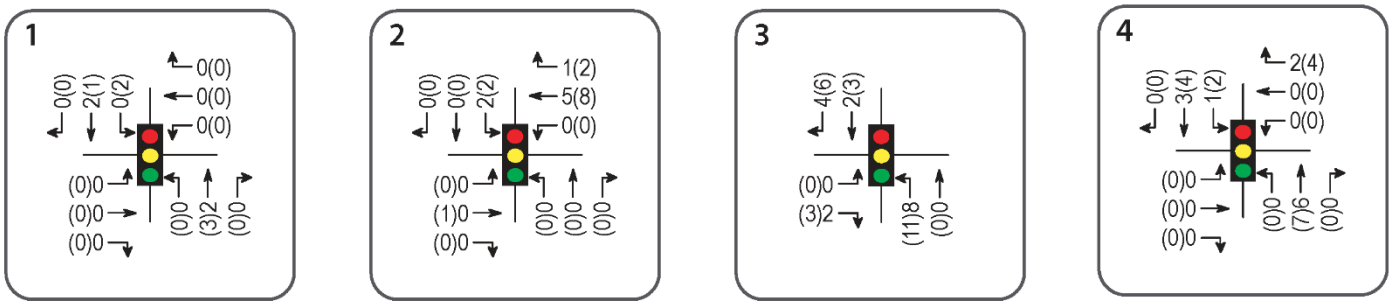
OFF-CAMPUS STUDENT APARTMENT INDEPENDENT VARIABLE: Dwelling Units = 350		
		PROJECTED TRIP ENDS
AM PEAK	ENTER	6
	EXIT	8
	TOTAL	14
PM PEAK	ENTER	15
	EXIT	14
	TOTAL	29

Table 2: Adjusted Projected Peak Hour Trip Generation (Cont'd)

FAST FOOD RESTAURANT (WITHOUT DRIVE-THRU) INDEPENDENT VARIABLE: 1,000 sf of development = 2.0		
		PROJECTED TRIP ENDS
AM PEAK	ENTER	9
	EXIT	6
	TOTAL	15
PM PEAK	ENTER	8
	EXIT	9
	TOTAL	17
PROJECTED TOTALS		
		PROJECTED TRIP ENDS
AM PEAK	ENTER	15
	EXIT	14
	TOTAL	29
PM PEAK	ENTER	23
	EXIT	23
	TOTAL	46
NET DIFFERENCE		
		PROJECTED TRIP ENDS
AM PEAK	ENTER	12
	EXIT	12
	TOTAL	24
PM PEAK	ENTER	20
	EXIT	21
	TOTAL	41

2. Trip Distribution

Figure 5 shows the distribution of site-generated traffic during the AM and PM peak periods. Access to the proposed project is expected to be provided via driveways off Metcalf Street and University Avenue with the driveway off University Avenue expected to be restricted to right-turn in, right-turn out movements only. As previously discussed, the south parking area off Metcalf Street is expected to serve the development's commercial and residential uses while the east parking area off University Avenue is expected to serve the development's residential uses. As such, all commercial trips were assumed to utilize the driveway off Metcalf Street while the residential trips were distributed between the project driveways based upon the



North

Not to Scale

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DISTRIBUTION OF SITE-GENERATED VEHICLES WITH PROJECT

FIGURE 5

proportion of available parking stalls within the two parking areas. The directional distribution of all site-generated vehicles was based upon the relative distribution of traffic between the surrounding roadways. As such, 20% of trips were assumed to be traveling to/from the east via Dole Street and 15% of trips were assumed to be traveling to/from the west via Metcalf Street, while 15% and 50% of trips were assumed to be traveling to/from the north and south, respectively, via University Avenue during both peak periods. Site-generated trips were routed to and from the project site based on their assumed origin/destination and turning restrictions at the project driveways.

B. Through Traffic Forecasting Methodology

The travel forecast is based upon historical traffic count data obtained from the State DOT, Highways Division at survey stations located along University Avenue in the vicinity of the project site. The historical data indicates relatively stable traffic volumes along University Avenue. As such, an annual traffic growth rate of approximately 1.0% was conservatively assumed in the project vicinity. Using 2019 as the Base Year, a growth rate factor of 1.04 was applied to the existing through traffic demands along University Avenue to achieve the projected Year 2023 traffic demands.

C. Other Considerations

1. University of Hawaii Long Range Development Plan (LRDP)

The University of Hawaii Long Range Development Plan outlines the Capital Improvement Project Plans for the university within a 10-year horizon. Under the most recent update of the LRDP (Year 2019), the only component that is expected to be completed by Year 2023 is the proposed renovation of the existing Sinclair Library which is intended to modernize the existing library and repurpose underutilized spaces to support student success. The proposed improvements are expected to serve the existing student population at the university and as such, are not expected to generate new trips along the surrounding roadways.

2. NOAA Graduate Housing Development

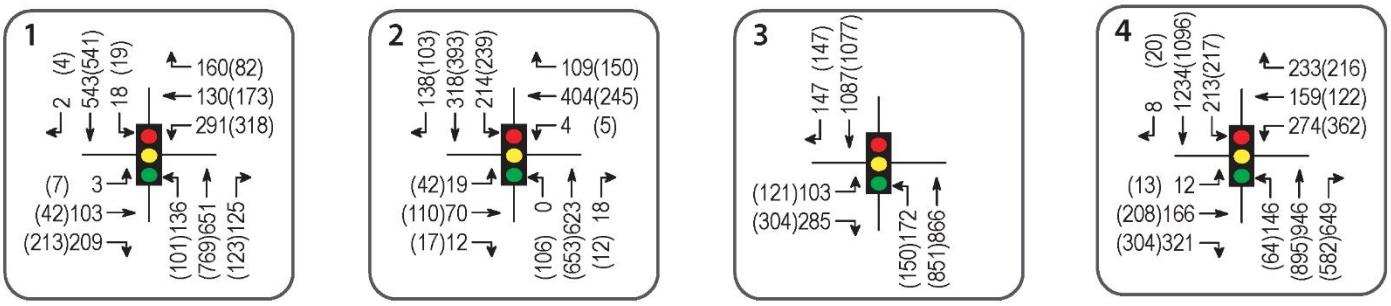
There is another development proposed in the vicinity of the University of Hawaii at Manoa campus. The NOAA Graduate Housing development is located adjacent to Dole Street east of the university campus and is expected to include residential and retail uses as well as a child care center. The proposed residential uses are intended to support a large demand for affordable housing for graduate students and faculty of the university. At this time, the development schedule for this project is not known and as such, was not incorporated into the projected conditions.

D. Total Traffic Volumes Without Project

The projected Year 2023 AM and PM peak period traffic volumes and operating conditions without the proposed Atherton Mixed-Use Development are shown in Figure 6 and summarized in Table 3. The existing levels of service are provided for comparison purposes. LOS calculations are included in Appendix F.

Table 3: Existing and Projected Year 2023 (Without Project) LOS Traffic Operating Conditions

Intersection	Approach/ Critical Movement	AM		PM	
		Exist	Year 2023 w/out Proj	Exist	Year 2023 w/out Proj
University Ave/ Maile Way	Eastbound	B	C	B	B
	Westbound	C	C	C	C
	Northbound	C	C	B	C
	Southbound	C	C	C	C
University Ave Metcalf St	Eastbound	C	C	C	C
	Northbound	B	B	A	B
	Southbound	B	B	B	B
University Ave/ Dole St	Eastbound	F	F	F	F
	Westbound	F	F	E	E
	Northbound	D	D	D	D
	Southbound	D	D	D	D



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INNOVATION AND ENTREPRENEURSHIP CENTER

YEAR 2023 PEAK HOURS OF TRAFFIC
WITHOUT PROJECT

FIGURE
6

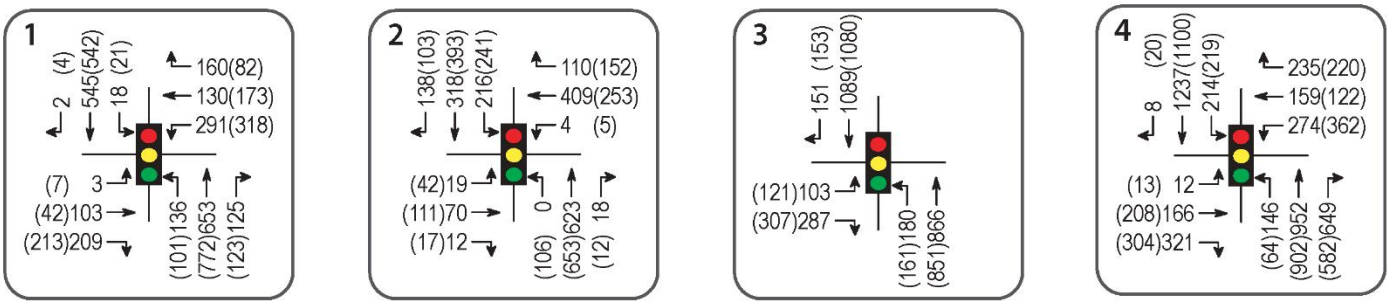
Table 3: Existing and Projected Year 2023 (Without Project) LOS Traffic Operating Conditions (Cont'd)

Intersection	Approach/ Critical Movement	AM		PM	
		Exist	Year 2023 w/out Proj	Exist	Year 2023 w/out Proj
Wilder Ave/ Metcalf St	Eastbound	B	B	B	B
	Westbound	B	B	B	B
	Northbound	C	C	B	B
	Southbound	B	B	A	A

Under Year 2023 without project conditions, traffic operations along University Avenue are generally expected to remain similar to existing conditions. Along University Avenue, the approaches at the intersections with Maile Way and Metcalf Street are expected to continue operating at LOS "C" or better during both peak periods, whereas those at Dole Street are expected to continue operating at low levels of service during both peak periods. As previously discussed, traffic operations the intersection with Dole Street are influenced by the high volume of traffic along University Avenue requiring a greater proportion of the green time to be allotted to the main street. In addition, the split phasing of the eastbound and westbound approaches also contribute to the delays and queueing at this intersection. The remaining study intersection along Metcalf Street is expected to continue operating at levels of service similar to existing conditions.

E. Total Traffic Volumes With Project

Figure 7 shows the Year 2023 cumulative AM and PM peak hour traffic conditions resulting from the projected external traffic and the proposed Atherton Mixed-Use development. The cumulative volumes consist of site-generated traffic superimposed over Year 2023 projected traffic demands. The traffic impacts resulting from the proposed project are addressed in the following section.



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INNOVATION AND ENTREPRENEURSHIP CENTER

YEAR 2023 PEAK HOURS OF TRAFFIC
WITH PROJECT

FIGURE
7

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V. TRAFFIC IMPACT ANALYSIS

The Year 2023 cumulative AM and PM peak hour traffic conditions with the proposed Atherton Mixed-Use development are summarized in Table 4. The existing and projected Year 2023 (Without Project) operating conditions are provided for comparison purposes. LOS calculations are included in Appendix E.

Table 4: Existing and Projected Year 2023 (Without and With Project) LOS Traffic Operating Conditions

Intersection	Approach/	AM			PM		
		Exist	Year 2023		Exist	Year 2023	
			w/out Proj	w/ Proj		w/out Proj	w/ Proj
University Ave/ Maile Way	Eastbound	B	C	C	B	B	B
	Westbound	C	C	C	C	C	C
	Northbound	C	C	C	B	C	C
	Southbound	C	C	C	C	C	C
University Ave/ Metcalf St	Eastbound	C	C	C	C	C	C
	Northbound	B	B	B	A	B	B
	Southbound	B	B	B	B	B	B
University Ave/ Dole St	Eastbound	F	F	F	F	F	F
	Westbound	F	F	F	E	E	E
	Northbound	D	D	D	D	D	D
	Southbound	D	D	D	D	D	D
Wilder Ave/ Metcalf St	Eastbound	B	B	B	B	B	B
	Westbound	B	B	B	B	B	B
	Northbound	C	C	C	B	B	B
	Southbound	B	B	B	A	A	A

Under Year 2023 with project conditions, traffic operations are generally expected to remain similar to without project conditions. With the proposed Atherton Mixed-Use development, the total traffic volumes entering the study intersections along University Avenue and Metcalf Street are anticipated increase less than 1% during both peak periods. These increases in total traffic volumes are in the range of daily volume fluctuations along the surrounding roadways and represent a minimal increase in the overall traffic volumes. As such, along Metcalf Street, traffic operations at the intersection with University Avenue

are expected to continue operating at LOS "C" or better during both peak periods while those at the intersection with Wilder Avenue are expected to continue operating at LOS "C" or better during the AM peak period and LOS "B" or better during the PM peak period. The remaining study intersections along University Avenue are also expected to continue operating similar to without project conditions.

VI. MULTIMODAL FACILITIES

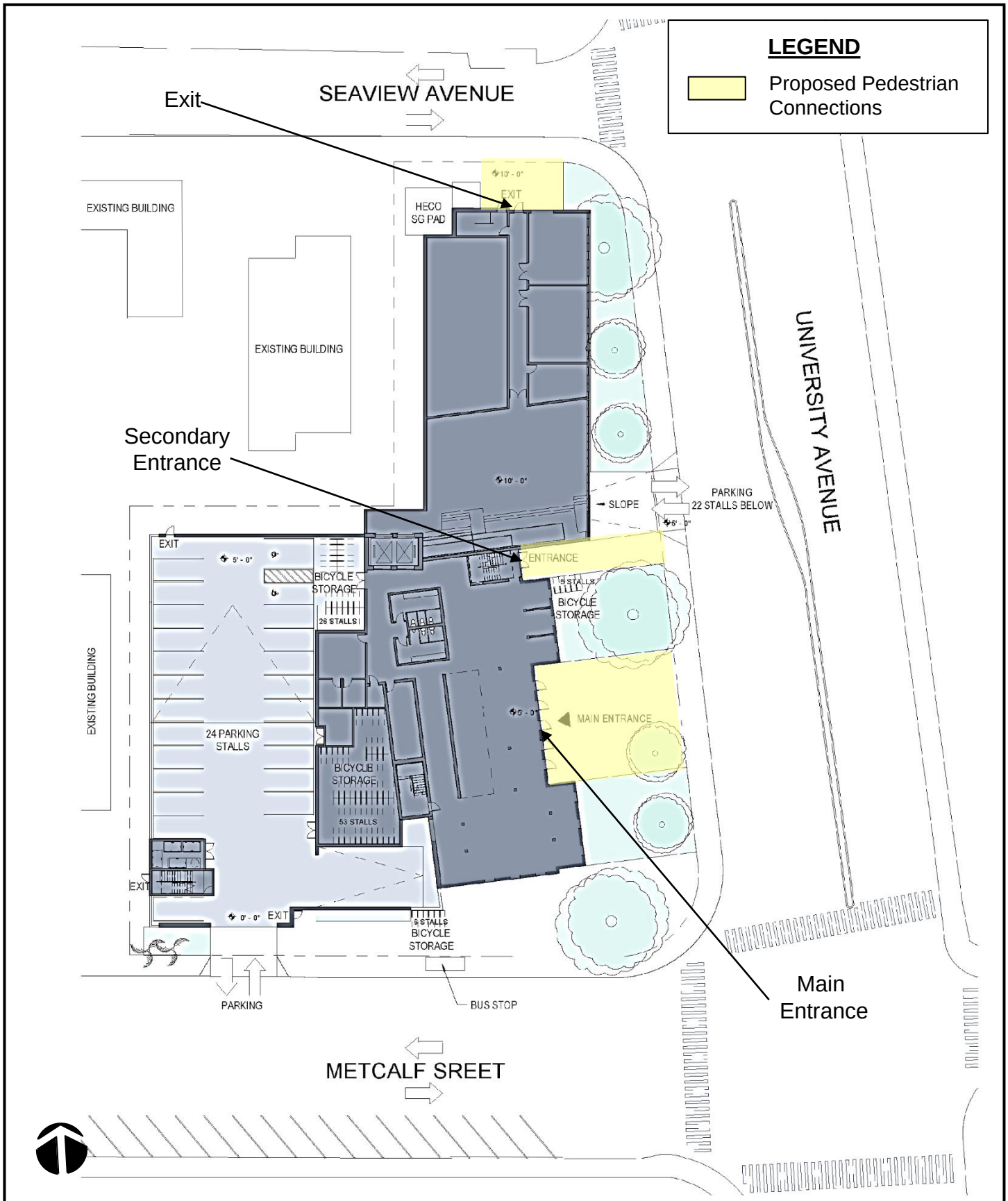
A. Pedestrian Facilities

Pedestrian facilities in the vicinity of the project site are generally limited to University Avenue west of the project site. University Avenue includes sidewalks with trees providing intermittent shade. Marked crosswalks and curb ramps are provided at the intersections with Metcalf Street, Maile Way, and Dole Street with pedestrian crossing further facilitated through pedestrian phasing at those signalized intersections. Although some pedestrian facilities such as sidewalks and street lighting are provided along Metcalf Street south of the project site, those sidewalks terminate at the west end of the project site requiring pedestrians to utilize a portion of the travel way beyond this point.

With the proposed project, access to and from the university campus is expected to continue being provided via sidewalks along University Avenue and Metcalf Street with protected pedestrian phasing at the signalized intersection of University Avenue and Metcalf Street. The proposed pedestrian connections to/from the project site are shown on Figure 8. In addition, the proposed project is also expected to improve the project frontage along University Avenue, Metcalf Street, and Seaview Avenue with additional landscaping treatments to create an outdoor seating space. It should be noted that there are also plans to improve Campus Road between Metcalf Street and Varney Circle as a pedestrian-friendly pathway with landscaping improvements to link the various academic buildings in the vicinity.

B. Bicycle Facilities

The project site is served by a number of BIKI bike share stations. The closest bike share facility is located at the southeast corner of the intersection of University Avenue and Metcalf Street. Four additional bike share facilities are also



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PEDESTRIAN FACILITIES

FIGURE 8

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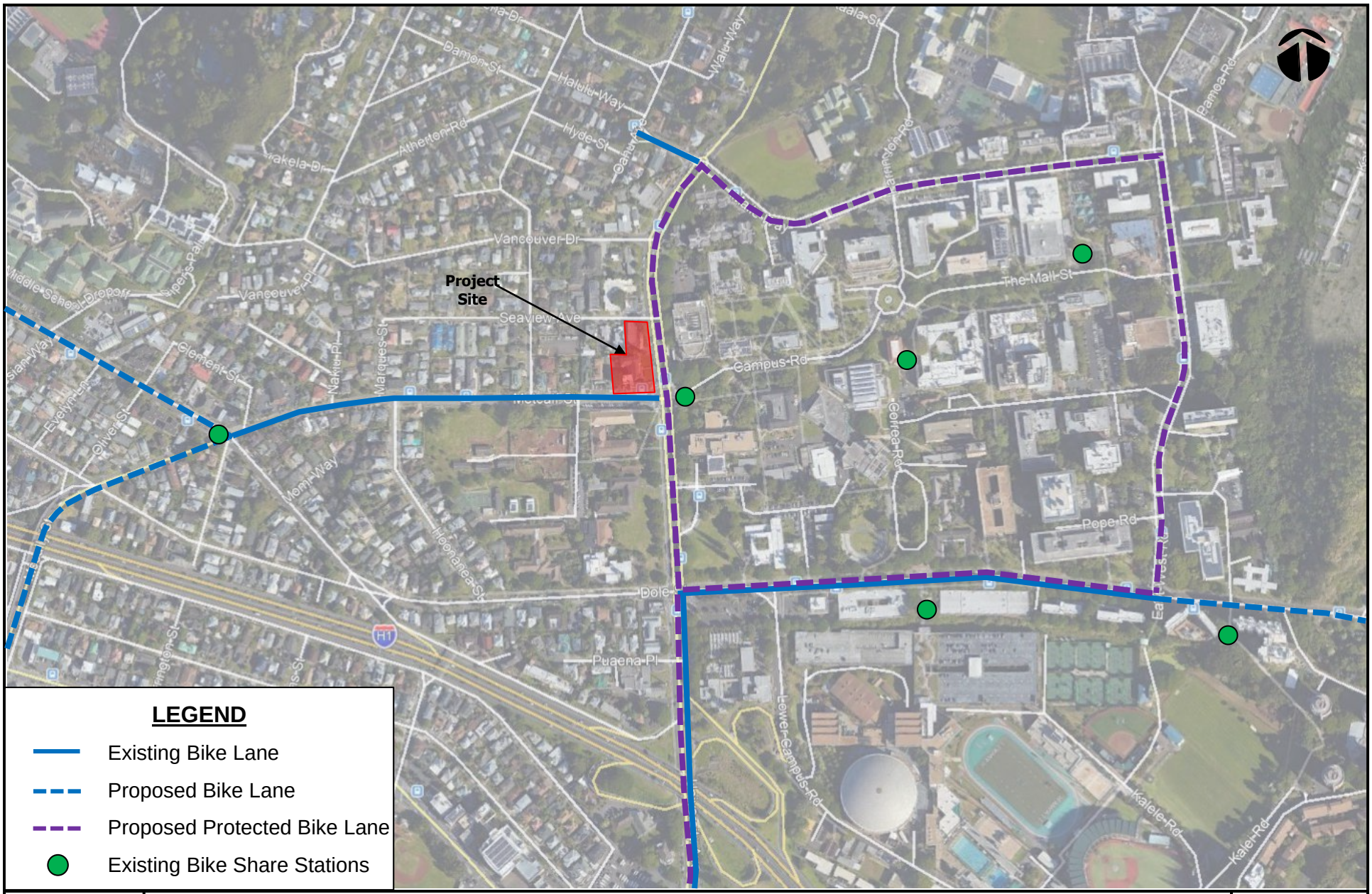
located within the University of Hawaii campus with two located along the University's pedestrian mall and two south of Dole Street (see Figure 9). Further west, there is also a bike share station near the intersection of Metcalf Street and Wilder Avenue. However, bicycle facilities along the surrounding roadways are somewhat limited. Currently, there are bike lanes provided along both sides of Metcalf Street between University Avenue and Wilder Avenue, as well as along a small segment of Dole Street between University Avenue and East-West Road (see Figure 9).

According to the 2019 Update of the Oahu Bike Plan published by the City and County of Honolulu Department of Transportation Services, there are plans to provide additional bicycle facilities in the project vicinity. These include the provision of a protected bike lane along University Avenue between Hiliwai Street and Maile Way, conversion of the existing bike lane along Dole Street to a protected bike lane, and the extension of the existing bike lane along Dole Street further east to St. Louis Drive. It should be noted that the timeline of these improvements are not known at this time and as such, were not incorporated into the projected conditions. In addition, the proposed project is expected to provide short-term and long-term bicycle facilities on-site to encourage the use alternate modes of transportation. These storage facilities are primarily expected to be located within the parking area off Metcalf Street (see Figure 10).

C. Transit Facilities

There is a dense network of existing transit resources located within the project vicinity. These facilities are provided by "The Bus" which is operated by the Oahu Transit Service (OTS) for the City and County of Honolulu Department of Transportation Services. Within a quarter mile radius of the project, there are a total of 10 bus stop locations serving a total of 14 unique routes (see Figure 11). At the intersection of University Avenue and Metcalf Street near the project site, there are three bus stops providing access to 10 routes.

In addition, the University of Hawaii also provides a free shuttle service referred to as the "Rainbow Shuttle" which provides connections to various



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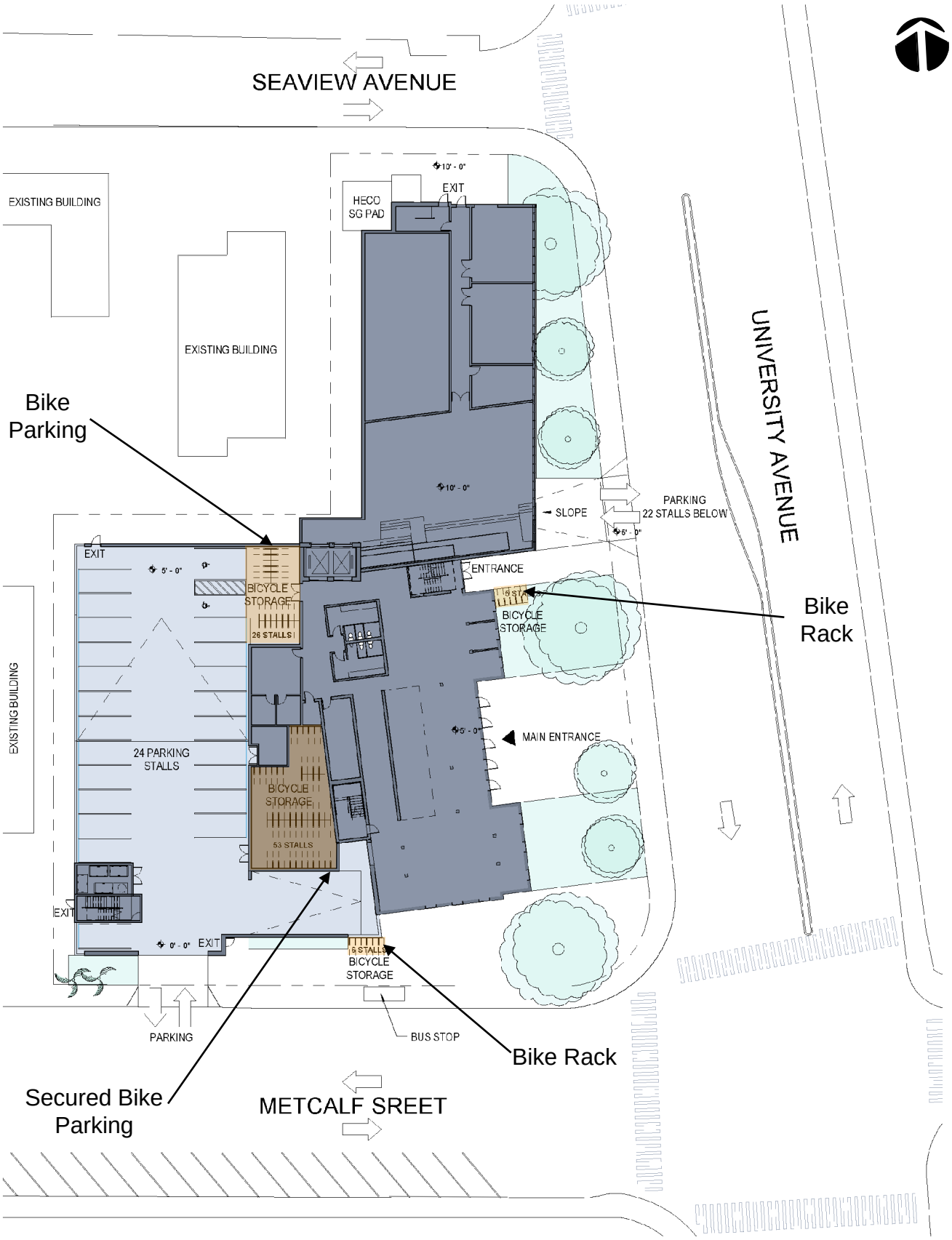
EXISTING AND PROPOSED BICYCLE FACILITIES

FIGURE 9



ATHERTON MIXED-USE STUDENT HOUSING
INNOVATION AND ENTREPRENEURSHIP CENTER

BICYCLE FACILITIES (ON-SITE)

FIGURE
10

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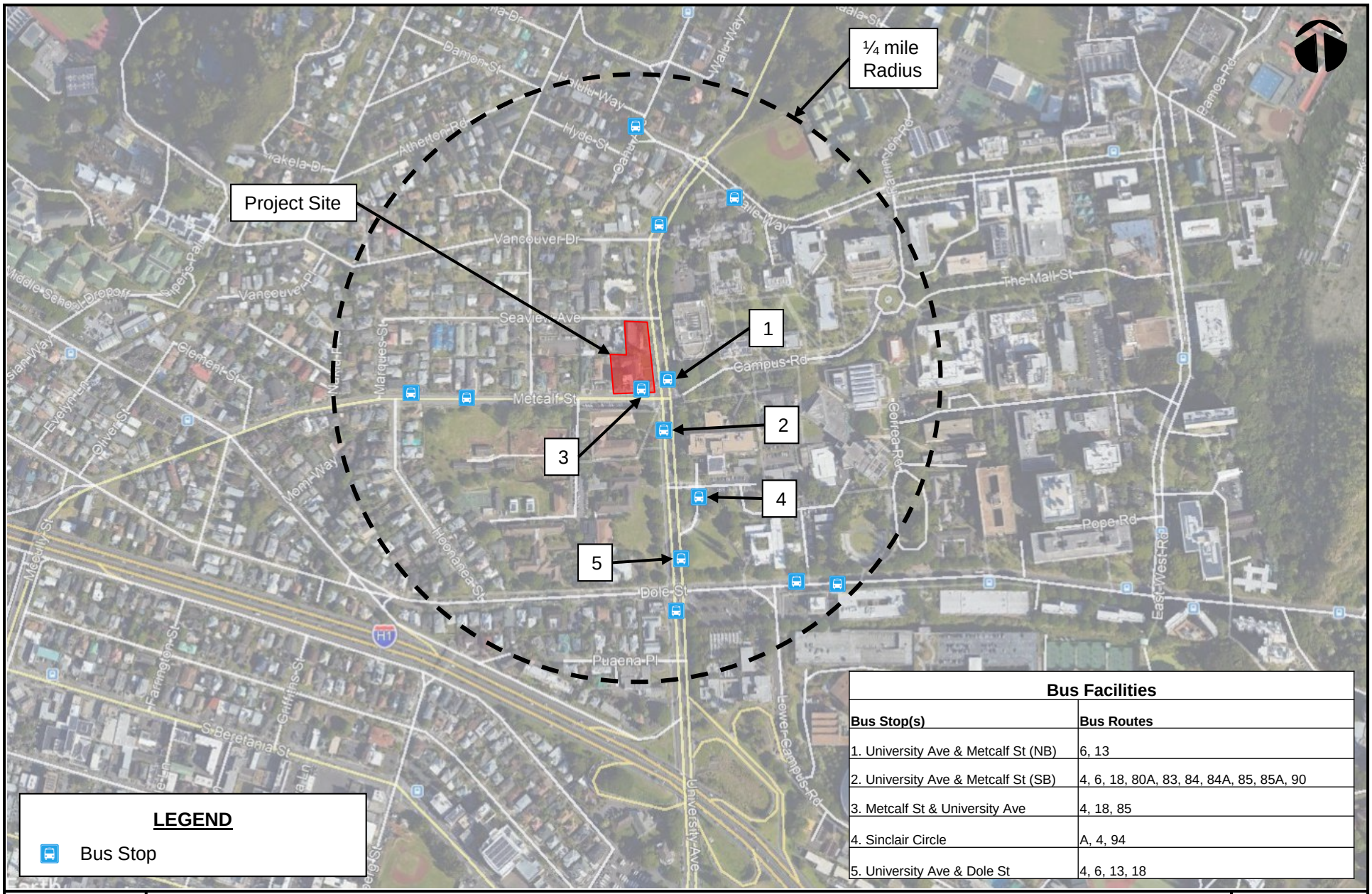

Bus Facilities

Bus Stop(s)	Bus Routes
1. University Ave & Metcalf St (NB)	6, 13
2. University Ave & Metcalf St (SB)	4, 6, 18, 80A, 83, 84, 84A, 85, 85A, 90
3. Metcalf St & University Ave	4, 18, 85
4. Sinclair Circle	A, 4, 94
5. University Ave & Dole St	4, 6, 13, 18

WILSON OKAMOTO CORPORATION

ATHERTON MIXED-USE STUDENT HOUSING INNOVATION AND ENTREPRENEURSHIP CENTER

TRANSIT FACILITIES

FIGURE 11

destinations within the university campus as well as to and from the neighboring vicinity as far as Moilili to the west and Koko Head Avenue to the east. There are 6 shuttle routes that operate daily Mondays through Fridays generally from 7:00 AM to 6:00 PM. A night shuttle is also offered between 5:00 PM and 11:15 PM daily. In the vicinity of the project site, the Rainbow Shuttle may be accessed via Varney Circle which serves as the hub for the Rainbow Shuttle service.

VII. RECOMMENDATIONS

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

1. Maintain sufficient sight distance for motorists to safely enter and exit the project driveways to ensure pedestrians, bicyclists, and motorists are aware of the presence of each other at these conflict points. It should be noted that the parking area off University Avenue is located one floor below street level. As such, consideration should be given to the visibility of pedestrians along the sidewalk for vehicles exiting this parking area.

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

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

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

5. If access to the parking garage is controlled, provide sufficient storage for entering vehicles at the parking access controls (i.e. automatic gate, etc.) to ensure that queues do not extend onto the adjacent public roadways.

6. Ensure sufficient width at the project driveways to accommodate two-way traffic.

7. Restrict on-street parking along University Avenue along the project frontage to ensure adequate sight distance for entering and exiting vehicles.

8. Continue to restrict turning movements at the driveway off University Avenue to right-turn in right-turn out movements only.

9. Clearly indicate which parking stalls are allocated for residential and restaurant uses. Consider locating the stalls for the restaurant uses closer to the entrance to minimize conflict between uses.

10. Consider providing information to students allocated parking stalls in the east parking area off University Avenue to increase awareness of the available routes to and from this parking area and reinforce the turning restrictions at the adjacent intersections.

11. Consider working with the adjacent University Laboratory School to implement a traffic management plan to address congestion and vehicular maneuvers along Metcalf Street near the start and end of the school day. Field investigations include observations of vehicles parking illegally and encroaching in the bike lanes, illegal maneuvers such as u-turns to access parking stalls along Metcalf Street, and queuing from the school access which could potentially block access to the project site.

12. Maintain and/or improve the existing pedestrian facilities fronting the project site along University Avenue, Metcalf Street, and Seaview Avenue. Pedestrian facilities should be made accessible in conformance with the American with Disabilities Act (ADA).

13. Provide adequate pedestrian connections to the bicycle parking facilities located at the south side of the project site to ensure safe and convenient access.

14. Provide adequate signing, striping, and lighting along the routes between the bicycle parking within the parking garage and the adjacent roadway to ensure the safety of pedestrians and bicyclists within the garage. It should be noted that all pedestrian routes should be in conformance with the American With Disabilities Act.

15. Monitor conflicts between pedestrians and bicyclists accessing the bike parking areas within the garage with vehicular traffic. Consider relocating or modifying the bicycle parking areas if safety concerns arise.

16. Coordinate with the City and County of Honolulu Department of Transportation Services regarding their plans for additional bike facilities along University Avenue.

17. Coordinate with the City and County of Honolulu Department of Transportation Services regarding improvements at the bus stop located adjacent to the project site along Metcalf Street. Improvements should consider the high volume of ridership at that location, adequate dwelling and passing areas, as well as bus loading requirements.

18. Consider working with the City and County of Honolulu to implement an all pedestrian crossing phase at the intersection of University Avenue and Metcalf Street to accommodate the projected pedestrian volumes at that intersection. In addition, it should be noted that pedestrian crossing volumes could also increase with the planned conversion of Campus Road to a pedestrian mall/pathway.

19. Consider relocating the roll up door located along the Seaview Avenue side of the building. If relocation is not possible, coordinate with owner of that roadway prior to staging large material deliveries along Seaview Avenue.

20. Prepare a Construction Management Plan (CMP) given the high volume of vehicular and pedestrian traffic in the project vicinity. The CMP should include discussions regarding the anticipated construction schedule and phasing, as well as traffic circulation, traffic control, and parking during the construction period.

VIII. CONCLUSION

The proposed project entails the redevelopment of the existing Charles Atherton House and Mary Atherton Richards House to the Atherton Mixed-Use Student Housing Innovation and Entrepreneurship Center. The proposed development is intended to bring an integrated live, learn, work innovation center with classrooms and meetings spaces, restaurant uses, and residential uses. With the implementation of the aforementioned recommendations, traffic operations in the vicinity are generally expected to remain similar to without project conditions. Although traffic operations are generally expected to remain similar to without project conditions, the project is located within an area with a high volume of pedestrian and vehicular traffic. As such, the preparation of a Construction Management Plan which includes discussions regarding anticipated construction schedule, phasing, as well as traffic circulation, traffic control and parking during construction is recommended to further minimize the potential impact of the proposed project on the surrounding roadway network.

APPENDIX A

EXISTING TRAFFIC COUNT DATA

Wilson Okamoto Corporation

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

Counted By:LF, DY
Counters:TU-1958, TU-0650
Weather:CLEAR

File Name : UNI MAI WEEKDAY AM
Site Code : 00000008
Start Date : 4/23/2019
Page No : 1

Groups Printed- Unshifted

	University Avenue Southbound					Maile Way Westbound					University Avenue Northbound					Maile Way Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:00 AM	2	52	1	0	55	13	1	3	1	18	9	58	15	14	96	0	3	7	10	20	189
06:15 AM	4	64	0	1	69	16	1	4	7	28	10	94	16	8	128	0	5	7	8	20	245
06:30 AM	5	96	0	2	103	40	8	14	6	68	11	115	30	8	164	0	6	14	0	20	355
06:45 AM	2	106	1	1	110	67	18	22	1	108	28	172	24	12	236	0	14	27	5	46	500
Total	13	318	2	4	337	136	28	43	15	222	58	439	85	42	624	0	28	55	23	106	1289
07:00 AM	2	130	0	2	134	75	34	43	4	156	38	159	21	14	232	0	16	31	3	50	572
07:15 AM	3	133	0	2	138	81	51	52	3	187	21	147	19	17	204	2	22	72	0	96	625
07:30 AM	9	112	2	5	128	77	27	38	0	142	41	185	44	17	287	1	32	53	0	86	643
07:45 AM	4	147	0	1	152	58	18	27	2	105	36	135	41	20	232	0	33	53	0	86	575
Total	18	522	2	10	552	291	130	160	9	590	136	626	125	68	955	3	103	209	3	318	2415
08:00 AM	10	167	0	1	178	24	12	17	4	57	22	143	39	18	222	0	29	55	0	84	541
08:15 AM	5	147	0	0	152	36	6	14	1	57	25	134	70	25	254	0	35	46	0	81	544
08:30 AM	7	131	1	0	139	37	5	14	5	61	24	92	62	35	213	1	22	29	2	54	467
08:45 AM	14	123	1	3	141	50	12	8	8	78	21	104	82	54	261	1	41	27	0	69	549
Total	36	568	2	4	610	147	35	53	18	253	92	473	253	132	950	2	127	157	2	288	2101
Grand Total	67	1408	6	18	1499	574	193	256	42	1065	286	1538	463	242	2529	5	258	421	28	712	5805
Apprch %	4.5	93.9	0.4	1.2		53.9	18.1	24	3.9		11.3	60.8	18.3	9.6		0.7	36.2	59.1	3.9		
Total %	1.2	24.3	0.1	0.3	25.8	9.9	3.3	4.4	0.7	18.3	4.9	26.5	8	4.2	43.6	0.1	4.4	7.3	0.5	12.3	

	University Avenue Southbound				Maile Way Westbound				University Avenue Northbound				Maile Way Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	2	130	0	132	75	34	43	152	38	159	21	218	0	16	31	47	549
07:15 AM	3	133	0	136	81	51	52	184	21	147	19	187	2	22	72	96	603
07:30 AM	9	112	2	123	77	27	38	142	41	185	44	270	1	32	53	86	621
07:45 AM	4	147	0	151	58	18	27	103	36	135	41	212	0	33	53	86	552
Total Volume	18	522	2	542	291	130	160	581	136	626	125	887	3	103	209	315	2325
% App. Total	3.3	96.3	0.4		50.1	22.4	27.5		15.3	70.6	14.1		1	32.7	66.3		
PHF	.500	.888	.250	.897	.898	.637	.769	.789	.829	.846	.710	.821	.375	.780	.726	.820	.936

Wilson Okamoto Corporation

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

Counted By: DY, LF
Counters: TU-0650, TU-1958
Weather: CLEAR

File Name : UNI MAI WEEKDAY PM
Site Code : 00000008
Start Date : 4/23/2019
Page No : 1

Groups Printed- Unshifted

	University Ave Southbound					Maile Way Westbound					University Ave Northbound					Maile Way Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
03:00 PM	5	141	1	3	150	67	53	23	5	148	16	157	39	44	256	2	12	66	0	80	634
03:15 PM	7	130	2	0	139	103	46	27	9	185	26	187	26	6	245	2	6	59	2	69	638
03:30 PM	2	119	1	4	126	75	37	19	4	135	37	221	28	29	315	3	16	48	0	67	643
03:45 PM	5	130	0	1	136	73	37	13	6	129	22	174	30	21	247	0	8	40	0	48	560
Total	19	520	4	8	551	318	173	82	24	597	101	739	123	100	1063	7	42	213	2	264	2475
04:00 PM	5	140	2	1	148	44	22	12	4	82	27	165	34	20	246	0	14	50	0	64	540
04:15 PM	7	148	0	2	157	64	32	20	5	121	23	165	43	28	259	0	18	56	1	75	612
04:30 PM	10	146	0	2	158	60	42	30	2	134	33	170	27	22	252	2	19	47	0	68	612
04:45 PM	5	137	1	6	149	42	23	22	1	88	33	179	23	12	247	0	22	49	0	71	555
Total	27	571	3	11	612	210	119	84	12	425	116	679	127	82	1004	2	73	202	1	278	2319
05:00 PM	10	131	0	1	142	48	36	15	2	101	33	162	36	19	250	1	11	41	0	53	546
05:15 PM	8	152	2	5	167	41	17	14	4	76	26	165	27	22	240	1	11	48	0	60	543
05:30 PM	9	139	2	1	151	37	16	26	0	79	26	137	22	15	200	2	4	54	0	60	490
05:45 PM	12	147	1	2	162	22	15	11	1	49	20	143	33	21	217	0	12	46	0	58	486
Total	39	569	5	9	622	148	84	66	7	305	105	607	118	77	907	4	38	189	0	231	2065
Grand Total	85	1660	12	28	1785	676	376	232	43	1327	322	2025	368	259	2974	13	153	604	3	773	6859
Apprch %	4.8	93	0.7	1.6		50.9	28.3	17.5	3.2		10.8	68.1	12.4	8.7		1.7	19.8	78.1	0.4		
Total %	1.2	24.2	0.2	0.4	26	9.9	5.5	3.4	0.6	19.3	4.7	29.5	5.4	3.8	43.4	0.2	2.2	8.8	0	11.3	

	University Ave Southbound				Maile Way Westbound				University Ave Northbound				Maile Way Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	5	**141**	1	**147**	67	**53**	23	143	16	157	**39**	212	2	12	**66**	**80**	582
03:15 PM	**7**	130	**2**	139	**103**	46	**27**	**176**	26	187	26	239	2	6	59	67	**621**
03:30 PM	2	119	1	122	75	37	19	131	**37**	**221**	28	**286**	**3**	**16**	48	67	606
03:45 PM	5	130	0	135	73	37	13	123	22	174	30	226	0	8	40	48	532
Total Volume	19	520	4	543	318	173	82	573	101	739	123	963	7	42	213	262	2341
% App. Total	3.5	95.8	0.7		55.5	30.2	14.3		10.5	76.7	12.8		2.7	16	81.3		
PHF	.679	.922	.500	.923	.772	.816	.759	.814	.682	.836	.788	.842	.583	.656	.807	.819	.942

Wilson Okamoto Corporation

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

Counted By: SS, LF
Counters: TU-2050, TU-0653
Weather: CLEAR

File Name : UNI MET WEEKDAY AM
Site Code : 00000007
Start Date : 4/18/2019
Page No : 1

Groups Printed- Unshifted

	University Avenue Southbound				Campus Road Westbound		University Avenue Northbound				Metcalf Street Eastbound					
Start Time	Thru	Right	Peds	App. Total	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:00 AM	55	7	1	63	2	2	6	79	9	94	4	1	9	1	15	174
06:15 AM	80	14	0	94	1	1	14	105	7	126	7	0	10	2	19	240
06:30 AM	122	28	4	154	1	1	19	157	23	199	12	1	26	3	42	396
06:45 AM	157	29	6	192	7	7	30	236	26	292	16	4	42	9	71	562
Total	414	78	11	503	11	11	69	577	65	711	39	6	87	15	147	1372
07:00 AM	237	37	7	281	6	6	43	265	19	327	12	0	61	7	80	694
07:15 AM	300	40	5	345	13	13	50	204	23	277	29	0	64	8	101	736
07:30 AM	259	40	3	302	7	7	44	157	51	252	35	0	94	4	133	694
07:45 AM	249	30	2	281	14	14	35	207	53	295	27	0	66	4	97	687
Total	1045	147	17	1209	40	40	172	833	146	1151	103	0	285	23	411	2811
08:00 AM	219	31	2	252	5	5	33	234	37	304	24	1	23	3	51	612
08:15 AM	186	33	5	224	20	20	26	187	61	274	21	2	20	5	48	566
08:30 AM	172	23	1	196	24	24	29	215	66	310	21	6	20	5	52	582
08:45 AM	140	25	3	168	36	36	27	244	70	341	36	8	15	10	69	614
Total	717	112	11	840	85	85	115	880	234	1229	102	17	78	23	220	2374
Grand Total	2176	337	39	2552	136	136	356	2290	445	3091	244	23	450	61	778	6557
Apprch %	85.3	13.2	1.5		100		11.5	74.1	14.4		31.4	3	57.8	7.8		
Total %	33.2	5.1	0.6	38.9	2.1	2.1	5.4	34.9	6.8	47.1	3.7	0.4	6.9	0.9	11.9	

	University Avenue Southbound			Westbound	University Avenue Northbound			Metcalf Street Eastbound				
Start Time	Thru	Right	App. Total	App. Total	Left	Thru	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1												
Peak Hour for Entire Intersection Begins at 07:00 AM												
07:00 AM	237	37	274	0	43	265	308	12	0	61	73	655
07:15 AM	300	40	340	0	50	204	254	29	0	64	93	687
07:30 AM	259	40	299	0	44	157	201	35	0	94	129	629
07:45 AM	249	30	279	0	35	207	242	27	0	66	93	614
Total Volume	1045	147	1192	0	172	833	1005	103	0	285	388	2585
% App. Total	87.7	12.3			17.1	82.9		26.5	0	73.5		
PHF	.871	.919	.876	.000	.860	.786	.816	.736	.000	.758	.752	.941

Wilson Okamoto Corporation

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

Counted By: SS, LF
Counters: TU-2050, TU-0653
Weather: CLEAR

File Name : UNI MET WEEKDAY PM
Site Code : 00000007
Start Date : 4/18/2019
Page No : 1

Groups Printed- Unshifted

	University Avenue Southbound				Campus Road Westbound		University Avenue Northbound				Metcalf Street Eastbound				
Start Time	Thru	Right	Peds	App. Total	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
03:00 PM	265	46	13	324	38	38	24	198	28	250	28	51	13	92	704
03:15 PM	254	43	29	326	23	23	43	215	38	296	26	78	25	129	774
03:30 PM	249	27	14	290	27	27	35	208	39	282	30	95	12	137	736
03:45 PM	268	31	14	313	22	22	48	197	43	288	37	80	15	132	755
Total	1036	147	70	1253	110	110	150	818	148	1116	121	304	65	490	2969
04:00 PM	213	42	12	267	21	21	31	179	49	259	38	76	12	126	673
04:15 PM	255	31	15	301	42	42	37	203	47	287	40	68	12	120	750
04:30 PM	281	31	14	326	27	27	39	210	30	279	20	72	10	102	734
04:45 PM	241	36	8	285	27	27	34	204	22	260	22	67	6	95	667
Total	990	140	49	1179	117	117	141	796	148	1085	120	283	40	443	2824
05:00 PM	216	38	14	268	25	25	34	190	56	280	43	61	10	114	687
05:15 PM	235	25	14	274	39	39	26	229	27	282	26	70	7	103	698
05:30 PM	193	42	12	247	29	29	38	160	25	223	26	68	12	106	605
05:45 PM	194	33	9	236	29	29	20	188	25	233	27	70	4	101	599
Total	838	138	49	1025	122	122	118	767	133	1018	122	269	33	424	2589
Grand Total	2864	425	168	3457	349	349	409	2381	429	3219	363	856	138	1357	8382
Apprch %	82.8	12.3	4.9		100		12.7	74	13.3		26.8	63.1	10.2		
Total %	34.2	5.1	2	41.2	4.2	4.2	4.9	28.4	5.1	38.4	4.3	10.2	1.6	16.2	

	University Avenue Southbound			Westbound	University Avenue Northbound			Metcalf Street Eastbound			
Start Time	Thru	Right	App. Total	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1											
Peak Hour for Entire Intersection Begins at 03:00 PM											
03:00 PM	265	46	311	0	24	198	222	28	51	79	612
03:15 PM	254	43	297	0	43	215	258	26	78	104	659
03:30 PM	249	27	276	0	35	208	243	30	95	125	644
03:45 PM	268	31	299	0	48	197	245	37	80	117	661
Total Volume	1036	147	1183	0	150	818	968	121	304	425	2576
% App. Total	87.6	12.4			15.5	84.5		28.5	71.5		
PHF	.966	.799	.951	.000	.781	.951	.938	.818	.800	.850	.974

Wilson Okamoto Corporation

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

Counted By: DY, GH
Counters: D4-3888, D4-3889
Weather: CLEAR

File Name : UNI DOL WEEKDAY AM
Site Code : 00000004
Start Date : 4/18/2019
Page No : 1

Groups Printed- Unshifted

	University Avenue Southbound					Dole Street Westbound					University Avenue Northbound					Dole Street Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:00 AM	12	55	1	0	68	15	3	11	1	30	3	65	81	1	150	1	7	15	2	25	273
06:15 AM	16	77	1	2	96	18	2	11	0	31	1	125	99	0	225	0	11	18	1	30	382
06:30 AM	24	119	0	3	146	23	17	25	0	65	10	156	134	2	302	0	11	28	1	40	553
06:45 AM	39	168	4	1	212	22	29	46	1	98	27	242	136	6	411	1	20	51	5	77	798
Total	91	419	6	6	522	78	51	93	2	224	41	588	450	9	1088	2	49	112	9	172	2006
07:00 AM	37	270	1	10	318	51	50	80	0	181	32	254	142	0	428	11	27	65	3	106	1033
07:15 AM	53	283	1	12	349	65	39	46	6	156	48	236	168	6	458	0	46	65	6	117	1080
07:30 AM	65	333	1	10	409	71	37	50	6	164	51	209	185	11	456	1	44	92	10	147	1176
07:45 AM	58	301	5	7	371	87	33	57	2	179	15	211	154	4	384	0	49	99	3	151	1085
Total	213	1187	8	39	1447	274	159	233	14	680	146	910	649	21	1726	12	166	321	22	521	4374
08:00 AM	60	215	5	8	288	46	27	66	0	139	26	225	160	4	415	4	22	41	5	72	914
08:15 AM	49	160	4	26	239	53	19	54	7	133	11	203	183	10	407	1	42	50	3	96	875
08:30 AM	47	162	7	18	234	39	24	56	10	129	18	212	215	14	459	0	38	34	9	81	903
08:45 AM	37	134	3	34	208	57	26	57	8	148	10	264	233	12	519	2	40	29	13	84	959
Total	193	671	19	86	969	195	96	233	25	549	65	904	791	40	1800	7	142	154	30	333	3651
Grand Total	497	2277	33	131	2938	547	306	559	41	1453	252	2402	1890	70	4614	21	357	587	61	1026	10031
Apprch %	16.9	77.5	1.1	4.5		37.6	21.1	38.5	2.8		5.5	52.1	41	1.5		2	34.8	57.2	5.9		
Total %	5	22.7	0.3	1.3	29.3	5.5	3.1	5.6	0.4	14.5	2.5	23.9	18.8	0.7	46	0.2	3.6	5.9	0.6	10.2	

	University Avenue Southbound				Dole Street Westbound				University Avenue Northbound				Dole Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	37	270	1	308	51	**50**	**80**	**181**	32	**254**	142	428	**11**	27	65	103	1020
07:15 AM	53	283	1	337	65	39	46	150	48	236	168	**452**	0	46	65	111	1050
07:30 AM	**65**	**333**	1	**399**	71	37	50	158	**51**	209	**185**	445	1	44	92	137	**1139**
07:45 AM	58	301	**5**	364	**87**	33	57	177	15	211	154	380	0	**49**	**99**	**148**	1069
Total Volume	213	1187	8	1408	274	159	233	666	146	910	649	1705	12	166	321	499	4278
% App. Total	15.1	84.3	0.6		41.1	23.9	35		8.6	53.4	38.1		2.4	33.3	64.3		
PHF	.819	.891	.400	.882	.787	.795	.728	.920	.716	.896	.877	.943	.273	.847	.811	.843	.939

Wilson Okamoto Corporation

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

Counted By: DY, GH
Counters: D4-3888, D4-3889
Weather:

File Name : UNI DOL WEEKDAY PM
Site Code : 00000004
Start Date : 4/18/2019
Page No : 1

Groups Printed- Unshifted

	University Avenue Southbound					Dole Street Westbound					University Avenue Northbound					Dole Street Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Peds	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
03:00 PM	57	274	5	25	361	71	30	45	7	153	34	238	94	9	375	2	28	85	17	132	1021
03:15 PM	57	292	4	32	385	102	27	49	3	181	33	239	102	8	382	3	37	89	8	137	1085
03:30 PM	61	275	9	6	351	69	31	41	3	144	38	257	88	10	393	2	47	81	13	143	1031
03:45 PM	54	296	6	1	357	86	23	50	5	164	19	229	113	17	378	2	53	95	13	163	1062
Total	229	1137	24	64	1454	328	111	185	18	642	124	963	397	44	1528	9	165	350	51	575	4199
04:00 PM	62	227	4	17	310	72	26	43	15	156	12	197	98	15	322	1	52	73	15	141	929
04:15 PM	52	302	3	7	364	73	32	63	12	180	14	222	137	9	382	4	53	87	6	150	1076
04:30 PM	50	256	7	16	329	96	30	43	9	178	13	211	133	21	378	5	62	66	12	145	1030
04:45 PM	59	252	8	17	336	112	44	57	0	213	13	217	153	12	395	2	42	73	13	130	1074
Total	223	1037	22	57	1339	353	132	206	36	727	52	847	521	57	1477	12	209	299	46	566	4109
05:00 PM	56	244	2	9	311	81	16	53	5	155	24	211	159	11	405	2	51	78	10	141	1012
05:15 PM	61	253	6	3	323	112	39	36	2	189	13	240	130	7	390	4	53	47	10	114	1016
05:30 PM	56	184	3	7	250	81	38	29	0	148	16	177	124	24	341	6	58	38	1	103	842
05:45 PM	64	227	3	8	302	78	26	33	3	140	9	211	174	12	406	4	54	52	4	114	962
Total	237	908	14	27	1186	352	119	151	10	632	62	839	587	54	1542	16	216	215	25	472	3832
Grand Total	689	3082	60	148	3979	1033	362	542	64	2001	238	2649	1505	155	4547	37	590	864	122	1613	12140
Apprch %	17.3	77.5	1.5	3.7		51.6	18.1	27.1	3.2		5.2	58.3	33.1	3.4		2.3	36.6	53.6	7.6		
Total %	5.7	25.4	0.5	1.2	32.8	8.5	3	4.5	0.5	16.5	2	21.8	12.4	1.3	37.5	0.3	4.9	7.1	1	13.3	

	University Avenue Southbound				Dole Street Westbound				University Avenue Northbound				Dole Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Peds	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	52	**302**	3	**357**	73	32	**63**	168	14	**222**	137	373	4	53	**87**	**144**	**1042**
04:30 PM	50	256	7	313	96	30	43	169	13	211	133	357	**5**	**62**	66	133	972
04:45 PM	**59**	252	**8**	319	**112**	**44**	57	**213**	13	217	153	383	2	42	73	117	1032
05:00 PM	56	244	2	302	81	16	53	150	**24**	211	**159**	**394**	2	51	78	131	977
Total Volume	217	1054	20	1291	362	122	216	700	64	861	582	1507	13	208	304	525	4023
% App. Total	16.8	81.6	1.5		51.7	17.4	30.9		4.2	57.1	38.6		2.5	39.6	57.9		
PHF	.919	.873	.625	.904	.808	.693	.857	.822	.667	.970	.915	.956	.650	.839	.874	.911	.965

Wilson Okamoto Corporation

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

Counted By:GH, SS
Counters:TU-0652, TU-1957
Weather:CLEAR

File Name : WIL MET FAR WEEKDAY AM
Site Code : 00000010
Start Date : 4/23/2019
Page No : 1

Groups Printed- Unshifted

	Wilder Avenue Southbound					Metcalf Street Westbound					Wilder Avenue Northbound					Metcalf Street Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:00 AM	7	14	7	1	29	2	15	14	3	34	12	36	0	0	48	3	12	1	1	17	128
06:15 AM	10	20	11	2	43	1	26	12	5	44	4	63	0	2	69	5	8	0	1	14	170
06:30 AM	27	21	6	2	56	2	36	19	2	59	6	100	0	0	106	7	4	0	4	15	236
06:45 AM	34	41	22	0	97	0	44	30	1	75	0	180	2	1	183	11	14	0	3	28	383
Total	78	96	46	5	225	5	121	75	11	212	22	379	2	3	406	26	38	1	9	74	917
07:00 AM	53	62	32	5	152	0	98	35	5	138	2	232	2	4	240	8	18	1	1	28	558
07:15 AM	61	91	37	1	190	1	94	27	6	128	0	175	4	2	181	4	21	3	4	32	531
07:30 AM	53	94	42	1	190	3	107	28	1	139	6	100	5	4	115	2	12	4	3	21	465
07:45 AM	47	71	27	10	155	0	105	19	6	130	4	116	7	3	130	5	19	4	2	30	445
Total	214	318	138	17	687	4	404	109	18	535	12	623	18	13	666	19	70	12	10	111	1999
08:00 AM	39	76	22	2	139	1	49	26	0	76	8	112	1	2	123	11	15	1	0	27	365
08:15 AM	48	57	19	2	126	1	62	21	8	92	5	91	6	5	107	4	10	2	5	21	346
08:30 AM	32	56	10	4	102	0	33	18	1	52	14	73	5	6	98	3	12	0	3	18	270
08:45 AM	51	57	7	3	118	1	34	28	7	70	30	77	5	4	116	10	26	1	4	41	345
Total	170	246	58	11	485	3	178	93	16	290	57	353	17	17	444	28	63	4	12	107	1326
Grand Total	462	660	242	33	1397	12	703	277	45	1037	91	1355	37	33	1516	73	171	17	31	292	4242
Apprch %	33.1	47.2	17.3	2.4		1.2	67.8	26.7	4.3		6	89.4	2.4	2.2		25	58.6	5.8	10.6		
Total %	10.9	15.6	5.7	0.8	32.9	0.3	16.6	6.5	1.1	24.4	2.1	31.9	0.9	0.8	35.7	1.7	4	0.4	0.7	6.9	

	Wilder Avenue Southbound				Metcalf Street Westbound				Wilder Avenue Northbound				Metcalf Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	53	62	32	147	0	98	35	133	2	232	2	236	8	18	1	27	543
07:15 AM	61	91	37	189	1	94	27	122	0	175	4	179	4	21	3	28	518
07:30 AM	53	94	42	189	3	107	28	138	6	100	5	111	2	12	4	18	456
07:45 AM	47	71	27	145	0	105	19	124	4	116	7	127	5	19	4	28	424
Total Volume	214	318	138	670	4	404	109	517	12	623	18	653	19	70	12	101	1941
% App. Total	31.9	47.5	20.6		0.8	78.1	21.1		1.8	95.4	2.8		18.8	69.3	11.9		
PHF	.877	.846	.821	.886	.333	.944	.779	.937	.500	.671	.643	.692	.594	.833	.750	.902	.894

Wilson Okamoto Corporation

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

Counted By:SS, AN
Counters:TU-0652, TU-0654
Weather:CLEAR

File Name : WIL MET FAR WEEKDAY PM
Site Code : 00000010
Start Date : 4/23/2019
Page No : 1

Groups Printed- Unshifted

	Wilder Avenue Southbound					Metcalf Street Westbound					Wilder Avenue Northbound					Metcalf Street Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
03:00 PM	42	65	11	3	121	1	56	46	3	106	22	173	3	1	199	17	18	3	3	41	467
03:15 PM	46	74	26	2	148	0	85	33	0	118	23	139	4	3	169	14	32	3	0	49	484
03:30 PM	45	101	32	1	179	0	77	38	3	118	26	158	4	3	191	6	23	5	0	34	522
03:45 PM	59	92	27	5	183	2	74	33	2	111	21	160	4	1	186	12	29	6	0	47	527
Total	192	332	96	11	631	3	292	150	8	453	92	630	15	8	745	49	102	17	3	171	2000
04:00 PM	66	90	20	3	179	2	46	38	3	89	24	165	3	0	192	13	31	5	6	55	515
04:15 PM	69	110	24	6	209	1	48	41	4	94	35	170	1	4	210	11	27	1	4	43	556
04:30 PM	53	99	25	3	180	0	61	50	1	112	27	148	2	0	177	14	16	2	1	33	502
04:45 PM	51	80	23	2	156	0	71	42	2	115	16	160	1	6	183	11	29	3	1	44	498
Total	239	379	92	14	724	3	226	171	10	410	102	643	7	10	762	49	103	11	12	175	2071
05:00 PM	37	80	22	3	142	0	44	43	0	87	26	192	4	4	226	22	21	6	0	49	504
05:15 PM	56	80	27	0	163	4	50	36	5	95	17	183	1	4	205	12	23	2	1	38	501
05:30 PM	56	83	19	0	158	0	56	36	6	98	24	125	0	8	157	16	18	2	5	41	454
05:45 PM	41	110	17	6	174	0	36	26	4	66	23	166	8	6	203	15	27	1	1	44	487
Total	190	353	85	9	637	4	186	141	15	346	90	666	13	22	791	65	89	11	7	172	1946
Grand Total	621	1064	273	34	1992	10	704	462	33	1209	284	1939	35	40	2298	163	294	39	22	518	6017
Apprch %	31.2	53.4	13.7	1.7		0.8	58.2	38.2	2.7		12.4	84.4	1.5	1.7		31.5	56.8	7.5	4.2		
Total %	10.3	17.7	4.5	0.6	33.1	0.2	11.7	7.7	0.5	20.1	4.7	32.2	0.6	0.7	38.2	2.7	4.9	0.6	0.4	8.6	

	Wilder Avenue Southbound				Metcalf Street Westbound				Wilder Avenue Northbound				Metcalf Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	45	101	32	178	0	77	38	115	26	158	4	188	6	23	5	34	515
03:45 PM	59	92	27	178	2	74	33	109	21	160	4	185	12	29	6	47	519
04:00 PM	66	90	20	176	2	46	38	86	24	165	3	192	13	31	5	49	503
04:15 PM	69	110	24	203	1	48	41	90	35	170	1	206	11	27	1	39	538
Total Volume	239	393	103	735	5	245	150	400	106	653	12	771	42	110	17	169	2075
% App. Total	32.5	53.5	14		1.2	61.2	37.5		13.7	84.7	1.6		24.9	65.1	10.1		
PHF	.866	.893	.805	.905	.625	.795	.915	.870	.757	.960	.750	.936	.808	.887	.708	.862	.964

Wilson Okamoto Corporation

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

Counted By:GH
Counters:TU-0652
Weather:CLEAR

File Name : FAR WEEKDAY AM
Site Code : 00000000
Start Date : 4/23/2019
Page No : 1

Groups Printed- Unshifted

	Wilder Avenue Onto Farrington Street Southbound		Metcalf Street Onto Farrington Street Westbound		Wilder Avenue Onto Farrington Street Northbound		Metcalf Street Onto Farrington Street Eastbound		
Start Time	Right	App. Total	Left	App. Total	Left	App. Total	Right	App. Total	Int. Total
06:00 AM	0	0	2	2	0	0	0	0	2
06:15 AM	0	0	1	1	0	0	0	0	1
06:30 AM	0	0	2	2	1	1	0	0	3
06:45 AM	0	0	0	0	0	0	0	0	0
Total	0	0	5	5	1	1	0	0	6
07:00 AM	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	1	1	0	0	0	0	1
07:30 AM	0	0	3	3	2	2	0	0	5
07:45 AM	0	0	0	0	2	2	0	0	2
Total	0	0	4	4	4	4	0	0	8
08:00 AM	1	1	1	1	2	2	0	0	4
08:15 AM	0	0	1	1	1	1	0	0	2
08:30 AM	0	0	0	0	1	1	0	0	1
08:45 AM	0	0	1	1	3	3	0	0	4
Total	1	1	3	3	7	7	0	0	11
Grand Total	1	1	12	12	12	12	0	0	25
Apprch %	100		100		100		0		
Total %	4	4	48	48	48	48	0	0	

	Wilder Avenue Onto Farrington Street Southbound		Metcalf Street Onto Farrington Street Westbound		Wilder Avenue Onto Farrington Street Northbound		Metcalf Street Onto Farrington Street Eastbound		
Start Time	Right	App. Total	Left	App. Total	Left	App. Total	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1									
Peak Hour for Entire Intersection Begins at 07:30 AM									
07:30 AM	0	0	3	3	2	2	0	0	5
07:45 AM	0	0	0	0	2	2	0	0	2
08:00 AM	1	1	1	1	2	2	0	0	4
08:15 AM	0	0	1	1	1	1	0	0	2
Total Volume	1	1	5	5	7	7	0	0	13
% App. Total	100		100		100		0		
PHF	.250	.250	.417	.417	.875	.875	.000	.000	.650

Wilson Okamoto Corporation

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

Counted By: SS
Counters: TU-0652
Weather: CLEAR

File Name : FAR WEEKDAY PM
Site Code : 00000010
Start Date : 4/23/2019
Page No : 1

Groups Printed- Unshifted

	Metcalf Street Onto Farrington Street Westbound		Wilder Avenue Onto Farrington Street Northbound		Metcalf Street Onto Farrington Street Eastbound		
Start Time	Thru	App. Total	Left	App. Total	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	1	1	1
03:30 PM	0	0	1	1	1	1	2
03:45 PM	1	1	0	0	0	0	1
Total	1	1	1	1	2	2	4
04:00 PM	0	0	0	0	1	1	1
04:15 PM	0	0	0	0	0	0	0
04:30 PM	1	1	0	0	1	1	2
04:45 PM	0	0	0	0	1	1	1
Total	1	1	0	0	3	3	4
05:00 PM	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
Grand Total	2	2	1	1	5	5	8
Apprch %	100		100		100		
Total %	25	25	12.5	12.5	62.5	62.5	

	Metcalf Street Onto Farrington Street Westbound		Wilder Avenue Onto Farrington Street Northbound		Metcalf Street Onto Farrington Street Eastbound		
Start Time	Thru	App. Total	Left	App. Total	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1							
Peak Hour for Entire Intersection Begins at 03:15 PM							
03:15 PM	0	0	0	0	1	1	1
03:30 PM	0	0	1	1	1	1	2
03:45 PM	1	1	0	0	0	0	1
04:00 PM	0	0	0	0	1	1	1
Total Volume	1	1	1	1	3	3	5
% App. Total	100		100		100		
PHF	.250	.250	.250	.250	.750	.750	.625

APPENDIX B

LEVEL OF SERVICE DEFINITIONS

LEVEL OF SERVICE DEFINITIONS

LEVEL-OF-SERVICE CRITERIA FOR AUTOMOBILES AT SIGNALIZED INTERSECTIONS

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

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

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

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

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

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

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

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

APPENDIX C

CAPACITY ANALYSIS CALCULATIONS
EXISTING PEAK PERIOD TRAFFIC ANALYSIS

HCM 2010 Signalized Intersection Summary
1: University Ave & Maile Way

02/05/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	103	209	291	130	160	136	626	125	18	522	2
Future Volume (veh/h)	3	103	209	291	130	160	136	626	125	18	522	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.95	0.97		0.95	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	3	110	222	310	138	170	145	666	133	19	555	2
Adj No. of Lanes	0	1	1	1	1	1	1	2	1	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	703	571	427	709	571	180	1512	669	37	643	2
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.10	0.43	0.43	0.02	0.35	0.35
Sat Flow, veh/h	10	1845	1499	1012	1863	1499	1774	3539	1567	1774	1855	7
Grp Volume(v), veh/h	113	0	222	310	138	170	145	666	133	19	0	557
Grp Sat Flow(s),veh/h/ln	1855	0	1499	1012	1863	1499	1774	1770	1567	1774	0	1861
Q Serve(g_s), s	0.0	0.0	9.5	25.6	4.3	7.0	7.0	11.7	4.7	0.9	0.0	24.5
Cycle Q Clear(g_c), s	3.5	0.0	9.5	29.1	4.3	7.0	7.0	11.7	4.7	0.9	0.0	24.5
Prop In Lane	0.03		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	749	0	571	427	709	571	180	1512	669	37	0	645
V/C Ratio(X)	0.15	0.00	0.39	0.73	0.19	0.30	0.80	0.44	0.20	0.51	0.00	0.86
Avail Cap(c_a), veh/h	927	0	717	526	891	717	303	2339	1035	101	0	1018
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.9	0.0	19.7	27.5	18.2	19.0	38.6	17.7	15.7	42.5	0.0	26.7
Incr Delay (d2), s/veh	0.1	0.0	0.4	3.9	0.1	0.3	8.1	0.2	0.1	10.2	0.0	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	4.0	7.6	2.2	2.9	3.8	5.7	2.0	0.6	0.0	13.4
LnGrp Delay(d),s/veh	18.0	0.0	20.2	31.4	18.3	19.3	46.7	17.9	15.9	52.7	0.0	31.5
LnGrp LOS	B		C	C	B	B	D	B	B	D		C
Approach Vol, veh/h		335			618			944			576	
Approach Delay, s/veh		19.4			25.1			22.1			32.2	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.9	42.5		38.4	13.9	35.4		38.4
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	5.0	58.0		42.0	15.0	48.0		42.0
Max Q Clear Time (g_c+I1), s	2.9	13.7		11.5	9.0	26.5		31.1
Green Ext Time (p_c), s	0.0	6.2		1.5	0.2	3.9		2.4

Intersection Summary	
HCM 2010 Ctrl Delay	24.8
HCM 2010 LOS	C

HCM 2010 Signalized Intersection Summary
1: University Ave & Maile Way

02/05/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	70	193	214	133	87	122	694	129	32	562	1
Future Volume (veh/h)	3	70	193	214	133	87	122	694	129	32	562	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.95		0.93	0.95		0.93	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	3	74	203	225	140	92	128	731	136	34	592	1
Adj No. of Lanes	0	1	1	1	1	1	1	2	1	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	54	617	494	415	626	494	164	1543	682	59	701	1
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.09	0.44	0.44	0.03	0.38	0.38
Sat Flow, veh/h	17	1834	1469	1046	1863	1469	1774	3539	1565	1774	1859	3
Grp Volume(v), veh/h	77	0	203	225	140	92	128	731	136	34	0	593
Grp Sat Flow(s),veh/h/ln	1851	0	1469	1046	1863	1469	1774	1770	1565	1774	0	1862
Q Serve(g_s), s	0.0	0.0	8.2	14.6	4.2	3.4	5.4	11.3	4.1	1.5	0.0	22.5
Cycle Q Clear(g_c), s	2.2	0.0	8.2	16.9	4.2	3.4	5.4	11.3	4.1	1.5	0.0	22.5
Prop In Lane	0.04		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	671	0	494	415	626	494	164	1543	682	59	0	702
V/C Ratio(X)	0.11	0.00	0.41	0.54	0.22	0.19	0.78	0.47	0.20	0.57	0.00	0.85
Avail Cap(c_a), veh/h	907	0	685	551	869	685	368	2888	1277	138	0	1278
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.7	0.0	19.7	23.6	18.4	18.1	34.3	15.5	13.5	36.8	0.0	22.0
Incr Delay (d2), s/veh	0.1	0.0	0.5	1.1	0.2	0.2	7.8	0.2	0.1	8.4	0.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	3.4	4.3	2.2	1.4	3.0	5.5	1.8	0.9	0.0	12.1
LnGrp Delay(d),s/veh	17.8	0.0	20.3	24.7	18.6	18.3	42.0	15.7	13.6	45.1	0.0	24.9
LnGrp LOS	B		C	C	B	B	D	B	B	D		C
Approach Vol, veh/h		280			457			995			627	
Approach Delay, s/veh		19.6			21.5			18.8			26.0	
Approach LOS		B			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.6	38.7		31.0	12.1	34.1		31.0
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	6.0	63.0		36.0	16.0	53.0		36.0
Max Q Clear Time (g_c+I1), s	3.5	13.3		10.2	7.4	24.5		18.9
Green Ext Time (p_c), s	0.0	7.1		1.2	0.2	4.6		2.1

Intersection Summary	
HCM 2010 Ctrl Delay	21.3
HCM 2010 LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	103	285	172	833	1045	147
Future Volume (veh/h)	103	285	172	833	1045	147
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	110	303	183	886	1112	156
Adj No. of Lanes	1	1	1	3	3	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	410	366	233	3161	1871	262
Arrive On Green	0.23	0.23	0.13	0.62	0.42	0.42
Sat Flow, veh/h	1774	1583	1774	5253	4659	629
Grp Volume(v), veh/h	110	303	183	886	839	429
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1695	1695	1731
Q Serve(g_s), s	3.4	12.3	6.8	5.4	13.0	13.0
Cycle Q Clear(g_c), s	3.4	12.3	6.8	5.4	13.0	13.0
Prop In Lane	1.00	1.00	1.00			0.36
Lane Grp Cap(c), veh/h	410	366	233	3161	1412	721
V/C Ratio(X)	0.27	0.83	0.78	0.28	0.59	0.59
Avail Cap(c_a), veh/h	863	770	628	5771	2398	1224
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.4	24.8	28.5	5.9	15.3	15.4
Incr Delay (d2), s/veh	0.3	4.8	5.7	0.0	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	10.5	3.7	2.5	6.1	6.4
LnGrp Delay(d),s/veh	21.7	29.6	34.3	5.9	15.8	16.1
LnGrp LOS	C	C	C	A	B	B
Approach Vol, veh/h	413			1069	1268	
Approach Delay, s/veh	27.5			10.8	15.9	
Approach LOS	C			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		47.2		20.7	13.9	33.3		
Change Period (Y+Rc), s		5.0		5.0	5.0	5.0		
Max Green Setting (Gmax), s		77.0		33.0	24.0	48.0		
Max Q Clear Time (g_c+I1), s		7.4		14.3	8.8	15.0		
Green Ext Time (p_c), s		8.4		1.3	0.4	11.7		

Intersection Summary	
HCM 2010 Ctrl Delay	15.7
HCM 2010 LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	125	268	144	807	993	136
Future Volume (veh/h)	125	268	144	807	993	136
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	132	282	152	849	1045	143
Adj No. of Lanes	1	1	1	3	3	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	393	351	198	3160	1938	265
Arrive On Green	0.22	0.22	0.11	0.62	0.43	0.43
Sat Flow, veh/h	1774	1583	1774	5253	4665	614
Grp Volume(v), veh/h	132	282	152	849	787	401
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1695	1695	1721
Q Serve(g_s), s	4.0	10.7	5.3	4.8	11.0	11.0
Cycle Q Clear(g_c), s	4.0	10.7	5.3	4.8	11.0	11.0
Prop In Lane	1.00	1.00	1.00			0.36
Lane Grp Cap(c), veh/h	393	351	198	3160	1461	742
V/C Ratio(X)	0.34	0.80	0.77	0.27	0.54	0.54
Avail Cap(c_a), veh/h	976	871	613	5994	2557	1298
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.8	23.5	27.5	5.5	13.4	13.4
Incr Delay (d2), s/veh	0.5	4.3	6.1	0.0	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	9.2	2.9	2.2	5.1	5.4
LnGrp Delay(d),s/veh	21.3	27.8	33.5	5.5	13.7	14.0
LnGrp LOS	C	C	C	A	B	B
Approach Vol, veh/h	414			1001	1188	
Approach Delay, s/veh	25.7			9.8	13.8	
Approach LOS	C			A	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		44.5		19.1	12.1	32.4		
Change Period (Y+Rc), s		5.0		5.0	5.0	5.0		
Max Green Setting (Gmax), s		75.0		35.0	22.0	48.0		
Max Q Clear Time (g_c+I1), s		6.8		12.7	7.3	13.0		
Green Ext Time (p_c), s		7.9		1.4	0.3	10.9		

Intersection Summary	
HCM 2010 Ctrl Delay	14.2
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	166	321	274	159	233	146	910	649	213	1187	8
Future Volume (veh/h)	12	166	321	274	159	233	146	910	649	213	1187	8
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.95	1.00		0.96	1.00		0.76
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	13	177	341	291	169	248	155	921	721	227	1263	9
Adj No. of Lanes	0	2	0	0	2	0	1	2	2	1	3	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	26	348	300	295	178	274	178	1105	1608	250	1750	12
Arrive On Green	0.20	0.20	0.20	0.22	0.22	0.22	0.10	0.30	0.30	0.14	0.34	0.34
Sat Flow, veh/h	127	1729	1491	1329	799	1233	1774	3725	3049	1774	5195	37
Grp Volume(v), veh/h	190	0	341	393	0	315	155	921	721	227	824	448
Grp Sat Flow(s),veh/h/ln	1856	0	1491	1796	0	1565	1774	1863	1525	1774	1695	1842
Q Serve(g_s), s	13.1	0.0	29.0	31.4	0.0	28.2	12.4	33.3	21.5	18.1	30.7	30.7
Cycle Q Clear(g_c), s	13.1	0.0	29.0	31.4	0.0	28.2	12.4	33.3	21.5	18.1	30.7	30.7
Prop In Lane	0.07		1.00	0.74		0.79	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	374	0	300	399	0	348	178	1105	1608	250	1142	621
V/C Ratio(X)	0.51	0.00	1.14	0.99	0.00	0.90	0.87	0.83	0.45	0.91	0.72	0.72
Avail Cap(c_a), veh/h	374	0	300	399	0	348	209	1216	1699	271	1225	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.1	0.0	57.5	55.7	0.0	54.5	63.8	47.3	21.8	60.9	41.8	41.8
Incr Delay (d2), s/veh	1.1	0.0	93.5	41.0	0.0	26.0	27.2	4.8	0.2	30.6	2.0	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	0.0	19.7	20.2	0.0	14.7	7.4	17.9	13.3	11.0	14.6	16.2
LnGrp Delay(d),s/veh	52.3	0.0	151.0	96.7	0.0	80.5	91.1	52.1	22.0	91.5	43.8	45.4
LnGrp LOS	D		F	F		F	F	D	C	F	D	D
Approach Vol, veh/h		531			708			1797			1499	
Approach Delay, s/veh		115.7			89.5			43.4			51.5	
Approach LOS		F			F			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	25.3	47.7		37.0	19.5	53.5		34.0
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	22.0	47.0		32.0	17.0	52.0		29.0
Max Q Clear Time (g_c+I1), s	20.1	35.3		33.4	14.4	32.7		31.0
Green Ext Time (p_c), s	0.1	7.4		0.0	0.1	9.1		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	61.7
HCM 2010 LOS	E

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	208	304	362	122	216	64	861	582	217	1054	20
Future Volume (veh/h)	13	208	304	362	122	216	64	861	582	217	1054	20
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.93	1.00		0.92	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	13	214	313	373	126	223	66	820	645	224	1087	21
Adj No. of Lanes	0	2	0	0	2	0	1	2	2	1	3	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	22	362	302	406	147	265	84	996	1552	248	1847	36
Arrive On Green	0.21	0.21	0.21	0.24	0.24	0.24	0.05	0.27	0.27	0.14	0.36	0.36
Sat Flow, veh/h	106	1751	1462	1668	605	1088	1774	3725	2924	1774	5132	99
Grp Volume(v), veh/h	227	0	313	398	0	324	66	820	645	224	718	390
Grp Sat Flow(s),veh/h/ln	1857	0	1462	1779	0	1581	1774	1863	1462	1774	1695	1841
Q Serve(g_s), s	15.5	0.0	29.0	30.6	0.0	27.4	5.2	29.0	19.4	17.4	24.1	24.1
Cycle Q Clear(g_c), s	15.5	0.0	29.0	30.6	0.0	27.4	5.2	29.0	19.4	17.4	24.1	24.1
Prop In Lane	0.06		1.00	0.94		0.69	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	384	0	302	433	0	385	84	996	1552	248	1220	663
V/C Ratio(X)	0.59	0.00	1.04	0.92	0.00	0.84	0.78	0.82	0.42	0.90	0.59	0.59
Avail Cap(c_a), veh/h	384	0	302	457	0	406	152	1115	1646	291	1281	696
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.3	0.0	55.6	51.7	0.0	50.5	66.1	48.3	21.6	59.4	36.5	36.5
Incr Delay (d2), s/veh	2.4	0.0	61.4	23.1	0.0	14.2	14.6	4.7	0.2	26.5	0.7	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	0.0	16.8	17.8	0.0	13.5	2.9	15.6	11.8	10.4	11.4	12.5
LnGrp Delay(d),s/veh	52.7	0.0	117.0	74.8	0.0	64.7	80.7	52.9	21.7	85.9	37.1	37.7
LnGrp LOS	D		F	E		E	F	D	C	F	D	D
Approach Vol, veh/h		540			722			1531			1332	
Approach Delay, s/veh		90.0			70.3			41.0			45.5	
Approach LOS		F			E			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	24.6	42.5		39.1	11.7	55.5		34.0
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	23.0	42.0		36.0	12.0	53.0		29.0
Max Q Clear Time (g_c+I1), s	19.4	31.0		32.6	7.2	26.1		31.0
Green Ext Time (p_c), s	0.2	6.5		1.6	0.0	9.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	54.0
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	70	12	0	404	109	0	623	18	214	318	138
Future Volume (veh/h)	19	70	12	0	404	109	0	623	18	214	318	138
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	0	1863	1863	0	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	21	79	13	0	454	122	0	700	20	240	357	155
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	1	1	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	0	2	2	0	2	2	2	2	2
Cap, veh/h	103	323	46	0	615	514	0	1029	29	430	617	268
Arrive On Green	0.33	0.33	0.33	0.00	0.33	0.33	0.00	0.29	0.29	0.13	0.50	0.50
Sat Flow, veh/h	95	979	140	0	1863	1559	0	3604	100	1774	1225	532
Grp Volume(v), veh/h	113	0	0	0	454	122	0	353	367	240	0	512
Grp Sat Flow(s),veh/h/ln	1213	0	0	0	1863	1559	0	1770	1841	1774	0	1757
Q Serve(g_s), s	0.4	0.0	0.0	0.0	12.9	3.4	0.0	10.5	10.6	5.1	0.0	12.2
Cycle Q Clear(g_c), s	13.4	0.0	0.0	0.0	12.9	3.4	0.0	10.5	10.6	5.1	0.0	12.2
Prop In Lane	0.19		0.12	0.00		1.00	0.00		0.05	1.00		0.30
Lane Grp Cap(c), veh/h	472	0	0	0	615	514	0	519	540	430	0	884
V/C Ratio(X)	0.24	0.00	0.00	0.00	0.74	0.24	0.00	0.68	0.68	0.56	0.00	0.58
Avail Cap(c_a), veh/h	1121	0	0	0	1430	1197	0	1093	1137	857	0	1877
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.6	0.0	0.0	0.0	17.8	14.6	0.0	18.7	18.7	12.3	0.0	10.4
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.0	1.8	0.2	0.0	1.6	1.5	1.1	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	0.0	6.9	3.4	0.0	5.3	5.5	2.6	0.0	6.0
LnGrp Delay(d),s/veh	14.9	0.0	0.0	0.0	19.5	14.8	0.0	20.3	20.2	13.5	0.0	11.0
LnGrp LOS	B				B	B		C	C	B		B
Approach Vol, veh/h		113			576			720			752	
Approach Delay, s/veh		14.9			18.5			20.2			11.8	
Approach LOS		B			B			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	12.6	22.6		24.8		35.1		24.8
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s	22.0	37.0		46.0		64.0		46.0
Max Q Clear Time (g_c+I1), s	7.1	12.6		15.4		14.2		14.9
Green Ext Time (p_c), s	0.6	5.0		0.7		4.3		3.8

Intersection Summary	
HCM 2010 Ctrl Delay	16.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	93	12	0	224	176	104	670	8	210	369	94
Future Volume (veh/h)	58	93	12	0	224	176	104	670	8	210	369	94
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	0	1863	1863	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	62	100	13	0	241	189	112	720	9	226	397	101
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	1	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	150	206	22	0	452	377	206	1081	13	443	831	211
Arrive On Green	0.24	0.24	0.24	0.00	0.24	0.24	0.38	0.38	0.38	0.11	0.58	0.58
Sat Flow, veh/h	260	850	89	0	1863	1556	327	2834	35	1774	1432	364
Grp Volume(v), veh/h	175	0	0	0	241	189	405	0	436	226	0	498
Grp Sat Flow(s),veh/h/ln	1199	0	0	0	1863	1556	1507	0	1689	1774	0	1796
Q Serve(g_s), s	1.9	0.0	0.0	0.0	6.3	5.9	8.5	0.0	12.1	3.9	0.0	9.1
Cycle Q Clear(g_c), s	8.2	0.0	0.0	0.0	6.3	5.9	12.2	0.0	12.1	3.9	0.0	9.1
Prop In Lane	0.35		0.07	0.00		1.00	0.28		0.02	1.00		0.20
Lane Grp Cap(c), veh/h	377	0	0	0	452	377	656	0	644	443	0	1042
V/C Ratio(X)	0.46	0.00	0.00	0.00	0.53	0.50	0.62	0.00	0.68	0.51	0.00	0.48
Avail Cap(c_a), veh/h	823	0	0	0	1057	883	1507	0	1647	814	0	2483
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.6	0.0	0.0	0.0	18.6	18.4	14.3	0.0	14.5	9.8	0.0	6.9
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.3	0.9	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.0	0.0	3.4	5.3	5.4	0.0	5.8	1.9	0.0	4.5
LnGrp Delay(d),s/veh	19.5	0.0	0.0	0.0	19.6	19.5	15.2	0.0	15.8	10.7	0.0	7.2
LnGrp LOS	B				B	B	B		B	B		A
Approach Vol, veh/h		175			430			841			724	
Approach Delay, s/veh		19.5			19.5			15.5			8.3	
Approach LOS		B			B			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	11.2	26.5		18.7		37.7		18.7
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s	18.0	55.0		32.0		78.0		32.0
Max Q Clear Time (g_c+I1), s	5.9	14.2		10.2		11.1		8.3
Green Ext Time (p_c), s	0.5	7.3		1.1		4.1		2.2

Intersection Summary	
HCM 2010 Ctrl Delay	14.2
HCM 2010 LOS	B

APPENDIX E

CAPACITY ANALYSIS CALCULATIONS
PROJECTED YEAR 2023 PEAK PERIOD TRAFFIC
ANALYSIS WITHOUT PROJECT

HCM 2010 Signalized Intersection Summary
1: University Ave & Maile Way

02/06/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	103	209	291	130	160	136	651	125	18	543	2
Future Volume (veh/h)	3	103	209	291	130	160	136	651	125	18	543	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.95	0.97		0.95	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	3	110	222	310	138	170	145	693	133	19	578	2
Adj No. of Lanes	0	1	1	1	1	1	1	2	1	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	696	565	420	703	565	179	1548	686	37	663	2
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.10	0.44	0.44	0.02	0.36	0.36
Sat Flow, veh/h	10	1844	1498	1012	1863	1498	1774	3539	1567	1774	1855	6
Grp Volume(v), veh/h	113	0	222	310	138	170	145	693	133	19	0	580
Grp Sat Flow(s),veh/h/ln	1855	0	1498	1012	1863	1498	1774	1770	1567	1774	0	1862
Q Serve(g_s), s	0.0	0.0	9.9	26.8	4.6	7.3	7.3	12.5	4.8	1.0	0.0	26.6
Cycle Q Clear(g_c), s	3.7	0.0	9.9	30.4	4.6	7.3	7.3	12.5	4.8	1.0	0.0	26.6
Prop In Lane	0.03		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	740	0	565	420	703	565	179	1548	686	37	0	665
V/C Ratio(X)	0.15	0.00	0.39	0.74	0.20	0.30	0.81	0.45	0.19	0.51	0.00	0.87
Avail Cap(c_a), veh/h	870	0	672	492	836	672	291	2285	1012	97	0	998
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.9	0.0	20.8	28.9	19.1	20.0	40.2	18.0	15.8	44.3	0.0	27.4
Incr Delay (d2), s/veh	0.1	0.0	0.4	4.9	0.1	0.3	8.3	0.2	0.1	10.5	0.0	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	4.1	8.0	2.4	3.1	4.0	6.1	2.1	0.6	0.0	14.6
LnGrp Delay(d),s/veh	18.9	0.0	21.2	33.8	19.3	20.3	48.5	18.2	15.9	54.7	0.0	33.2
LnGrp LOS	B		C	C	B	C	D	B	B	D		C
Approach Vol, veh/h		335			618			971			599	
Approach Delay, s/veh		20.5			26.8			22.4			33.9	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.9	45.0		39.5	14.2	37.7		39.5
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	5.0	59.0		41.0	15.0	49.0		41.0
Max Q Clear Time (g_c+I1), s	3.0	14.5		11.9	9.3	28.6		32.4
Green Ext Time (p_c), s	0.0	6.5		1.5	0.2	4.1		2.1

Intersection Summary	
HCM 2010 Ctrl Delay	26.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	42	213	318	173	82	101	769	123	19	541	4
Future Volume (veh/h)	7	42	213	318	173	82	101	769	123	19	541	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.94	0.96		0.94	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	7	44	224	335	182	86	106	809	129	20	569	4
Adj No. of Lanes	0	1	1	1	1	1	1	2	1	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	106	603	555	468	698	555	136	1472	651	40	668	5
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.08	0.42	0.42	0.02	0.36	0.36
Sat Flow, veh/h	146	1608	1481	1059	1863	1481	1774	3539	1564	1774	1847	13
Grp Volume(v), veh/h	51	0	224	335	182	86	106	809	129	20	0	573
Grp Sat Flow(s),veh/h/ln	1753	0	1481	1059	1863	1481	1774	1770	1564	1774	0	1860
Q Serve(g_s), s	0.0	0.0	9.0	23.9	5.4	3.1	4.7	13.9	4.2	0.9	0.0	22.8
Cycle Q Clear(g_c), s	1.4	0.0	9.0	25.3	5.4	3.1	4.7	13.9	4.2	0.9	0.0	22.8
Prop In Lane	0.14		1.00	1.00		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	708	0	555	468	698	555	136	1472	651	40	0	673
V/C Ratio(X)	0.07	0.00	0.40	0.72	0.26	0.15	0.78	0.55	0.20	0.50	0.00	0.85
Avail Cap(c_a), veh/h	999	0	810	650	1019	810	265	2465	1090	110	0	1134
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.1	0.0	18.5	24.3	17.4	16.7	36.4	17.8	14.9	38.9	0.0	23.7
Incr Delay (d2), s/veh	0.0	0.0	0.5	2.3	0.2	0.1	9.1	0.3	0.1	9.5	0.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	3.7	7.3	2.8	1.3	2.6	6.8	1.9	0.5	0.0	12.2
LnGrp Delay(d),s/veh	16.2	0.0	19.0	26.6	17.6	16.8	45.6	18.1	15.1	48.4	0.0	27.0
LnGrp LOS	B		B	C	B	B	D	B	B	D		C
Approach Vol, veh/h		275			603			1044			593	
Approach Delay, s/veh		18.5			22.5			20.5			27.7	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.8	38.4		35.1	11.2	34.1		35.1
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	5.0	56.0		44.0	12.0	49.0		44.0
Max Q Clear Time (g_c+I1), s	2.9	15.9		11.0	6.7	24.8		27.3
Green Ext Time (p_c), s	0.0	7.8		1.2	0.1	4.2		2.8

Intersection Summary	
HCM 2010 Ctrl Delay	22.4
HCM 2010 LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	103	285	172	866	1087	147
Future Volume (veh/h)	103	285	172	866	1087	147
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	110	303	183	921	1156	156
Adj No. of Lanes	1	1	1	3	3	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	408	365	232	3178	1904	257
Arrive On Green	0.23	0.23	0.13	0.62	0.42	0.42
Sat Flow, veh/h	1774	1583	1774	5253	4684	609
Grp Volume(v), veh/h	110	303	183	921	868	444
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1695	1695	1735
Q Serve(g_s), s	3.5	12.6	6.9	5.7	13.7	13.7
Cycle Q Clear(g_c), s	3.5	12.6	6.9	5.7	13.7	13.7
Prop In Lane	1.00	1.00	1.00			0.35
Lane Grp Cap(c), veh/h	408	365	232	3178	1429	731
V/C Ratio(X)	0.27	0.83	0.79	0.29	0.61	0.61
Avail Cap(c_a), veh/h	848	757	591	5672	2406	1232
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.8	25.3	29.1	5.9	15.5	15.5
Incr Delay (d2), s/veh	0.4	4.9	5.9	0.0	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.5	3.7	2.7	6.5	6.7
LnGrp Delay(d),s/veh	22.2	30.2	34.9	6.0	15.9	16.3
LnGrp LOS	C	C	C	A	B	B
Approach Vol, veh/h	413			1104	1312	
Approach Delay, s/veh	28.1			10.8	16.1	
Approach LOS	C			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		48.1		20.9	14.0	34.1		
Change Period (Y+Rc), s		5.0		5.0	5.0	5.0		
Max Green Setting (Gmax), s		77.0		33.0	23.0	49.0		
Max Q Clear Time (g_c+I1), s		7.7		14.6	8.9	15.7		
Green Ext Time (p_c), s		8.9		1.3	0.4	12.3		

Intersection Summary	
HCM 2010 Ctrl Delay	15.8
HCM 2010 LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	121	304	150	851	1077	147
Future Volume (veh/h)	121	304	150	851	1077	147
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	127	320	158	896	1134	155
Adj No. of Lanes	1	1	1	3	3	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	430	384	204	3114	1911	261
Arrive On Green	0.24	0.24	0.11	0.61	0.42	0.42
Sat Flow, veh/h	1774	1583	1774	5253	4664	614
Grp Volume(v), veh/h	127	320	158	896	855	434
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1695	1695	1721
Q Serve(g_s), s	4.0	13.2	6.0	5.7	13.3	13.4
Cycle Q Clear(g_c), s	4.0	13.2	6.0	5.7	13.3	13.4
Prop In Lane	1.00	1.00	1.00			0.36
Lane Grp Cap(c), veh/h	430	384	204	3114	1440	731
V/C Ratio(X)	0.30	0.83	0.78	0.29	0.59	0.59
Avail Cap(c_a), veh/h	903	806	567	5544	2365	1200
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.3	24.7	29.6	6.3	15.2	15.2
Incr Delay (d2), s/veh	0.4	4.8	6.2	0.1	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	11.2	3.2	2.7	6.3	6.4
LnGrp Delay(d),s/veh	21.6	29.5	35.8	6.3	15.6	16.0
LnGrp LOS	C	C	D	A	B	B
Approach Vol, veh/h	447			1054	1289	
Approach Delay, s/veh	27.3			10.8	15.7	
Approach LOS	C			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		47.1		21.7	12.9	34.2		
Change Period (Y+Rc), s		5.0		5.0	5.0	5.0		
Max Green Setting (Gmax), s		75.0		35.0	22.0	48.0		
Max Q Clear Time (g_c+I1), s		7.7		15.2	8.0	15.4		
Green Ext Time (p_c), s		8.5		1.5	0.3	11.9		

Intersection Summary	
HCM 2010 Ctrl Delay	15.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	166	321	274	159	233	146	946	649	213	1234	8
Future Volume (veh/h)	12	166	321	274	159	233	146	946	649	213	1234	8
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.95	1.00		0.96	1.00		0.76
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	13	177	341	291	169	248	155	937	736	227	1313	9
Adj No. of Lanes	0	2	0	0	2	0	1	2	2	1	3	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	347	299	294	177	273	178	1114	1613	250	1763	12
Arrive On Green	0.20	0.20	0.20	0.22	0.22	0.22	0.10	0.30	0.30	0.14	0.34	0.34
Sat Flow, veh/h	127	1729	1491	1329	799	1233	1774	3725	3050	1774	5198	36
Grp Volume(v), veh/h	190	0	341	393	0	315	155	937	736	227	856	466
Grp Sat Flow(s),veh/h/ln	1856	0	1491	1796	0	1564	1774	1863	1525	1774	1695	1843
Q Serve(g_s), s	13.2	0.0	29.0	31.6	0.0	28.3	12.5	34.1	22.1	18.2	32.3	32.3
Cycle Q Clear(g_c), s	13.2	0.0	29.0	31.6	0.0	28.3	12.5	34.1	22.1	18.2	32.3	32.3
Prop In Lane	0.07		1.00	0.74		0.79	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	372	0	299	398	0	346	178	1114	1613	250	1150	625
V/C Ratio(X)	0.51	0.00	1.14	0.99	0.00	0.91	0.87	0.84	0.46	0.91	0.74	0.74
Avail Cap(c_a), veh/h	372	0	299	398	0	346	209	1211	1693	270	1219	663
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.5	0.0	57.8	56.1	0.0	54.9	64.1	47.5	21.9	61.2	42.2	42.2
Incr Delay (d2), s/veh	1.2	0.0	95.4	42.2	0.0	26.8	27.5	5.2	0.2	30.9	2.4	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	0.0	19.8	20.3	0.0	14.8	7.5	18.4	13.6	11.1	15.5	17.2
LnGrp Delay(d),s/veh	52.6	0.0	153.2	98.3	0.0	81.7	91.6	52.6	22.1	92.1	44.6	46.5
LnGrp LOS	D		F	F		F	F	D	C	F	D	D
Approach Vol, veh/h		531			708			1828			1549	
Approach Delay, s/veh		117.2			90.9			43.6			52.1	
Approach LOS		F			F			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	25.3	48.2		37.0	19.5	54.0		34.0
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	22.0	47.0		32.0	17.0	52.0		29.0
Max Q Clear Time (g_c+I1), s	20.2	36.1		33.6	14.5	34.3		31.0
Green Ext Time (p_c), s	0.1	7.2		0.0	0.1	9.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	62.2
HCM 2010 LOS	E

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	208	304	362	122	216	64	895	582	217	1096	20
Future Volume (veh/h)	13	208	304	362	122	216	64	895	582	217	1096	20
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.93	1.00		0.92	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	13	214	313	373	126	223	66	835	659	224	1130	21
Adj No. of Lanes	0	2	0	0	2	0	1	2	2	1	3	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	22	360	300	405	147	264	84	1005	1558	248	1860	35
Arrive On Green	0.21	0.21	0.21	0.24	0.24	0.24	0.05	0.27	0.27	0.14	0.36	0.36
Sat Flow, veh/h	106	1751	1461	1668	605	1088	1774	3725	2926	1774	5137	95
Grp Volume(v), veh/h	227	0	313	398	0	324	66	835	659	224	746	405
Grp Sat Flow(s),veh/h/ln	1857	0	1461	1779	0	1581	1774	1863	1463	1774	1695	1842
Q Serve(g_s), s	15.6	0.0	29.0	30.8	0.0	27.5	5.2	29.7	20.0	17.5	25.4	25.4
Cycle Q Clear(g_c), s	15.6	0.0	29.0	30.8	0.0	27.5	5.2	29.7	20.0	17.5	25.4	25.4
Prop In Lane	0.06		1.00	0.94		0.69	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	382	0	300	432	0	384	84	1005	1558	248	1228	667
V/C Ratio(X)	0.59	0.00	1.04	0.92	0.00	0.84	0.78	0.83	0.42	0.90	0.61	0.61
Avail Cap(c_a), veh/h	382	0	300	454	0	404	151	1110	1641	289	1274	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	0.0	56.0	52.1	0.0	50.8	66.4	48.5	21.6	59.7	36.8	36.8
Incr Delay (d2), s/veh	2.5	0.0	63.2	23.5	0.0	14.5	14.6	5.1	0.2	26.8	0.8	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	0.0	17.0	18.0	0.0	13.6	2.9	16.0	12.1	10.4	12.0	13.2
LnGrp Delay(d),s/veh	53.1	0.0	119.2	75.6	0.0	65.3	81.0	53.5	21.8	86.5	37.6	38.2
LnGrp LOS	D		F	E		E	F	D	C	F	D	D
Approach Vol, veh/h		540			722			1560			1375	
Approach Delay, s/veh		91.4			71.0			41.3			45.7	
Approach LOS		F			E			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	24.7	43.0		39.2	11.7	56.1		34.0
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	23.0	42.0		36.0	12.0	53.0		29.0
Max Q Clear Time (g_c+I1), s	19.5	31.7		32.8	7.2	27.4		31.0
Green Ext Time (p_c), s	0.2	6.3		1.5	0.0	9.3		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	54.3
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	70	12	4	404	109	0	623	18	214	318	138
Future Volume (veh/h)	19	70	12	4	404	109	0	623	18	214	318	138
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	0	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	21	79	13	4	454	122	0	700	20	240	357	155
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	1	1	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	0	2	2	2	2	2
Cap, veh/h	102	322	46	62	616	517	0	1027	29	429	616	267
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.00	0.29	0.29	0.13	0.50	0.50
Sat Flow, veh/h	94	972	139	4	1858	1559	0	3604	100	1774	1225	532
Grp Volume(v), veh/h	113	0	0	458	0	122	0	353	367	240	0	512
Grp Sat Flow(s),veh/h/ln	1204	0	0	1861	0	1559	0	1770	1841	1774	0	1757
Q Serve(g_s), s	0.5	0.0	0.0	0.0	0.0	3.4	0.0	10.6	10.6	5.2	0.0	12.3
Cycle Q Clear(g_c), s	13.6	0.0	0.0	13.1	0.0	3.4	0.0	10.6	10.6	5.2	0.0	12.3
Prop In Lane	0.19		0.12	0.01		1.00	0.00		0.05	1.00		0.30
Lane Grp Cap(c), veh/h	470	0	0	677	0	517	0	518	539	429	0	883
V/C Ratio(X)	0.24	0.00	0.00	0.68	0.00	0.24	0.00	0.68	0.68	0.56	0.00	0.58
Avail Cap(c_a), veh/h	1113	0	0	1481	0	1192	0	1089	1133	853	0	1870
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.6	0.0	0.0	17.8	0.0	14.6	0.0	18.8	18.8	12.4	0.0	10.5
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.2	0.0	0.2	0.0	1.6	1.5	1.1	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	7.0	0.0	1.5	0.0	5.3	5.5	2.6	0.0	6.0
LnGrp Delay(d),s/veh	14.9	0.0	0.0	19.0	0.0	14.8	0.0	20.4	20.3	13.5	0.0	11.1
LnGrp LOS	B			B		B		C	C	B		B
Approach Vol, veh/h		113			580			720			752	
Approach Delay, s/veh		14.9			18.1			20.4			11.9	
Approach LOS		B			B			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	12.6	22.6		24.9		35.2		24.9
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s	22.0	37.0		46.0		64.0		46.0
Max Q Clear Time (g_c+I1), s	7.2	12.6		15.6		14.3		15.1
Green Ext Time (p_c), s	0.6	5.0		0.7		4.3		3.8

Intersection Summary	
HCM 2010 Ctrl Delay	16.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	110	17	5	245	150	106	653	12	239	393	103
Future Volume (veh/h)	42	110	17	5	245	150	106	653	12	239	393	103
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.98		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	45	118	18	5	263	161	114	702	13	257	423	111
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	1	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	120	249	32	66	446	375	207	1046	19	459	832	218
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.38	0.38	0.38	0.12	0.59	0.59
Sat Flow, veh/h	173	1034	133	10	1848	1556	336	2773	51	1774	1421	373
Grp Volume(v), veh/h	181	0	0	268	0	161	396	0	433	257	0	534
Grp Sat Flow(s),veh/h/ln	1340	0	0	1858	0	1556	1474	0	1686	1774	0	1794
Q Serve(g_s), s	0.3	0.0	0.0	0.0	0.0	5.1	9.0	0.0	12.4	4.6	0.0	10.1
Cycle Q Clear(g_c), s	7.7	0.0	0.0	7.4	0.0	5.1	12.5	0.0	12.4	4.6	0.0	10.1
Prop In Lane	0.25		0.10	0.02		1.00	0.29		0.03	1.00		0.21
Lane Grp Cap(c), veh/h	401	0	0	511	0	375	636	0	636	459	0	1051
V/C Ratio(X)	0.45	0.00	0.00	0.52	0.00	0.43	0.62	0.00	0.68	0.56	0.00	0.51
Avail Cap(c_a), veh/h	865	0	0	1089	0	862	1440	0	1606	797	0	2425
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.5	0.0	0.0	19.4	0.0	18.5	14.8	0.0	15.1	10.1	0.0	7.1
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.8	0.0	0.8	1.0	0.0	1.3	1.1	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.0	3.9	0.0	2.2	5.5	0.0	6.0	2.3	0.0	5.0
LnGrp Delay(d),s/veh	19.3	0.0	0.0	20.3	0.0	19.3	15.8	0.0	16.4	11.2	0.0	7.4
LnGrp LOS	B			C		B	B		B	B		A
Approach Vol, veh/h		181			429			829			791	
Approach Delay, s/veh		19.3			19.9			16.1			8.7	
Approach LOS		B			B			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	12.0	26.8		18.9		38.8		18.9
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s	18.0	55.0		32.0		78.0		32.0
Max Q Clear Time (g_c+I1), s	6.6	14.5		9.7		12.1		9.4
Green Ext Time (p_c), s	0.6	7.2		1.1		4.5		2.2

Intersection Summary	
HCM 2010 Ctrl Delay	14.4
HCM 2010 LOS	B

APPENDIX F

CAPACITY ANALYSIS CALCULATIONS
PROJECTED YEAR 2023 PEAK PERIOD TRAFFIC
ANALYSIS WITH PROJECT

HCM 2010 Signalized Intersection Summary
1: University Ave & Maile Way

02/14/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	103	209	291	130	160	136	653	125	18	545	2
Future Volume (veh/h)	3	103	209	291	130	160	136	653	125	18	545	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.95	0.97		0.95	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	3	110	222	310	138	170	145	695	133	19	580	2
Adj No. of Lanes	0	1	1	1	1	1	1	2	1	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	696	565	419	703	565	179	1551	687	37	664	2
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.10	0.44	0.44	0.02	0.36	0.36
Sat Flow, veh/h	10	1844	1498	1012	1863	1498	1774	3539	1567	1774	1855	6
Grp Volume(v), veh/h	113	0	222	310	138	170	145	695	133	19	0	582
Grp Sat Flow(s),veh/h/ln	1855	0	1498	1012	1863	1498	1774	1770	1567	1774	0	1862
Q Serve(g_s), s	0.0	0.0	9.9	26.9	4.6	7.3	7.3	12.6	4.8	1.0	0.0	26.8
Cycle Q Clear(g_c), s	3.7	0.0	9.9	30.5	4.6	7.3	7.3	12.6	4.8	1.0	0.0	26.8
Prop In Lane	0.03		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	740	0	565	419	703	565	179	1551	687	37	0	667
V/C Ratio(X)	0.15	0.00	0.39	0.74	0.20	0.30	0.81	0.45	0.19	0.51	0.00	0.87
Avail Cap(c_a), veh/h	867	0	670	490	833	670	290	2277	1008	97	0	995
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.9	0.0	20.9	29.1	19.2	20.1	40.4	18.0	15.8	44.4	0.0	27.5
Incr Delay (d2), s/veh	0.1	0.0	0.4	4.9	0.1	0.3	8.4	0.2	0.1	10.5	0.0	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	4.1	8.1	2.4	3.1	4.0	6.1	2.1	0.6	0.0	14.8
LnGrp Delay(d),s/veh	19.0	0.0	21.3	34.0	19.3	20.4	48.7	18.2	15.9	54.9	0.0	33.4
LnGrp LOS	B		C	C	B	C	D	B	B	D		C
Approach Vol, veh/h		335			618			973			601	
Approach Delay, s/veh		20.6			27.0			22.4			34.0	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.9	45.2		39.6	14.3	37.9		39.6
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	5.0	59.0		41.0	15.0	49.0		41.0
Max Q Clear Time (g_c+I1), s	3.0	14.6		11.9	9.3	28.8		32.5
Green Ext Time (p_c), s	0.0	6.6		1.5	0.2	4.1		2.0

Intersection Summary	
HCM 2010 Ctrl Delay	26.1
HCM 2010 LOS	C

HCM 2010 Signalized Intersection Summary
1: University Ave & Maile Way

02/14/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	42	213	318	173	82	101	772	123	21	542	4
Future Volume (veh/h)	7	42	213	318	173	82	101	772	123	21	542	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.94	0.96		0.94	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	7	44	224	335	182	86	106	813	129	22	571	4
Adj No. of Lanes	0	1	1	1	1	1	1	2	1	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	602	555	467	698	555	136	1469	649	43	670	5
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.08	0.42	0.42	0.02	0.36	0.36
Sat Flow, veh/h	146	1607	1481	1059	1863	1481	1774	3539	1564	1774	1847	13
Grp Volume(v), veh/h	51	0	224	335	182	86	106	813	129	22	0	575
Grp Sat Flow(s),veh/h/ln	1753	0	1481	1059	1863	1481	1774	1770	1564	1774	0	1860
Q Serve(g_s), s	0.0	0.0	9.0	24.0	5.5	3.1	4.7	14.1	4.2	1.0	0.0	23.0
Cycle Q Clear(g_c), s	1.4	0.0	9.0	25.4	5.5	3.1	4.7	14.1	4.2	1.0	0.0	23.0
Prop In Lane	0.14		1.00	1.00		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	708	0	555	467	698	555	136	1469	649	43	0	674
V/C Ratio(X)	0.07	0.00	0.40	0.72	0.26	0.15	0.78	0.55	0.20	0.51	0.00	0.85
Avail Cap(c_a), veh/h	996	0	807	648	1016	807	264	2456	1086	110	0	1130
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.2	0.0	18.6	24.4	17.5	16.7	36.6	17.9	15.0	38.9	0.0	23.7
Incr Delay (d2), s/veh	0.0	0.0	0.5	2.3	0.2	0.1	9.2	0.3	0.1	9.2	0.0	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	3.7	7.3	2.8	1.3	2.7	6.8	1.9	0.6	0.0	12.5
LnGrp Delay(d),s/veh	16.3	0.0	19.1	26.7	17.7	16.9	45.7	18.2	15.2	48.1	0.0	27.1
LnGrp LOS	B		B	C	B	B	D	B	B	D		C
Approach Vol, veh/h		275			603			1048			597	
Approach Delay, s/veh		18.5			22.6			20.6			27.9	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.9	38.5		35.2	11.2	34.3		35.2
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	5.0	56.0		44.0	12.0	49.0		44.0
Max Q Clear Time (g_c+I1), s	3.0	16.1		11.0	6.7	25.0		27.4
Green Ext Time (p_c), s	0.0	7.8		1.2	0.1	4.2		2.8

Intersection Summary	
HCM 2010 Ctrl Delay	22.6
HCM 2010 LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	103	287	180	866	1089	151
Future Volume (veh/h)	103	287	180	866	1089	151
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	110	305	191	921	1159	161
Adj No. of Lanes	1	1	1	3	3	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	410	366	241	3184	1883	262
Arrive On Green	0.23	0.23	0.14	0.63	0.42	0.42
Sat Flow, veh/h	1774	1583	1774	5253	4665	624
Grp Volume(v), veh/h	110	305	191	921	874	446
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1695	1695	1732
Q Serve(g_s), s	3.6	12.8	7.3	5.8	14.1	14.1
Cycle Q Clear(g_c), s	3.6	12.8	7.3	5.8	14.1	14.1
Prop In Lane	1.00	1.00	1.00			0.36
Lane Grp Cap(c), veh/h	410	366	241	3184	1420	725
V/C Ratio(X)	0.27	0.83	0.79	0.29	0.62	0.62
Avail Cap(c_a), veh/h	837	747	608	5596	2326	1188
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	25.6	29.3	6.0	15.9	15.9
Incr Delay (d2), s/veh	0.3	5.0	5.8	0.0	0.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	10.9	3.9	2.7	6.6	6.9
LnGrp Delay(d),s/veh	22.4	30.6	35.1	6.0	16.4	16.8
LnGrp LOS	C	C	D	A	B	B
Approach Vol, veh/h	415			1112	1320	
Approach Delay, s/veh	28.5			11.0	16.5	
Approach LOS	C			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		48.8		21.2	14.5	34.3		
Change Period (Y+Rc), s		5.0		5.0	5.0	5.0		
Max Green Setting (Gmax), s		77.0		33.0	24.0	48.0		
Max Q Clear Time (g_c+I1), s		7.8		14.8	9.3	16.1		
Green Ext Time (p_c), s		8.9		1.3	0.4	12.2		

Intersection Summary	
HCM 2010 Ctrl Delay	16.1
HCM 2010 LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	121	307	161	851	1080	153
Future Volume (veh/h)	121	307	161	851	1080	153
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	127	323	169	896	1137	161
Adj No. of Lanes	1	1	1	3	3	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	434	387	216	3104	1860	263
Arrive On Green	0.24	0.24	0.12	0.61	0.42	0.42
Sat Flow, veh/h	1774	1583	1774	5253	4640	633
Grp Volume(v), veh/h	127	323	169	896	862	436
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1695	1695	1715
Q Serve(g_s), s	4.0	13.3	6.4	5.7	13.7	13.7
Cycle Q Clear(g_c), s	4.0	13.3	6.4	5.7	13.7	13.7
Prop In Lane	1.00	1.00	1.00			0.37
Lane Grp Cap(c), veh/h	434	387	216	3104	1410	714
V/C Ratio(X)	0.29	0.83	0.78	0.29	0.61	0.61
Avail Cap(c_a), veh/h	927	828	567	5464	2313	1171
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.2	24.7	29.4	6.3	15.7	15.8
Incr Delay (d2), s/veh	0.4	4.8	6.1	0.1	0.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	11.3	3.5	2.7	6.4	6.6
LnGrp Delay(d),s/veh	21.5	29.5	35.4	6.4	16.2	16.6
LnGrp LOS	C	C	D	A	B	B
Approach Vol, veh/h	450			1065	1298	
Approach Delay, s/veh	27.2			11.0	16.3	
Approach LOS	C			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		47.0		21.8	13.4	33.6		
Change Period (Y+Rc), s		5.0		5.0	5.0	5.0		
Max Green Setting (Gmax), s		74.0		36.0	22.0	47.0		
Max Q Clear Time (g_c+I1), s		7.7		15.3	8.4	15.7		
Green Ext Time (p_c), s		8.5		1.5	0.4	11.9		

Intersection Summary	
HCM 2010 Ctrl Delay	16.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	166	321	274	159	235	146	952	649	214	1237	8
Future Volume (veh/h)	12	166	321	274	159	235	146	952	649	214	1237	8
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.95	1.00		0.96	1.00		0.76
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	13	177	341	291	169	250	155	940	739	228	1316	9
Adj No. of Lanes	0	2	0	0	2	0	1	2	2	1	3	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	345	297	301	181	281	178	1101	1619	250	1748	12
Arrive On Green	0.20	0.20	0.20	0.23	0.23	0.23	0.10	0.30	0.30	0.14	0.34	0.34
Sat Flow, veh/h	127	1729	1490	1325	796	1240	1774	3725	3049	1774	5198	36
Grp Volume(v), veh/h	190	0	341	394	0	316	155	940	739	228	858	467
Grp Sat Flow(s),veh/h/ln	1856	0	1490	1796	0	1565	1774	1863	1524	1774	1695	1843
Q Serve(g_s), s	13.3	0.0	29.0	31.7	0.0	28.4	12.5	34.6	22.2	18.4	32.7	32.8
Cycle Q Clear(g_c), s	13.3	0.0	29.0	31.7	0.0	28.4	12.5	34.6	22.2	18.4	32.7	32.8
Prop In Lane	0.07		1.00	0.74		0.79	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	370	0	297	407	0	355	178	1101	1619	250	1140	620
V/C Ratio(X)	0.51	0.00	1.15	0.97	0.00	0.89	0.87	0.85	0.46	0.91	0.75	0.75
Avail Cap(c_a), veh/h	370	0	297	407	0	355	207	1178	1682	268	1188	646
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.0	0.0	58.3	55.7	0.0	54.5	64.5	48.3	21.9	61.6	42.9	42.9
Incr Delay (d2), s/veh	1.2	0.0	98.5	36.3	0.0	23.0	27.9	6.0	0.2	31.5	2.7	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	0.0	20.0	19.9	0.0	14.5	7.5	18.7	13.9	11.2	15.8	17.5
LnGrp Delay(d),s/veh	53.2	0.0	156.8	92.0	0.0	77.5	92.4	54.3	22.1	93.0	45.6	47.7
LnGrp LOS	D		F	F		E	F	D	C	F	D	D
Approach Vol, veh/h		531			710			1834			1553	
Approach Delay, s/veh		119.7			85.6			44.6			53.2	
Approach LOS		F			F			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	25.5	48.0		38.0	19.6	53.9		34.0
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	22.0	46.0		33.0	17.0	51.0		29.0
Max Q Clear Time (g_c+I1), s	20.4	36.6		33.7	14.5	34.8		31.0
Green Ext Time (p_c), s	0.1	6.4		0.0	0.1	8.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	62.4
HCM 2010 LOS	E

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	208	304	362	122	220	64	902	582	219	1100	20
Future Volume (veh/h)	13	208	304	362	122	220	64	902	582	219	1100	20
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.93	1.00		0.92	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	13	214	313	373	126	227	66	838	662	226	1134	21
Adj No. of Lanes	0	2	0	0	2	0	1	2	2	1	3	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	22	357	298	403	146	267	84	1013	1565	249	1875	35
Arrive On Green	0.20	0.20	0.20	0.24	0.24	0.24	0.05	0.27	0.27	0.14	0.36	0.36
Sat Flow, veh/h	106	1751	1460	1657	600	1101	1774	3725	2928	1774	5137	95
Grp Volume(v), veh/h	227	0	313	401	0	325	66	838	662	226	748	407
Grp Sat Flow(s),veh/h/ln	1857	0	1460	1780	0	1578	1774	1863	1464	1774	1695	1842
Q Serve(g_s), s	15.8	0.0	29.0	31.3	0.0	28.0	5.2	30.0	20.2	17.8	25.6	25.6
Cycle Q Clear(g_c), s	15.8	0.0	29.0	31.3	0.0	28.0	5.2	30.0	20.2	17.8	25.6	25.6
Prop In Lane	0.06		1.00	0.93		0.70	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	379	0	298	433	0	383	84	1013	1565	249	1237	672
V/C Ratio(X)	0.60	0.00	1.05	0.93	0.00	0.85	0.78	0.83	0.42	0.91	0.60	0.61
Avail Cap(c_a), veh/h	379	0	298	451	0	400	150	1127	1655	275	1264	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.3	0.0	56.6	52.6	0.0	51.3	67.0	48.6	21.6	60.2	36.8	36.8
Incr Delay (d2), s/veh	2.6	0.0	66.2	24.7	0.0	15.3	14.6	4.8	0.2	29.7	0.8	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	0.0	17.1	18.3	0.0	13.8	2.9	16.2	12.3	10.8	12.1	13.3
LnGrp Delay(d),s/veh	53.9	0.0	122.8	77.3	0.0	66.6	81.6	53.4	21.8	89.9	37.6	38.3
LnGrp LOS	D		F	E		E	F	D	C	F	D	D
Approach Vol, veh/h		540			726			1566			1381	
Approach Delay, s/veh		93.8			72.5			41.3			46.3	
Approach LOS		F			E			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	25.0	43.6		39.5	11.7	56.9		34.0
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	22.0	43.0		36.0	12.0	53.0		29.0
Max Q Clear Time (g_c+I1), s	19.8	32.0		33.3	7.2	27.6		31.0
Green Ext Time (p_c), s	0.1	6.6		1.3	0.0	9.3		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	55.0
HCM 2010 LOS	E

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	70	12	4	409	110	0	623	18	216	318	138
Future Volume (veh/h)	19	70	12	4	409	110	0	623	18	216	318	138
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	0	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	21	79	13	4	460	124	0	700	20	243	357	155
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	1	1	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	0	2	2	2	2	2
Cap, veh/h	101	319	46	61	619	519	0	1024	29	429	615	267
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.00	0.29	0.29	0.13	0.50	0.50
Sat Flow, veh/h	92	958	137	3	1858	1559	0	3604	100	1774	1225	532
Grp Volume(v), veh/h	113	0	0	464	0	124	0	353	367	243	0	512
Grp Sat Flow(s),veh/h/ln	1188	0	0	1861	0	1559	0	1770	1841	1774	0	1757
Q Serve(g_s), s	0.5	0.0	0.0	0.0	0.0	3.5	0.0	10.7	10.7	5.3	0.0	12.4
Cycle Q Clear(g_c), s	13.9	0.0	0.0	13.4	0.0	3.5	0.0	10.7	10.7	5.3	0.0	12.4
Prop In Lane	0.19		0.12	0.01		1.00	0.00		0.05	1.00		0.30
Lane Grp Cap(c), veh/h	466	0	0	680	0	519	0	516	537	429	0	882
V/C Ratio(X)	0.24	0.00	0.00	0.68	0.00	0.24	0.00	0.68	0.68	0.57	0.00	0.58
Avail Cap(c_a), veh/h	1095	0	0	1469	0	1182	0	1079	1123	846	0	1854
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.7	0.0	0.0	18.0	0.0	14.7	0.0	19.0	19.0	12.5	0.0	10.6
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.2	0.0	0.2	0.0	1.6	1.5	1.2	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	7.1	0.0	1.5	0.0	5.4	5.6	2.7	0.0	6.1
LnGrp Delay(d),s/veh	14.9	0.0	0.0	19.2	0.0	14.9	0.0	20.6	20.6	13.7	0.0	11.2
LnGrp LOS	B			B		B		C	C	B		B
Approach Vol, veh/h		113			588			720			755	
Approach Delay, s/veh		14.9			18.3			20.6			12.0	
Approach LOS		B			B			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	12.7	22.7		25.2		35.5		25.2
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s	22.0	37.0		46.0		64.0		46.0
Max Q Clear Time (g_c+I1), s	7.3	12.7		15.9		14.4		15.4
Green Ext Time (p_c), s	0.6	5.0		0.7		4.2		3.8

Intersection Summary	
HCM 2010 Ctrl Delay	16.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	111	17	5	253	152	106	653	12	241	393	103
Future Volume (veh/h)	42	111	17	5	253	152	106	653	12	241	393	103
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.98		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	45	118	18	5	269	162	113	695	13	256	418	110
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	120	251	32	66	451	379	206	1037	19	461	828	218
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.37	0.37	0.37	0.12	0.58	0.58
Sat Flow, veh/h	171	1030	133	9	1849	1556	336	2776	51	1774	1420	374
Grp Volume(v), veh/h	181	0	0	274	0	162	393	0	428	256	0	528
Grp Sat Flow(s),veh/h/ln	1333	0	0	1858	0	1556	1478	0	1685	1774	0	1794
Q Serve(g_s), s	0.4	0.0	0.0	0.0	0.0	5.1	8.8	0.0	12.3	4.6	0.0	10.0
Cycle Q Clear(g_c), s	7.9	0.0	0.0	7.5	0.0	5.1	12.4	0.0	12.3	4.6	0.0	10.0
Prop In Lane	0.25		0.10	0.02		1.00	0.29		0.03	1.00		0.21
Lane Grp Cap(c), veh/h	403	0	0	516	0	379	632	0	630	461	0	1046
V/C Ratio(X)	0.45	0.00	0.00	0.53	0.00	0.43	0.62	0.00	0.68	0.56	0.00	0.50
Avail Cap(c_a), veh/h	837	0	0	1059	0	836	1421	0	1578	858	0	2458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.4	0.0	0.0	19.3	0.0	18.4	14.9	0.0	15.2	10.1	0.0	7.1
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.8	0.0	0.8	1.0	0.0	1.3	1.1	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.0	4.0	0.0	2.2	5.4	0.0	5.9	2.3	0.0	4.9
LnGrp Delay(d),s/veh	19.2	0.0	0.0	20.2	0.0	19.2	15.9	0.0	16.5	11.2	0.0	7.5
LnGrp LOS	B			C		B	B		B	B		A
Approach Vol, veh/h		181			436			821			784	
Approach Delay, s/veh		19.2			19.8			16.2			8.7	
Approach LOS		B			B			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	12.1	26.5		19.1		38.6		19.1
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s	20.0	54.0		31.0		79.0		31.0
Max Q Clear Time (g_c+I1), s	6.6	14.4		9.9		12.0		9.5
Green Ext Time (p_c), s	0.6	7.1		1.1		4.4		2.2

Intersection Summary	
HCM 2010 Ctrl Delay	14.5
HCM 2010 LOS	B

Appendix D:

Civil Engineering Correspondence
Wilson Okamoto Corporation

BOARD OF WATER SUPPLY

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

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ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

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

November 27, 2019

RECEIVED
DEC 02 2019
WILSON OKAMOTO CORPORATION

Mr. Joshua Inaba
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Inaba:

Subject: Your Letter Dated November 5, 2019 Requesting Comments on the Availability of Water for the UH Atherton Mixed-Use Student Housing Project on University Avenue – Tax Map Key: 2-8-016: 001

Thank you for your letter regarding the proposed UH Atherton mixed-use student housing project.

The existing water system is adequate to accommodate the water demands and off-site fire protection to the proposed mixed-use student housing project. However, please be advised that this information is based upon current data, and therefore, the Board of Water Supply (BWS) reserves the right to change any position or information stated herein up until the final approval of the building permit application. The final decision on the availability of water will be confirmed when the building permit application is submitted for approval.

When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission and daily storage.

Water conservation measures are required for all proposed developments. These measures include the use of Water Sense labeled ultra-low-flow water fixtures and toilets, utilization of nonpotable water for irrigation using rain catchment and chiller/air handler condensate, cooling tower conductivity meters and water softening recycling systems, drought tolerant plants, xeriscape landscaping, and efficient irrigation systems.

Proposed mixed use developments are required to install separate domestic water meters and laterals serving the residential and non-residential spaces.

The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

The BWS has suspended fire flow tests on fire hydrants as a water conservation measure. However, you may use the following calculated flow data for Fire Hydrant No. M-02010, M-02011, M-05349, and M-00923:

Fire Hydrant Number	Location	Static Pressure (psi)	Residual Pressure (psi)	Flow (gpm)
M-02010	University Ave.	135	121	2,000
M-02011	Seaview Ave.	135	121	2,000
M-05349	Metcalf Street.	45	29	2,000
M-00923	University Ave.	141	102	2,000

The data are based on the existing water system, and the static pressure represents the theoretical pressure at the point of calculation with the reservoir full and no demands on the water system. The static pressure is not indicative of the actual pressure in the field. Therefore, in order to determine the flows that are available to the site, you will have to determine the actual field pressure by taking on-site pressure readings at various times of the day and correlating that field data with the above hydraulic design data.

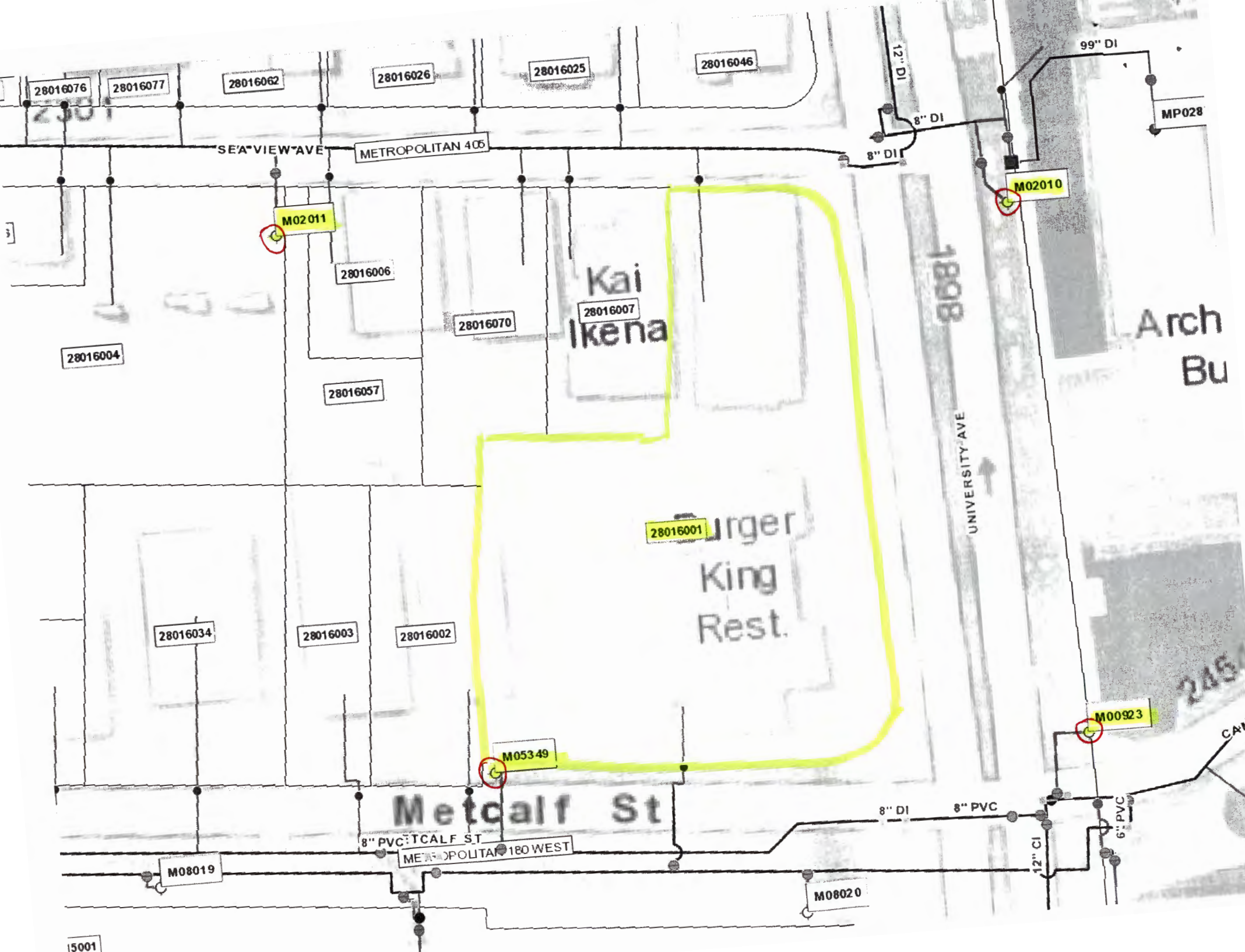
The map showing the location of the fire hydrants is attached.

If you have any questions, please contact Robert Chun, Project Review Branch of our Water Resources Division at 748-5443.

Very truly yours,

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

Attachment


28016076
28016077
28016062
28016026
28016025
28016046
12" DI
99" DI
8" DI
8" DI
MP028
SEA VIEW AVE
METROPOLITAN 405
M02010
M02011
28016006
Kai
Ikena
28016007
28016070
28016004
28016057
188
Arch
Bu
UNIVERSITY AVE
28016001
Burger
King
Rest.
28016034
28016003
28016002
M00923
M05349
Metcalf St
8" DI
8" PVC
6" PVC
8" PVC
METCALF ST
METROPOLITAN 180 WEST
12" CI
M08019
M08020

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET * HONOLULU, HAWAII 96813
Phone: (808) 768-8209 * Fax: (808) 768-4210

SEWER CONNECTION APPLICATION

APPLICATION NO.: **2019/SCA-1629** STATUS: **Approved with conditions**

DATE RECEIVED: **10/31/2019** IWDP APP. NO.:

PROJECT NAME: **2019/SCA-1629 Student Housing Project - 176 New MFD**

$815,091.20
Estimated Wastewater System Facility Charge*

LOCATION:

Zone	Section	Plat	Parcel
2	8	016	001

2340 METCALF ST Honolulu / Maki **43,107** Sq. Ft.

SPECIFIC LOCATION: **1810 UNIVERSITY AVE Honolulu / Makiki 96822**

APPLICANT: **Glenn Kuwaye, WILSON OKAMOTO CORP.**
1907 SOUTH BERETANIA STREET SUITE 400
HONOLULU, HAWAII 96826

RECEIVED
NOV 15 2019
WILSON OKAMOTO CORPORATION

DEVELOPMENT TYPE: **Dwelling, Multi-family** SEWER CONNECTION WORK DESIRED: **New**

OTHER USES: **Office: 8746 sf**
Classroom/Innovation/Maker Space: 9898 sf
Food/Beverage: 1225 sf

NON-RESIDENTIAL AREA: s.f. APPROXIMATE DATE OF CONNECTION: **08/31/2021**

PROPOSED UNITS		EXISTING UNITS	UNITS TO BE DEMOLISHED
No. of New Units: **176**		No. of Existing Units: **0**	No. of Units to be Demolished: **0**
Studios:	64	Studios:	Studios:
1-Bedroom:	1	1-Bedroom:	1-Bedroom:
2-Bedroom:	102	2-Bedroom:	2-Bedroom:
3-Bedroom:		3-Bedroom:	3-Bedroom:
4-Bedroom:	8	4-Bedroom:	4-Bedroom:
5-Bedroom:		5-Bedroom:	5-Bedroom:
6-Bedroom:		6-Bedroom:	6-Bedroom:

REMARKS **Submit construction plans for review and approval if sewer connection via new sewer lateral. Wastewater System Facility Charges may apply pending water meter installation or size increase. Industrial Wastewater Discharge Permit (IWDP) maybe required.**

APPROVAL DATE: **11/13/2019**

EXPIRATION DATE: **11/12/2021**

Valid 2-years after approval date. Construction plans shall be completed and approved within this 2-year period. Construction shall commence within 1-year after approval of plans.
** Applicable WSFC shall be collected at the prevailing rate in accordance with ROH 1990, Chapter 14, Sections 14-10.3, 14-10.4, 14-10.5 and Appendix 14-D.*

REVIEWED BY: ***Jing Meng***

Site Development Division, Wastewater Branch

ExternalID: **077249195-001** JobId: **77249195**

Appendix E:

Pre-Assessment Consultation Comment Letters and Responses

From:	Speerstra, Linda CIV USARMY CEPOH (US)
To:	Keola Cheng
Cc:	Speerstra, Linda CIV USARMY CEPOH (US)
Subject:	Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center.
Date:	Tuesday, November 12, 2019 3:30:52 PM

Aloha Ms. Cheng, the Corps is in receipt of the pre-assessment consultation. The information provided was not clear in regards to the development and whether waters of the United States are present on the parcel. I would like to provide you with the some basic information in regards to the Corps authorities.

DA authorization is required if you propose to place dredged and/or fill material into waters of the U.S., including wetlands and/or perform work in navigable waters of the U.S. Enclosed is a pamphlet to assist you in applying for a DA permit. (Enclose the pamphlet)

Section 404 of the Clean Water Act 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 jurisdictional wetlands (33 U.S.C. 1344). The Corps defines wetlands as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Section 10 of the Rivers and Harbors Act of 1899 requires that a DA permit be obtained for structures or work in or affecting navigable waters of the U.S. (33 U.S.C. 403). Section 10 waters are those waters subject to the ebb and flow of the tide shoreward to the mean high water mark, and/or other waters identified by the Alaska District.

I appreciate your cooperation with the Corps' Regulatory Program. You may contact me via email at linda.speerstra@usace.army.mil or at the phone number below if you have any further questions. Linda

Linda Speerstra
Chief, Regulatory Branch
U.S. Army Corps of Engineers
Honolulu District
808-835-4300

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10490-02
March 8, 2020

Ms. Linda Speerstra
Chief
United States Army Corp of Engineers
Regulatory Branch
Honolulu District
Building 230
Fort Shafter, HI 96858

Subject: Environmental Assessment (EA) Pre-Assessment Consultation for
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Key (TMK): [1] 2-8-016:001
Honolulu, O‘ahu, Hawai‘i

Dear Ms. Speerstra:

Thank you for your email dated November 12, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation. There are no water of the United States present on the parcel. The scope of your comments is acknowledged and will be incorporated into the EA process moving forward.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. The Draft EA has been published and made available for downloading, review and comment in the current issue of the Office of Environmental Quality Control’s (OEQC) Environmental Notice.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng
Associate Director

cc: Jonathan Kam, Hunt Moss
Mike Lam, Hunt Moss
Lance Wilhelm, The Wilhelm Group, LLC

DAVID Y. IGE
GOVERNOR

JADE T. BUTAY
DIRECTOR

Deputy Director
LYNN A.S. ARAKI-REGAN
DEREK J. CHOW
ROSS M. HIGASHI
EDWIN H. SNIFFEN

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

IN REPLY REFER TO:
DIR 1117
HWY-PS 2.1616

November 26, 2019

Mr. Keola Cheng
Associate Director
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

RECEIVED
DEC 02 2019
WILSON OKAMOTO CORPORATION

Dear Mr. Cheng:

Subject: Pre-Assessment Consultation
Draft Environmental Assessment
Atherton Mixed Use Student Housing, Innovation & Entrepreneurship Center
Oahu, Honolulu, TMK: (1) 2-8-016:001

The University of Hawaii Foundation and Hunt Development Group have partnered to develop a Mixed Use Student Housing, Innovation & Entrepreneurship Center on the parcel occupied by the Charles Atherton House and the Mary Atherton Richards House along University Avenue, across from the University of Hawaii at Manoa.

The project is expected to redevelop and repurpose the property to include student housing for approximately 300 students, an innovation and entrepreneurship center, a project service area, a retail area, and 40 to 55 parking stalls.

An Environmental Assessment will be prepared pursuant to Hawaii Revised Statutes 343 due to use of State funds and lands.

The Hawaii Department of Transportation anticipates that the proposed development will not have a significant impact to its highway facilities.

If there are any questions, please contact Jeyan Thirugnanam, Systems Planning Engineer, Highways Division, Planning Branch at (808) 587-6336 or by email at jeyan.thirugnanam@hawaii.gov. Please reference file review number PS 2019-148.

Sincerely,

JADE T. BUTAY
Director of Transportation

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10490-02
March 8, 2020

Mr. Jade Butay
Director
State of Hawai‘i
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Subject: Environmental Assessment (EA) Pre-Assessment Consultation for
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Key (TMK): [1] 2-8-016:001
Honolulu, O‘ahu, Hawai‘i

Dear Mr. Butay:

Thank you for your letter dated November 26, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation. The scope of your comments is acknowledged and will be incorporated into the EA process moving forward.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. The Draft EA has been published and made available for downloading, review and comment in the current issue of the Office of Environmental Quality Control’s (OEQC) Environmental Notice.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng
Associate Director

cc: Jonathan Kam, Hunt Moss
Mike Lam, Hunt Moss
Lance Wilhelm, The Wilhelm Group, LLC

DAVID Y. IGE
GOVERNOR OF HAWAII

BRUCE S. ANDERSON, Ph.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:

November 18, 2019

Mr. Keola Cheng
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, HI 96826

Dear Mr. Cheng:

Thank you for your submittal requesting comments to the Environmental Assessment (EA) Pre-Assessment for the Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center, Honolulu, Oahu, Tax Map Key (TMK): [1] 2-8-016:001.

Project activities shall comply with the following Administrative Rules of the Department of Health:

- Chapter 11-41 Lead-based Paint Activities
- Chapter 11-46 Community Noise Control
- Chapter 11-501 Asbestos Requirements
- Chapter 11-503 Fees for Asbestos Removal & Certification
- Chapter 11-504 Asbestos Abatement Certification Program

Should you have any questions, please contact me at (808) 586-4700.

Sincerely,

Jeffrey M. Eckerd
Program Manager
Indoor and Radiological Health Branch

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10490-02
March 8, 2020

Mr. Jeffrey Eckerd
Program Manager
State of Hawai‘i
Department of Health
Indoor and Radiological Health Branch
P.O. Box 3378
Honolulu, HI 96801

Subject: Environmental Assessment (EA) Pre-Assessment Consultation for
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Key (TMK): [1] 2-8-016:001
Honolulu, O‘ahu, Hawai‘i

Dear Mr. Eckerd:

Thank you for your letter dated November 18, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation. The scope of your comments is acknowledged and will be incorporated into the EA process moving forward.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. The Draft EA has been published and made available for downloading, review and comment in the current issue of the Office of Environmental Quality Control’s (OEQC) Environmental Notice.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng
Associate Director

cc: Jonathan Kam, Hunt Moss
Mike Lam, Hunt Moss
Lance Wilhelm, The Wilhelm Group, LLC

DAVID Y. IGE
GOVERNOR OF HAWAII

BRUCE S. ANDERSON, Ph.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:

LUD – 1 2 8 016 001 EA Pre Asmnt Cons
Atherton Mixed Use Stdnt Hsing ID4902

November 29, 2019

Mr. Keola Chang
Associate Director
Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, Hawaii 96826

RECEIVED
DEC 05 2019
WILSON OKAMOTO CORPORATION

Dear Mr. Chang:

Subject: Environmental Assessment (EA) Pre-Assessment Consultation for Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center 2340 Metcalf Street, Honolulu, Oahu 96822 TMK (1) 2-8-016:001

Thank you for allowing us the opportunity to provide comments for the subject project. Although wastewater treatment and disposal were not addressed in the submittal, it is our understanding that a sewer lateral connection to the City and County of Honolulu's sewer system is available for the subject property. Therefore, all wastewater generated associated with the subject project is required to be conveyed to the County's sewer system for treatment and disposal in accordance with section 11-62-06(b), Hawaii Administrative Rules, Chapter 11-62, "Wastewater Systems."

Should you have any questions, please call Mr. Mark Tomomitsu of my staff at 586-4294.

Sincerely,

SINA PRUDER, P.E., CHIEF
Wastewater Branch

LM/MST:lmj

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10490-02
March 8, 2020

Ms. Sina Pruder, P.E.
Division Chief
State of Hawai‘i
Department of Health-Wastewater Branch
P.O. Box 3378
Honolulu, HI 96801

Subject: Environmental Assessment (EA) Pre-Assessment Consultation for
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Key (TMK): [1] 2-8-016:001
Honolulu, O‘ahu, Hawai‘i

Dear Ms. Pruder:

Thank you for your letter dated November 29, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation. The scope of your comments is acknowledged and will be incorporated into the EA process moving forward.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. The Draft EA has been published and made available for downloading, review and comment in the current issue of the Office of Environmental Quality Control’s (OEQC) Environmental Notice.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng
Associate Director

cc: Jonathan Kam, Hunt Moss
Mike Lam, Hunt Moss
Lance Wilhelm, The Wilhelm Group, LLC

DAVID Y. IGE
GOVERNOR

CURT T. OTAGURO
COMPTROLLER

AUDREY HIDANO
DEPUTY COMPTROLLER

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

(P) 19.232

NOV 07 2019

Mr. Keola Cheng, Associate Director
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Cheng:

Subject: Environmental Assessment (EA) Pre- Assessment Consultation for Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Key (TMK): [1] 2-8-016:001
Honolulu, Oahu, Hawaii

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

If you have any questions or require further information regarding this reply, your staff may call Dennis Chen of the Public Works Division at 586-0491, or via e-mail at dennis.yk.chen@hawaii.gov.

Sincerely,

CURT T. OTAGURO
Comptroller

DYKC:jyl

cc: Jonathan Kam, Hunt Moss
Mike Lam, Hunt Moss
Lance Wilhelm, The Wilhelm Group, LLC

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10490-02
March 8, 2020

Mr. Curt T. Otaguro
Comptroller
State of Hawai‘i
Department of Accounting and General Services
1132 Bishop Street, Suite 1410
Honolulu, HI 96813

Subject: Environmental Assessment (EA) Pre-Assessment Consultation for
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Key (TMK): [1] 2-8-016:001
Honolulu, O‘ahu, Hawai‘i

Dear Mr.Otaguro:

Thank you for your letter dated November 7, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation. The scope of your comments is acknowledged and will be incorporated into the EA process moving forward.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. The Draft EA has been published and made available for downloading, review and comment in the current issue of the Office of Environmental Quality Control’s (OEQC) Environmental Notice.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng
Associate Director

cc: Jonathan Kam, Hunt Moss
Mike Lam, Hunt Moss
Lance Wilhelm, The Wilhelm Group, LLC

BOARD OF WATER SUPPLY

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

KIRK CALDWELL, MAYOR

BRYAN P. ANDAYA, Chair
KAPUA SPROAT, Vice Chair
KAY C. MATSUI
RAY C. SOON
MAX J. SWORD

ROSS S. SASAMURA, Ex-Officio
JADE T. BUTAY, Ex-Officio

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

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

November 15, 2019

RECEIVED
NOV 26 2019
WILSON OKAMOTO CORPORATION

Mr. Keola Cheng
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Cheng:

Subject: Your Letter Dated October 29, 2019 Requesting Comments on the Environmental Assessment Pre-Assessment Consultation for Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center on University Avenue – Tax Map Key: 2-8-016: 001

Thank you for your letter regarding the proposed mixed-use student housing innovation and entrepreneurship center.

The existing water system is adequate to accommodate the water demands and off-site fire protection to the proposed mixed-use student housing innovation and entrepreneurship center. However, please be advised that this information is based upon current data, and therefore, the Board of Water Supply reserves the right to change any position or information stated herein up until the final approval of the building permit application. The final decision on the availability of water will be confirmed when the building permit application is submitted for approval.

When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission and daily storage.

Water conservation measures are required for all proposed developments. These measures include the use of Water Sense labeled ultra-low-flow water fixtures and toilets, utilization of nonpotable water for irrigation using rain catchment and chiller/air handler condensate, cooling tower conductivity meters and water softening recycling systems, drought tolerant plants, xeriscape landscaping, and efficient irrigation systems.

Proposed mixed use developments are required to install separate domestic water meters and laterals serving the residential and non-residential spaces.

The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

If you have any questions, please contact Robert Chun, Project Review Branch of our Water Resources Division at 748-5443.

Very truly yours,

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10490-02
March 8, 2020

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

Subject: Environmental Assessment (EA) Pre-Assessment Consultation for
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Key (TMK): [1] 2-8-016:001
Honolulu, O‘ahu, Hawai‘i

Dear Mr. Lau:

Thank you for your letter dated November 15, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation. The scope of your comments is acknowledged and will be incorporated into the EA process moving forward.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. The Draft EA has been published and made available for downloading, review and comment in the current issue of the Office of Environmental Quality Control’s (OEQC) Environmental Notice.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng
Associate Director

cc: Jonathan Kam, Hunt Moss
Mike Lam, Hunt Moss
Lance Wilhelm, The Wilhelm Group, LLC

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8480 • Fax: (808) 768-4567
Web site: www.honolulu.gov

KIRK CALDWELL
MAYOR

ROBERT J. KRONING, P.E.
DIRECTOR

MARK YONAMINE, P.E.
DEPUTY DIRECTOR

November 19, 2019

RECEIVED
NOV 22 2019
WILSON OKAMOTO CORPORATION

Wilson Okamoto Corporation
ATTN: Keola Chang, Associate Director
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Chang,

Subject: Environmental Assessment (EA) Pre-Assessment Consultation for Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center TMK: [1] 2-8-016:001 Honolulu, Hawaii

Thank you for the opportunity to review and comment. The Department of Design and Construction does not have any comments at this time.

Should you have any further questions, please call me at 768-8480.

Sincerely,

Robert J. Kroning, P.E.
Director

RJK:ms(792279)

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10490-02
March 8, 2020

Mr. Robert J. Kroning P.E.
Director
City and County of Honolulu
Department of Design and Construction
650 South King Street, 11th Floor
Honolulu, HI 96813

Subject: Environmental Assessment (EA) Pre-Assessment Consultation for
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Key (TMK): [1] 2-8-016:001
Honolulu, O‘ahu, Hawai‘i

Dear Mr. Kroning:

Thank you for your letter dated November 19, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation. We acknowledge that the Department of Design and Constructions has no comments to offer at this time.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. The Draft EA has been published and made available for downloading, review and comment in the current issue of the Office of Environmental Quality Control’s (OEQC) Environmental Notice.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng
Associate Director

cc: Jonathan Kam, Hunt Moss
Mike Lam, Hunt Moss
Lance Wilhelm, The Wilhelm Group, LLC

DEPARTMENT OF FACILITY MAINTENANCE

CITY AND COUNTY OF HONOLULU

1000 Ulu'ohia Street, Suite 215, Kapolei, Hawaii 96707
Phone: (808) 768-3343 • Fax: (808) 768-3381
Website: www.honolulu.gov

KIRK CALDWELL
MAYOR

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

EDUARDO P. MANGLALLAN
DEPUTY DIRECTOR

IN REPLY REFER TO:
DRM 19-646

November 21, 2019

Mr. Keola Cheng, Associate Director
Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, Hawaii 96826

RECEIVED
NOV 22 2019
WILSON OKAMOTO CORPORATION

Dear Mr. Cheng:

Subject: Environmental Assessment, Pre-Assessment Consultation,
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Keys: (1) 2-8-016:001, Honolulu

Thank you for the opportunity to review and comment on the subject project.

Our comments are as follow:

- Once construction phase commence, install approved Best Management Practices fronting all drainage facilities on Metcalf Street and Sea View Avenue.

- During construction and upon completion of the project; any damages/deficiencies to along the sidewalks and/or roadways on University Avenue, Metcalf Avenue and Sea View Avenue, there is also a bus stop with a shelter that is on Metcalf Avenue that shall be repaired to City standards and accepted by the City at no cost to the City and County of Honolulu.

If you have any questions, please call Mr. Kyle Oyasato of the Division of Road Maintenance at 768-3697.

Sincerely,

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

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10490-02
March 8, 2020

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

Subject: Environmental Assessment (EA) Pre-Assessment Consultation for
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Key (TMK): [1] 2-8-016:001
Honolulu, O‘ahu, Hawai‘i

Dear Mr. Sasamura:

Thank you for your letter dated November 21, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation. The scope of your comments is acknowledged and will be incorporated into the EA process moving forward.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. The Draft EA has been published and made available for downloading, review and comment in the current issue of the Office of Environmental Quality Control’s (OEQC) Environmental Notice.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng
Associate Director

cc: Jonathan Kam, Hunt Moss
Mike Lam, Hunt Moss
Lance Wilhelm, The Wilhelm Group, LLC

HONOLULU FIRE DEPARTMENT

CITY AND COUNTY OF HONOLULU

636 South Street
Honolulu, Hawaii 96813-5007
Phone: 808-723-7139 Fax: 808-723-7111 Internet: www.honolulu.gov/hfd

KIRK CALDWELL
MAYOR

MANUEL P. NEVES
FIRE CHIEF

LIONEL CAMARA JR.
DEPUTY FIRE CHIEF

November 19, 2019

Mr. Keola Cheng
Associate Director
Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, Hawaii 96826

RECEIVED
NOV 26 2019
WILSON OKAMOTO CORPORATION

Dear Mr. Cheng:

Subject: Environmental Assessment Preassessment Consultation
Atherton Mixed Use Student Housing Innovation and Entrepreneurship Center
1810 University Avenue
Honolulu, Hawaii 96822
Tax Map Keys: 2-8-016: 001

In response to your letter dated October 29, 2019, regarding the abovementioned subject, the Honolulu Fire Department (HFD) reviewed the submitted information and requires that the following be complied with:

1. Fire department access roads shall be provided such that any portion of the facility or any portion of an exterior wall of the first story of the building is located not more than 150 feet (46 meters) from fire department access roads as measured by an approved route around the exterior of the building or facility. (National Fire Protection Association [NFPA] 1; 2012 Edition, Sections 18.2.3.2.2 and 18.2.3.2.2.1.)

   A fire department access road shall extend to within 50 feet (15 meters) of at least one exterior door that can be opened from the outside and that provides access to the interior of the building. (NFPA 1; 2012 Edition, Section 18.2.3.2.1.)

2. A water supply approved by the county, capable of supplying the required fire flow for fire protection shall be provided to all premises upon which facilities or buildings, or portions thereof, are hereafter constructed, or moved into or within the county. When any portion of the facility or building is in excess of 150 feet (45,720 millimeters) from a water supply on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains capable of supplying the required fire flow shall be provided when required by the AHJ [Authority Having Jurisdiction]. (NFPA 1; 2012 Edition, Section 18.3.1, as amended.)

3. The unobstructed width and unobstructed vertical clearance of a fire apparatus access road shall meet county requirements. (NFPA 1; 2012 Edition, Sections 18.2.3.4.1.1 and 18.2.3.4.1.2, as amended.)

4. Submit civil drawings to the HFD for review and approval.

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

Sincerely,

JASON SAMALA
Assistant Chief

JS/TC:bh

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10490-02
March 8, 2020

Mr. Socrates D. Bratakos
Assistant Chief
City and County of Honolulu
Fire Department
636 South Street
Honolulu, HI 96813

Subject: Environmental Assessment (EA) Pre-Assessment Consultation for
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Key (TMK): [1] 2-8-016:001
Honolulu, O‘ahu, Hawai‘i

Dear Mr. Bratakos:

Thank you for your letter dated November 19, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation. The scope of your comments is acknowledged and will be incorporated into the EA process moving forward.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. The Draft EA has been published and made available for downloading, review and comment in the current issue of the Office of Environmental Quality Control’s (OEQC) Environmental Notice.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng
Associate Director

cc: Jonathan Kam, Hunt Moss
Mike Lam, Hunt Moss
Lance Wilhelm, The Wilhelm Group, LLC

POLICE DEPARTMENT

CITY AND COUNTY OF HONOLULU

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

KIRK CALDWELL
MAYOR

SUSAN BALLARD
CHIEF

JOHN D. McCARTHY
JONATHON GREMS
DEPUTY CHIEFS

OUR REFERENCE PO-DK

November 13, 2019

Mr. Keola Cheng
Associate Director
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

RECEIVED
NOV 18 2019
WILSON OKAMOTO CORPORATION

Dear Mr. Cheng:

This is in response to your letter of October 29, 2019, requesting comments on a Pre-Assessment Consultation, Draft Environmental Assessment, for the proposed Atherton Mixed Use Student Housing Innovation and Entrepreneurship Center project.

Based on the project summary and map provided, the Honolulu Police Department (HPD) anticipates short- and long-term impacts to pedestrian and vehicular traffic and parking in and around the project area. These impacts may cause an increase in calls for service to the area. The HPD recommends that all necessary signs, lights, barricades, and other safety equipment be installed and maintained by the contractor to facilitate the flow of traffic during the construction phase of the project.

If there are any questions, please call Major Gordon Lum Kee of District 7 (East Honolulu) at 723-3369.

Thank you for the opportunity to review this project.

Sincerely,

ALLAN T. NAGATA
Assistant Chief
Support Services Bureau

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10490-02
March 8, 2020

Mr. Allan T. Nagata
Assistant Chief
Support Services Bureau
City and County of Honolulu
Police Department
801 South Beretania Street
Honolulu, HI 96813

Subject: Environmental Assessment (EA) Pre-Assessment Consultation for
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Key (TMK): [1] 2-8-016:001
Honolulu, O‘ahu, Hawai‘i

Dear Mr. Nagata:

Thank you for your letter dated November 13, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation. The scope of your comments is acknowledged and will be incorporated into the EA process moving forward.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. The Draft EA has been published and made available for downloading, review and comment in the current issue of the Office of Environmental Quality Control’s (OEQC) Environmental Notice.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng
Associate Director

cc: Jonathan Kam, Hunt Moss
Mike Lam, Hunt Moss
Lance Wilhelm, The Wilhelm Group, LLC

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 768-8000 • FAX: (808) 768-6041
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KIRK CALDWELL
MAYOR

KATHY K. SOKUGAWA
ACTING DIRECTOR

TIMOTHY F. T. HIU
DEPUTY DIRECTOR

EUGENE H. TAKAHASHI
DEPUTY DIRECTOR

January 24, 2020 2019/ELOG-2175(GT)

Mr. Keola Cheng
Associate Director
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

RECEIVED
JAN 27 2020
WILSON OKAMOTO CORPORATION

Dear Mr. Cheng:

SUBJECT: Pre-Assessment Consultation
Draft Environmental Assessment (EA)
Chapter 343, Hawaii Revised Statutes
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
1810 University Avenue - Manoa
Tax Map Key 2-8-016: 001

This is in response to your letter (received October 31, 2019), requesting comments on the pre-assessment consultation for the proposed Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center. We have reviewed the information provided and offer the following comments:

1. Planning Division:

   a. The DEA should include a discussion of the consistency of the Project with the Oahu General Plan, and the Primary Urban Center Development Plan.

   b. Review by the State Historic Preservation Division is required prior to issuance of permits, and conditional use set forth in Zone Change Application No. 59/Z-63.

2. Site Development Division:

   a. The proposed student housing units are subject to park dedication requirements, unless the Project is part of the Plan Review Use (PRU) Permit

for the University of Hawaii (UH) Manoa campus. Please verify if it will be made part of the PRU Permit.

b. Sewer Connection Application No. 2019/SCA-1629 has been approved on November 13, 2019. The application will expire on November 12, 2021.

3. Transit-Oriented Development Division: We encourage consideration be given to transit-oriented development in site design. A potential extension of the Honolulu Rail Transit Project and/or bus rapid transit would likely utilize University Avenue (also a current Complete Streets project). Focus buildings, not parking, closest to the street(s) and include active uses (e.g., businesses, lobbies, meeting spaces, etc.) on ground floors with windows or other transparent building materials to facilitate a lively pedestrian environment.

4. Building Division:

a. The properties adjoining this lot are to the west are zoned R-5 Residential District, and development on this site should be made to minimize adverse spillover of lighting, noise, etc.

b. Since the site is separate from the main campus across the street, it should provide for its own on-site loading with adequate maneuvering space.

c. Bicycle and/or moped spaces should be required in lieu of most of the parking stalls to minimize traffic impacts.

d. Street corners should reflect the current 30-foot corner rounding and Land Use Ordinance (LUO) required yards.

e. All proposed modifications to the LUO development standards should be clearly disclosed in the PRU application.

5. Land Use Permit Division:

a. The proposal requires a Major Modification to the Plan Review Use (PRU) Permit No. 2009/PRU-3 for the UH Manoa campus, approved by the City Council on March 17, 2010, as Resolution No. 09-341, CD1, FD1. As such, the EA will need to be completed before the PRU can be processed.

b. The Draft EA should explain how the proposed Project will comply with the requirements of the R-5 Residential District and discuss any development standards that may need to be modified.

c. The Draft EA should list all permits required.

d. The Draft EA should include specific proposals pertaining to the nearby bus stop, future location of a rail station and mechanisms to ensure pedestrian safety. We recommend that the Applicant keep the Department of Transportation Services and the Honolulu Authority on Rapid Transit informed and involved with the Project.

e. The Draft EA should discuss how the proposed height of buildings compare to those nearby and impact neighborhood character.

We look forward to reviewing the Draft EA.

Should you have any questions, please contact Gerald Toyomura, of our Urban Design Branch, at 768-8056.

Very truly yours,

for Kathy K. Sokugawa
Acting Director

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10490-02
March 8, 2020

Ms. Kathy Sokugawa
Acting Chief
City and County of Honolulu
Department of Planning and Permitting
Planning Division
650 South King Street, 7th Floor
Honolulu, HI 96813

Subject: Environmental Assessment (EA) Pre-Assessment Consultation for
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Key (TMK): [1] 2-8-016:001
Honolulu, O‘ahu, Hawai‘i

Dear Ms. Sokugawa:

Thank you for your letter dated January 24, 2020 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation.

The scope of your comments is acknowledged and will be incorporated into the EA process moving forward.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. The Draft EA has been published and made available for downloading, review and comment in the current issue of the Office of Environmental Quality Control’s (OEQC) Environmental Notice.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng,
Associate Director

cc: Jonathan Kam, Hunt Moss
Mike Lam, Hunt Moss
Lance Wilhelm, The Wilhelm Group, LLC

HAWAI'I GAS
THE CLEAN ENERGY COMPANY

November 22, 2019

RECEIVED
NOV 26 2019
WILSON OKAMOTO CORPORATION

Mr. Keola Cheng
Associate Director
Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Cheng:

Subject: Environmental Assessment (EA) Pre-Assessment Consultation for Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center, TMK: [1] 2-8-016:001 Plan Review and Comment

In response to your letter dated October 29, 2019, please be advised that Hawaii Gas maintains underground utility gas mains in the project vicinity that serve commercial and residential customers in the area. We would appreciate your consideration during the project planning and design process to minimize any potential conflicts with the existing gas facilities in the project area.

Thank you for the opportunity to comment on the Environmental Assessment. Should there be any questions, or if additional information is desired, please feel free to contact Talon Choy at (808) 594-5549.

Sincerely,

Hawaii Gas

Keith K. Yamamoto
Manager, Engineering

KKY:krs

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10490-02
March 8, 2020

Mr. Keith Yamamoto
Manager, Engineering
Hawaii Gas
P.O. Box 3000
Honolulu, HI 96802

Subject: Environmental Assessment (EA) Pre-Assessment Consultation for
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Key (TMK): [1] 2-8-016:001
Honolulu, O‘ahu, Hawai‘i

Dear Mr. Yamamoto:

Thank you for your letter dated October 29, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation. The scope of your comments is acknowledged and will be incorporated into the EA process moving forward.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. The Draft EA has been published and made available for downloading, review and comment in the current issue of the Office of Environmental Quality Control’s (OEQC) Environmental Notice.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng
Associate Director

cc: Jonathan Kam, Hunt Moss
Mike Lam, Hunt Moss
Lance Wilhelm, The Wilhelm Group, LLC

Appendix F:

Draft EA Comment Letters and Responses

Standard Comments for Land Use Reviews
Clean Air Branch
Hawaii State Department of Health

If your proposed project:

Requires an Air Pollution Control Permit

You must obtain an air pollution control permit from the Clean Air Branch and comply with all applicable conditions and requirements. If you do not know if you need an air pollution control permit, please contact the Permitting Section of the Clean Air Branch.

s

Includes construction or demolition activities that involve asbestos

You must contact the Asbestos Abatement Office in the Indoor and Radiological Health Branch.

Has the potential to generate fugitive dust

You must control the generation of all airborne, visible fugitive dust. Note that construction activities that occur near to existing residences, business, public areas and major thoroughfares exacerbate potential dust concerns. It is recommended that a dust control management plan be developed which identifies and mitigates all activities that may generate airborne, visible fugitive dust. The plan, which does *not* require Department of Health approval, should help you recognize and minimize potential airborne, visible fugitive dust problems.

Construction activities must comply with the provisions of Hawaii Administrative Rules, §11-60.1-33 on Fugitive Dust. In addition, for cases involving mixed land use, we strongly recommend that buffer zones be established, wherever possible, in order to alleviate potential nuisance complaints.

You should provide reasonable measures to control airborne, visible fugitive dust from the road areas and during the various phases of construction. These measures include, but are not limited to, the following:

a) Planning the different phases of construction, focusing on minimizing the amount of airborne, visible fugitive dust-generating materials and activities, centralizing on-site vehicular traffic routes, and locating potential dust-generating equipment in areas of the least impact;
b) Providing an adequate water source at the site prior to start-up of construction activities;
c) Landscaping and providing rapid covering of bare areas, including slopes, starting from the initial grading phase;
d) Minimizing airborne, visible fugitive dust from shoulders and access roads;
e) Providing reasonable dust control measures during weekends, after hours, and prior to daily start-up of construction activities; and
f) Controlling airborne, visible fugitive dust from debris being hauled away from the project site.

If you have questions about fugitive dust, please contact the Enforcement Section of the Clean Air Branch

Clean Air Branch (808) 586-4200 cab@doh.hawaii.gov	Indoor Radiological Health Branch (808) 586-4700

April 1, 2019

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10490-02
May 23, 2020

Sir / Madam
State of Hawai‘i
Department of Health
Clean Air Branch
2827 Waimano Home Road #130
Pearl City, Hawai‘i 96782

Subject: Draft Environmental Assessment (EA) for
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Key (TMK): [1] 2-8-016:001
Honolulu, O‘ahu, Hawai‘i

Dear Sir / Madam:

Thank you for your letter regarding the subject Draft Environmental Assessment (DEA). We offer the following in response to your comments:

The proposed project will adhere to all applicable standard comments outlined provided in your letter regarding air pollution, asbestos, and fugitive dust.

Your letter, along with this response, will be reproduced and included in the forthcoming Final EA.

We appreciate your participation in the EA review process.

Sincerely,

Keola Cheng,
Director of Planning

cc: Kalbert Young, University of Hawai‘i
Jan Gouveia, University of Hawai‘i
Mike Lam, Hunt Moss
Lance Wilhelm, The Wilhelm Group, LLC

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
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KIRK CALDWELL
MAYOR

KATHY K. SOKUGAWA
ACTING DIRECTOR

TIMOTHY F. T. HIU
DEPUTY DIRECTOR

EUGENE H. TAKAHASHI
DEPUTY DIRECTOR

April 7, 2020

2020/ELOG-498(GT)

Mr. Keola Cheng
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

RECEIVED
APR 13 2020
WILSON OKAMOTO CORPORATION

Dear Mr. Cheng:

SUBJECT: Draft Environmental Assessment (EA)
Chapter 343, Hawaii Revised Statutes
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
1810 University Avenue - Manoa
Tax Map Key 2-8-016: 001

This is in response to your letter (received March 9, 2020), requesting comments on the Draft EA for the proposed Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center. We have reviewed the information provided and offer the following comments:

1. Traffic Review Branch: The recommendations in the Traffic Impact Report (TIR), dated February 2020, should be provided by the development. In addition to these recommendations, we have the following comments:

   a. A timeline or phasing plan of the anticipated dates to obtain major building permit(s) for demolition/construction work, including the projected date of occupancy, shall be prepared by the Applicant in a format acceptable to the Department of Planning and Permitting (DPP). The time line should identify when the construction management plan (CMP), the traffic management plan (TMP) and updates and/or validation to the findings of the initial TIR dated February 2020 will be submitted for review and approval. Typically, the CMP should be submitted for review and approval prior to the issuance of demolition/building permits for major construction work. The TMP or subsequent updates should be submitted and approved prior to the issuance of the (temporary) certificate of occupancy.

A new TIR may be required if there is a significant change to the scope or timing of the major work items contained in the initial report.

b. The CMP shall identify the type, frequency and routing of heavy trucks and construction related vehicles. Every effort shall be made to minimize impacts from these vehicles and related construction activities. The CMP should identify and limit vehicular activity related to construction to periods outside of the peak periods of traffic, utilizing alternate routes for heavy trucks, provisions for either on-site or off-site staging areas for construction related workers and vehicles to limit the use of on-street parking around the Project site and other mitigation measures related to traffic and potential neighborhood impacts. Preliminary or conceptual traffic control plans should also be included in the CMP. The Applicant shall document the condition of roadways prior to the start of construction activities and provide remedial measures, as necessary, such as restriping, road resurfacing and/or reconstruction if the condition of the roadways has deteriorated as a result of the related construction activities.

c. A TMP shall include traffic demand management (TDM) strategies to minimize the amount of vehicular trips for daily activities and/or large events. TDM strategies could include carpooling and ride sharing programs, transit, bicycle and pedestrian incentives and other similar TDM measures. A pedestrian circulation plan should also be included to provide accessibility and connectivity to the surrounding public sidewalks. Projections of pedestrian activity around the site should be reassessed. A post TMP will be required approximately one year after the issuance of the certificate of occupancy to validate the relative effectiveness of the various TDM strategies identified in the initial report. The use and operation loading areas should be assessed to assure vehicles are not queuing onto and public street. If additional traffic mitigation measures or modifications are necessary to support related traffic impacts directly attributable to this development, the Applicant will be required to implement these measures.

d. An on-site drop-off/pick-up area for the students should be considered.

e. There shall not be any loading activities on Sea View Avenue. Any loading shall be accommodated for on-site.

f. Bicycle parking or bike racks shall be provided within this Project and shall be located in a safe and convenient location.

g. Construction plans for all work within or affecting public streets should be submitted for review and approval. Traffic control plans during construction should also be submitted for review and approval, as required.

h. All vehicular access points shall be constructed as standard City dropped driveways. Adequate vehicular sight distance shall be provided and maintained at all driveways to pedestrians and other vehicles. Driveway grades shall not exceed five percent for a minimum distance of 25-feet from the property line. Entry gates and ticket dispensers should be recessed as far into the driveway as necessary to avoid any queuing onto public streets.

i. All loading and trash pick-up areas shall be designed such that vehicles enter and exit front first. Provide adequate on-site turn-around areas and ensure that the layout of parking spaces in the loading/delivery area does not interfere with turning maneuvers for large vehicles.

j. There is a 30-foot property line radii road-widening setback at the University Avenue and Sea View Avenue.

2. Building Division: Address any existing or future non-compliance with Land Use Ordinance (LUO) development standards related to:

a. The street corner at University Avenue and Sea View Avenue should show the current 30-foot corner rounding and required yards.

b. Height and Height Setbacks.

c. Parking and Loading.

d. Bicycle Parking.

e. Park Dedication.

f. Landscaping.

All proposed modifications to the LUO development standards should be clearly disclosed in the Plan Review Use (PRU) application.

3. Land Use Permit Division:

   a. The Final EA (FEA) should explain in greater detail how the proposed Project will comply with the requirements of the LUO and discuss any development standards that may need to be modified.

   b. Section 2.3 should include the time required to obtain land use and "Development Schedule" construction plan approvals.

   c. The proposal requires a Major Modification to the PRU Permit No. 2009/PRU-3 for the UH Manoa campus, approved by the City Council on March 17, 2010, as Resolution No. 09-341, CD1, FD1.

   d. The FEA should include specific proposals pertaining to the nearby bus stop, future location of a rail station and mechanisms to ensure pedestrian safety. We recommend that the Applicant keep the Department of Transportation Services and the Honolulu Authority on Rapid Transit informed and involved with the Project.

   e. The FEA should show and discuss in greater detail the proposed tree disposition, landscaping, and open space requirements and plans.

   f. The FEA should include the following conceptual plans:

      i. A site plan showing all required yards, road widening, setback and building setbacks.

      ii. Building elevations showing the building envelope including yards, height setbacks and height limits.

      All plans must include a graphic scale.

   g. Discuss how the proposed height, massing and architectural design of the proposed buildings compare to those nearby and impact neighborhood character.

   h. Discuss how the historical Charles Atherton House is impacted by the proposed site planning, massing, and architecture design of the proposed buildings.

Should you have any questions, please contact Gerald Toyomura, of our Urban Design Branch, at 768-8056.

Very truly yours,

for Kathy K. Sokugawa
Acting Director

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10490-02
May 23, 2020

Ms. Kathy Sokugawa
Acting Director
City and County of Honolulu
Department of Planning and Permitting
Planning Division
650 South King Street, 7th Floor
Honolulu, HI 96813

Subject: Draft Environmental Assessment (EA) for
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Key (TMK): [1] 2-8-016:001
Honolulu, O‘ahu, Hawai‘i

Dear Ms. Sokugawa:

Thank you for your letter dated April 7, 2020, ref: 2020/ELOG-498(GT), in response to the subject Draft EA – Anticipated Finding of No Significant Impact (DEA-AFNSI) for the Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center published in the Office of Environmental Quality Control’s March 8, 2020 issue of *The Environmental Notice*. Your participation in the EA process & review of EA documentation is welcomed and most appreciated.

We offer the following in response to your comments:

Traffic Review Branch:
It is acknowledged that the subject development will be subject to recommendations outlined within the Traffic Impact Report (Appendix C) appended to and summarized within the Draft EA (Section 3.11). Furthermore, project design, documentation, and implementation efforts including, but not limited to the development of construction management plan (CMP), and traffic management plan (TMP) efforts will conform to the requirements and comments outlined by DPP-TRB. In addition, design requirements specified by DPP-TRB will be reflected in final construction documentation submitted to DPP as the project moves forward.

Building Division:
The design of proposed project improvements at the current stage of project delivery is still very much conceptual. EA documentation clearly underscores that a major modification to the University of Hawai‘i’s existing Plan Review Use (PRU) Permit: PRU Permit No. 2009 / PRU-3 for its Mānoa Campus will be required to permit the construction of the project program outlined and evaluated herein. The requisite, forthcoming PRU Major Modification Application will provide a detailed description of the relationship of the future proposed design of the subject project improvements to Land Use Ordinance (LUO) Development Standards as pertaining to the criteria outlined in your letter.

Land Use Permits Division:
As discussed in the above response to the Building Division, the design of proposed project improvements at the current stage of project delivery is still very much conceptual. The disclosure and evaluation of anticipated environmental impacts within the subject EA is based on a conservative, programmatic project description intended to allow for some range of flexibility in project design to adapt and respond appropriately to issues raised as development efforts progress. Requisite, forthcoming PRU Major Modification documentation will be submitted to DPP which will comprehensively address the design descriptions and other details requested by the Land Use Permit Division.

In response to interest solicited from the community with regard to landscaping, the project's landscape architect presented the following narrative to preface landscape design efforts:

> The new landscape for the University of Hawaii Atherton Student Housing will be modest and fresh. A front lawn will provide an appearance of simple elegance as the foundation to this historic structure. The legacy and mature Tamarind tree (*Tamarindus indica*) will remain a feature at the corner of Metcalf Street and University Avenue.
>
> The lawn also serves as open space and a natural gathering area for the residents and students supported by simple seating areas. The lawn also functions as a natural biofilter to help cleanse pollutants from stormwater runoff before reaching the storm drains.
>
> Much of the existing assortment of peripheral mature plantings such as palms and miscellaneous trees will be preserved, removed and/or replaced to further enhance the campus environment.

It is our understanding that the University of Hawai‘i is currently engaged with DPP on an ongoing basis in conjunction with its efforts to coordinate the development of its forthcoming Long Range Development Plan Update. The University's plans to integrate multi-modal transportation efforts and initiatives will be coordinated with DPP under that effort as they are developed.

Further discussion of the anticipated impacts to the Charles Atherton House as result of the proposed project will added to Section 3.6.1 of the forthcoming Final EA, as well reflected in other forthcoming documentation to be reviewed by DPP as project design progresses.

Your letter, along with this response, will be reproduced and included in the forthcoming Final EA.

Sincerely,

Keola Cheng,
Director of Planning

cc: Kalbert Young, University of Hawai‘i
Jan Gouveia, University of Hawai‘i
Mike Lam, Hunt Moss
Lance Wilhelm, The Wilhelm Group, LLC

HISTORIC HAWAI'I FOUNDATION

680 Iwilei Road Suite 690, Honolulu HI 96817 • (808) 523-2900 • preservation@historichawaii.org • www.historichawaii.org

April 7, 2020

Jan Gouveia
Vice President for Administration
University of Hawai'i
2444 Dole Street Bachman Hall 109H Honolulu
Honolulu, Hi 96822

Via email to JGouveia@hawaii.edu

RE: Draft Environmental Assessment - Anticipated Finding of No Significant Impact (DEA-AFNSI)
University of Hawaiʻi / University of Hawaiʻi Foundation
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
TMK: (1)2-8-016-016:001

Dear Ms. Gouveia:

Historic Hawaiʻi Foundation (HHF) is providing comments under Chapter 343 of the Hawaiʻi Revised Statutes on the draft environmental assessment (DEA) and anticipated finding of no significant impact (AFNSI) for the Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center.

The proposed project plans to redevelop the existing property to a mixed use Student Housing, Innovation & Entrepreneurship Center. The project is proposed to include demolition of the Mary Atherton Richards House currently existing on the property and construction of two new buildings estimated to be six stories in height.

HHF disagrees with the Anticipated Finding of No Significant Impact and believes that it is premature and not warranted at this time.

As stated in Section 3.6.1 Historic Architecture:

> The Project Site features two buildings with historical significance, The Charles H. Atherton House and The Mary Atherton Richards House. The Charles H. Atherton House was designed in 1932 by Guy Nelson Rothwell. The Mary Atherton Richards House was designed in 1960 by Allen R. Johnson. Since construction these two building have served as key facilities for the Honolulu YMCA and the YWCA.

The project will have an effect on both historic buildings. The 1932 Charles Atherton House will be retained and adaptively reused. HHF appreciates and supports that effort.

However, the project will still affect it by demolishing the rear wings of the building and constructing a new building up to the existing building envelope, diminishing the historic character of the building by affecting its scale and massing. The 1960 Mary Atherton Richards House would be demolished completely. By definition, demolition of a historically significant resource in an adverse effect and a significant impact.

DEA Section 3.6.1 on Historic Architecture acknowledges these effects and states that mitigation measures are outlined in the Historic Resources Evaluation (Appendix B). The section states that, "preservation may include avoidance of the effect and protection, rehabilitation, restoration or reconstruction…**it may be possible to implement design modifications to the proposed plan** to minimize the adverse impacts anticipated to the historic character of the existing resources on site" (page 3-24, emphasis added).

Despite this acknowledgement of the effect and options to mitigate impacts, the proposed project does not, in fact, follow through on those options. That is, the DEA states that it is possible, but not that the project will do so.

Because the Master Plan and Environmental Assessment fail to include adequate precautionary measures and parameters to avoid adverse effects to historic properties, it is not possible to be assured that the design development will respect the historic character and be consistent with standards and guidelines for the treatment of historic properties.

Therefore, Historic Hawai'i Foundation believes that a Finding of No Significant Impact cannot be justified and is inappropriate.

HHF recommends that the project program, building and site design be revised to include the following changes to the design, height, massing and landscaping for the proposed building to minimize effects on the historic Charles H. Atherton House YMCA (1932), as described in Appendix B and included by reference in the DEA as appropriate mitigation:

1. Step back the upper floors to emphasize the historic building's base height;
2. Remove the top floor equipment screen walls to reduce the appearance of a seventh floor;
3. Remove the restaurant addition facing Metcalf Street to express the original appearance of the building's Makai end
4. Remove or renovate the existing terrace to express the original landscaping of this building corner;
5. Increase the amount of outdoor space and landscaping mauka of the Charles H. Atherton House YMCA (such as with an outdoor courtyard), to support the appearance of a freestanding building;
6. Retain the lawn in front of the Charles H. Atherton House YMCA, and the central pedestrian pathway into the front central entrance of the building;
7. Design other landscaping and hardscaping measures to soften adverse effects.

HHF also recommends that effects on the Mary Atherton Richards YMCA (1960) be minimized by retaining the front elevation along University Avenue to a depth that provides usable and active space. This front portion of the building should be integrated into the new building as an active street frontage and wrap. The new building should be stepped back from the retained portion of the historic building to retain a sense of scale and massing through mass and bulk changes.

If and when these adjustments are taken to revise the program and design, the project would be able to authentically claim to have taken measures to avoid, minimize and mitigate the effects on historic properties. However, if the design is not changed, then the effect would be adverse and could not justify a finding of no significant impact.

Thank you for the opportunity to comment. We look forward to working with the University on finding ways to protect, preserve and perpetuate these important historic properties as the planned development is modified to meet contemporary needs.

Very truly yours,

Kiersten Faulkner

Kiersten Faulkner
Executive Director

Copies via email

- Dalton Beauprez, Wilson Okamoto Corporation [DBeauprez@wilsonokamoto.com]

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10490-02
May 23, 2020

Ms. Kiersten Faulkner
Executive Director
Hawai‘i Historic Foundation
680 Iwilei Road Suite 690
Honolulu HI 96817

Subject: Draft Environmental Assessment (EA) for
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Key (TMK): [1] 2-8-016:001
Honolulu, O‘ahu, Hawai‘i

Ms. Faulkner,

Thank you for your letter dated April 7, 2020 in response to the subject Draft EA – Anticipated Finding of No Significant Impact (DEA-AFNSI) for the Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center published in the Office of Environmental Quality Control's March 8, 2020 issue of *The Environmental Notice*. Your participation in the EA process & review of EA documentation is welcomed and most appreciated.

We offer the following in response to your comments regarding Section 3.6.1 of the Draft EA which discusses Historic Architecture:

> The subject Atherton Mixed Use Student Housing & Innovation Center project is currently progressing through an iterative design review process that is typical of early, conceptual project planning at this stage of project development. Nonetheless, in alignment with the request outlined in your comment letter, the forthcoming Final Environmental Assessment (FEA-FONSI) will be revised to more clearly mandate that the eventual design of the proposed facility will conform with appropriate mitigation measures as laid out in the *Historic Resources Evaluation for Atherton Mixed Use Student Housing Environmental Assessment, University of Hawaii at Manoa, Oahu, Hawai‘i* included within the subject DEA-AFNSI as Appendix B.
>
> Specifically, final design of the Charles H. Atherton house component of the overall Atherton Mixed Use Student Housing & Innovation Center will take into consideration your comments, in particular to reflect the following:
>
> 1. Stepping back of the upper floors to emphasize the historic building's base height;
> 2. Removal of the restaurant addition facing Metcalf Street to express the original appearance of the building's Makai end; and
> 3. Renovation of the existing terrace to express the original landscaping of this building corner;
>
> Specific to your recommendations on landscaping (Item Numbers. 5-7 in your letter), we will incorporate your recommendations with feedback received from the various community

organizations and adjacent neighbors that include: a) concerns of landscaping and hardscape that is thoughtful of the surrounding community, particularly providing ease of accessibility for the retired and elderly that reside in the immediate area; b) landscaping that can lessen the project's environmental impact and c) a design that demonstrates a Hawaiian sense of place.

Similarly, with regards to your recommendation of removal of the top floor equipment screen, as the design evolves we will incorporate your recommendation along with the concerns voiced by the immediate neighbors and the community. The equipment screen was provided to address their concerns of the project's sound mitigation efforts.

The development of the proposed project will require that the existing Mary Atherton Richards House be demolished. HHF's recommendation that potential adverse effects on the Mary Atherton Richards YMCA building (1960) be mitigated by retaining the front elevation along University Avenue to a depth that provides usable and active space is acknowledged. Pursuant to ongoing consultation efforts with the Department of Land and Natural Resources - State Historic Preservation Division (DLNR-SHPD) to ensure project compliance with the requirements set forth by HRS §6E-8 (review of effect or proposed state projects), appropriate mitigation measures will be identified and implemented. It is anticipated that such mitigation measures may include, but are not limited to:

1. Retain existing open space on the University Avenue side of the Mary Atherton Richards House YWCA;
2. Perform HABS documentation of Mary Atherton Richards House YWCA.

Undertaking additional mitigation measures for the Charles H. Atherton House YMCA:

1. Perform HABS documentation of Charles H. Atherton House YMCA;
2. Restore exterior windows to original on at least the makai and University Avenue elevations of the Charles H. Atherton House YMCA building to the extent possible. (Currently, they are almost all non-historic aluminum windows with fake divided lights. Restoring the windows to be historically accurate would be a significant contribution to the building);
3. Restore the Charles H. Atherton House YMCA lobby to the extent possible.

Implementation of the mitigation measures outlined above, and as further identified through HRS §6E review as condition of final project design and construction would clearly reflect that appropriate measures are taken to avoid, minimize and mitigate potential impacts to historic properties that could result from the construction and operation of the proposed Atherton Mixed Use Student Housing & Innovation Center.

We look forward to continued collaboration with the Historic Hawai‘i Foundation to identify and innovate ways to protect, preserve and perpetuate all important historic properties as the planned development progresses through design.

As mentioned previously, your continued participation in the EA process and review of forthcoming EA documentation is very much appreciated.

Sincerely,

Keola Cheng,
Director of Planning

cc: Kalbert Young, University of Hawai‘i
Jan Gouveia, University of Hawai‘i
Mike Lam, Hunt Moss
Lance Wilhelm, The Wilhelm Group, LLC

Mālama Mānoa

P. O. Box 61961, Honolulu, HI 96839 • email: malamamanoa12@gmail.com • Ph. (808) 988-6181

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

ATTN: Atherton EA
April 8, 2020

Dear Wilson Okamoto et al,

Mālama Mānoa is a nonprofit community organization with 4.000 members which was formed in 1992. Our mission is to promote community; celebrate our cultural diversity and heritage; and preserve, protect, and enhance the special qualities of historic Mānoa Valley.

Our Mālama Mānoa board holds monthly meetings, and in early March of this year we invited Lori Lum of Watanabe Ing and Mike Lam of Hunt Companies to present revised plans and current renderings for UH's proposed project on the site of the old Atherton YMCA (corner of University Avenue and Metcalf Street).

We appreciate the outreach to Mālama Mānoa and the intention behind a UH Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center. Our members have the following priorities and concerns with respect to this development:

1. **Historic preservation of the Charles Atherton building**. Mālama Mānoa cares greatly about historic preservation of Mānoa and would like to see the original building, including its color, maintained as much as possible.

2. **Parking impact on the heavily-impacted surrounding neighborhood given number of beds (350) versus number of parking stalls (45)**. Parking is already a significant concern in the neighborhood, and we understand that multiple neighbors already need to work with the police on controlling student parking in the neighborhood. If students are present 24/7, this parking situation is likely to be significantly worse. Parking stalls should be as closely equitable as possible with the number of beds planned. We have asked if shared parking on campus is guaranteed to be formalized and the minimum number of beds possible for project viability, given any potential limitation in parking.

3. **Architectural design should be consistent with Mānoa and the Atherton building**. Mālama Mānoa members have suggested that the initial drawings were seen as too much like a hospital and not consistent with the surrounding university and valley. The proposed building is also seen by a number of residents as enormous. We would appreciate the consideration of the building's exterior material being mold-proof.

4. **Traffic should be minimized**. The University/Metcalf intersection is busy during rush hour at baseline, and traffic should be minimized to the surrounding neighbors.

5. **Trees should be maximized**. We support maintaining as many existing mature trees as possible as well as planting new native trees with large canopies. The perimeter of the property would be a natural place for these new trees.

6. **Attention to environmental impact.** We support minimizing the carbon footprint of the project and aiming for a net-zero design, including building materials that are environmentally friendly and using recycling and solar panels. Impervious surfaces should also be limited, and permeable land should be maximized.

7. **Ensure community notification in the surrounding neighborhood**. We are sensitive that many community members may lose their views of Diamond Head (i.e., residences on Vancouver Avenue and Seaside Ave), and thus request that the developers engage these residents in planning.

8. **Ensure accessibility for pedestrians, including the disabled**. The most well-traveled portions of the sidewalks should be a smooth surface to allow for safer access by handicapped persons.

Mahalo for your consideration,

Thalya DeMott
President, Mālama Mānoa

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10490-02
May 23, 2020

Ms. Thayla DeMott
President
Malama Mānoa
P.O. Box 61961
Honolulu HI 96839

Subject: Draft Environmental Assessment (EA) for
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Key (TMK): [1] 2-8-016:001
Honolulu, Oʻahu, Hawaiʻi

Ms. DeMott,

Thank you for your letter dated April 8, 2020 in response to the subject Draft EA – Anticipated Finding of No Significant Impact (DEA-AFNSI) for the Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center published in the Office of Environmental Quality Control's March 8, 2020 issue of *The Environmental Notice*. Your participation in the EA process & review of EA documentation is welcomed and most appreciated.

The Outdoor Circle's mission to promote community; celebrate our cultural diversity and heritage; and preserve, protect, and enhance the special qualities of historic Mānoa Valley is commendable and largely consistent with the aims and goals of the proposed project. We offer the following in response to your comments:

1. **Historic Preservation**: Measures will be taken to mitigate potential adverse impacts to historic resources in conjunction with the advice and guidance set forth by the State Historic Preservation Division pursuant to forthcoming HRS 6E (State of Hawaiʻi Historic Preservation Law) consultation efforts.

2. **Parking Impacts:** Parking within the surrounding neighborhood is a well-recognized issue. t is anticipated that the programming of the proposed project will seek to minimize project related demand for on-site parking inventory, and be provided for and absorbed off-site within on-campus parking inventory. From a programing standpoint, restrictions on vehicle ownership may be implemented to curtail and or minimize latent parking demand generated by project residents.

3. **Architectural Design:** As project design progresses, the design team will endeavor to promote features and themes that capture and coalesce with the surrounding university and character of the valley. Utilization of resilient building materials to keep pace with the damp environment of the site will be emphasized. Further documentation will be provided in the forthcoming PRU modification process associated with the permitting and development of the subject project.

4. **Traffic:** Existing traffic conditions are recognized under the traffic study that is included in subject EA documentation. Construction activities, per the recommendations outlined in that study, will be

regulated by a construction management plan, and a traffic management plan will also be prepared to mitigate potential traffic impacts;

5. **Landscaping:** Forthcoming PRU Modification documentation will outline further developed landscape plans for the site. The suggestions cited in your letter with regard to project landscaping, including canopy trees have been provided to the landscape design team and will be factored into future studies and design concepts;

   Preliminary thoughts from the project's landscape architect, in response, reflect the following:

   The new landscape for the University of Hawai‘i Atherton Student Housing will be modest and fresh. A front lawn will provide an appearance of simple elegance as the foundation to this historic structure. The legacy and mature Tamarind tree (*Tamarindus indica*) will remain a feature at the corner of Metcalf Street and University Avenue.

   The lawn also serves as open space and a natural gathering area for the residents and students supported by simple seating areas. The lawn also functions as a natural biofilter to help cleanse pollutants from stormwater runoff before reaching the storm drains.

   Much of the existing assortment of peripheral mature plantings such as palms and miscellaneous trees will be preserved, removed and/or replaced to further enhance the campus environment.

6. **Sustainability:** Project design efforts will continue to stress sustainability as a key factor in decision making and seek to minimize impervious surfaces on site to reduce potential run-off impacts to the environment. Further, project design efforts will also endeavor to reduce the carbon footprint of the proposed project both during construction and under operation.

7. **Community Notification:** Pursuant to the forthcoming PRU Modification effort, residents of the surrounding neighborhood will be consulted to provide input on the proposed project.

8. **Accessibility:** Project design will conform to accessibility requirements and guidelines, well-traveled areas will be designed to allow safe, easy access to handicap individuals. Further documentation will be provided in the forthcoming PRU modification process associated with the permitting and development of the subject project.

We value the work you do for the community of Mānoa. As such, we look forward to the continued collaboration with Malama Mānoa and your participation in the EA process and review of forthcoming EA documentation.

Sincerely,

Keola Cheng,
Director of Planning

cc: Kalbert Young, University of Hawai‘i
Jan Gouveia, University of Hawai‘i
Mike Lam, Hunt Development Group
Lance Wilhelm, The Wilhelm Group, LLX

April 8, 2020

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

Attn: Atherton EA

Dear Wilson Okamoto Team:

The President of our Mānoa Branch, Dr. Jeremy Lam, our Board of Directors, and I greatly appreciate the opportunity to provide feedback as a part of the Environmental Assessment process. Community engagement is essential for the success of construction projects, especially when variances are needed in single family zoned residential neighborhoods.

As you are aware, The Outdoor Circle is an environmental nonprofit organization that was founded in 1912, to keep Hawai'i clean, green and beautiful. We accomplish our mission through volunteerism, education and advocacy. Since August, the consultants for the UH Atherton project, Lori Lum of Watanabe Ing and Mike Lam of Hunt Companies, have communicated with us about the plans for the "Center of Innovation and Entrepreneurship." Our board is supportive of the concept, and we can envision how it will enhance the University of Hawai'i's PACE program. However, we have a number of serious concerns:

1.**Trees** are an integral part of our ecosystem and beautify our lovely Mānoa Valley. Planting new native trees with large canopies around the perimeter of the property would be wonderful, but that should be done in addition to saving as many of the mature trees that reside there as possible because they are sorely needed for carbon sequestration. Also, planting more trees than just a one to one replacement ratio would be ideal. How about doubling the current amount of trees, as well as including ground planting and living walls?

2. **Impervious surfaces** should be limited; too much concrete used as ground covering will emit large amounts of carbon into the atmosphere and negatively impact our watershed. Storm water will run off, exacerbating nonpoint source pollution and deprive our aquifers of fresh drinking water in the future. We implore the architects to maintain 50% of the land as permeable.

3. **Density** of student population accommodated by the dorm should be carefully considered. 184 units does not necessarily need 350 people to occupy beds. More people living together in close quarters does not seem advisable amidst the current public health crisis.

4. **Traffic** is already congested on the corner of Metcalf Street and University Avenue during the morning and afternoon rush hours.

5. **Parking** is a huge problem in the neighborhood surrounding the site. The planned number of 45 stalls for vehicles is not sufficient to satisfy the expected increase in demand.

6. **Historic preservation** of the Atherton building is important. It is regarded as a significant landmark in the community, and the building should retain its pink hue.

7. **Architectural design** of the new dorm building should echo the existing aesthetic of the Atherton building. The large, linear, white building depicted in the current drawings is perceived as clinical and monstrous.

8. **The carbon footprint** of the entire construction project should be estimated, and the architects should aim for a net-zero design, integrating environmentally friendly building materials, renewable energy sources like solar panels, and recycling.

9. **Community notification** must include the residents of of the surrounding neighborhood, not just the immediate neighbors and the Mānoa Neighborhood Board. It is foreseeable that homeowners on the streets nearby may have their view planes toward Diamond Head obstructed by the six stories of the planned structure.

Thank you for your consideration. Please know that we would be happy to collaborate with your team of consultants, the UH Foundation, the contractor, arborist, and landscape architect in the best interests of the health and wellbeing of the students, Mānoa residents, trees and watershed.

Sincerely,

Vanessa Distajo
Vice President

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10490-02
May 23, 2020

Ms. Vanessa Distajo
Vice President
Mānoa Outdoor Circle
1314 S. King Street Suite #306
Honolulu HI 96814

Subject: Draft Environmental Assessment (EA) for
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Key (TMK): [1] 2-8-016:001
Honolulu, O‘ahu, Hawai‘i

Ms. Distajo,

Thank you for your letter dated April 8, 2020 in response to the subject Draft EA – Anticipated Finding of No Significant Impact (DEA-AFNSI) for the Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center published in the Office of Environmental Quality Control’s March 8, 2020 issue of *The Environmental Notice*. Your participation in the EA process & review of EA documentation is welcomed and most appreciated.

The Outdoor Circle’s mission to keep Hawai‘i clean, green, and beautiful is commendable and largely consistent with the aims and goals of the proposed project. Your board’s support of the concept envisioned by the subject project proposal is acknowledge and appreciated, and we offer the following in response to your comments:

1. Forthcoming PRU Modification documentation will outline further developed landscape plans for the site. The suggestions cited in your letter with regard to project landscaping, including canopy trees and ground planting and living walls, have been provided to the landscape design team and will be factored into future studies and design concepts;

   Preliminary thoughts from the project’s landscape architect, in response, reflect the following:

   The new landscape for the University of Hawaii Atherton Student Housing will be modest and fresh. A front lawn will provide an appearance of simple elegance as the foundation to this historic structure. The legacy and mature Tamarind tree (*Tamarindus indica*) will remain a feature at the corner of Metcalf Street and University Avenue.

   The lawn also serves as open space and a natural gathering area for the residents and students supported by simple seating areas. The lawn also functions as a natural biofilter to help cleanse pollutants from stormwater runoff before reaching the storm drains.

   Much of the existing assortment of peripheral mature plantings such as palms and miscellaneous trees will be preserved, removed and/or replaced to further enhance the campus environment.

2. Project design efforts will seek to minimize impervious surfaces on site to reduce potential run-off impacts to the environment;

3. The programmatic density of the proposed project continues to be evaluated for appropriateness. The context of the current pandemic is being considered as design progresses;

4. Existing traffic condition is recognized under the traffic study that is included in subject EA documentation. Construction activities, per the recommendations outlined in that study, will be regulated by a construction management plan, and a traffic management plan will also be prepared to mitigate potential traffic impacts;

5. Parking within the surrounding neighborhood is a well-recognized issue. It is anticipated that the programming of the proposed project will seek to minimize project related demand for on-site parking inventory, and be provided for and absorbed off-site within on-campus parking inventory. From a programing standpoint, restrictions on vehicle ownership may be implemented to curtail and or minimize latent parking demand generated by project residents.

6. Measures will be taken to mitigate potential adverse impacts to historic resources in conjunction with the advice and guidance set forth by the State Historic Preservation Division pursuant to forthcoming HRS 6E (State of Hawai‘i Historic Preservation Law) consultation efforts;

7. Within the body of the Final EA document, mitigation measures are outlined to ensure that project design, to the extent practicable echoes the existing aesthetic and key design themes of the Charles Atherton building.

8. Project design, contracting, and construction management efforts will endeavor to reduce the carbon footprint of the proposed project both during construction and under operation following industry leading best practices, as applicable.

9. Pursuant to the forthcoming PRU Modification effort, residents of the surrounding neighborhood will be consulted to provide input on the proposed project.

We value the work you do for the community. As such, we look forward to the continued collaboration with the Outdoor Circle and your participation in the EA process and review of forthcoming EA documentation.

Sincerely,

Keola Cheng,
Director of Planning

cc: Kalbert Young, University of Hawai‘i
Jan Gouveia, University of Hawai‘i
Mike Lam, Hunt Development Group
Lance Wilhelm, The Wilhelm Group, LLC

From: Hostelling Int'l Honolulu <honoluluhostel@gmail.com>
Sent: Wednesday, April 8, 2020 2:09 PM
To: Public Comment
Subject: Atherton Y site

Wilson,

We understand that progress and teaching and learning using the innovation center is the 'new' way to prepare students for the future.

We also know that pedestrian and vehicular traffic and noise will impact the neighborhood. Will the dorm rooms be enclosed with air conditioning? Students stay up late to the 2 and 3 am and the rest of the neighborhood is sleeping.

Will our property taxes increase with this project? Or the street stalls turn to coin operated ones? What will security be like?

Look at the lessons of how to live in a community - whether it is by looking at traditional values of community and cooperation - that thread needs to be an integral part to the students' experiences.

Add in the way of life of being 'green'. Walking, skateboards, bicycles should be the cool way to get around by the students/teachers. Parking is already at a premium on all the side streets in this neighborhood.

Thank you, Sue Akau

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10490-02
May 23, 2020

Ms. Sue Akau
<honoluluhostel@gmail.com>

Subject: Draft Environmental Assessment (EA) for
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Key (TMK): [1] 2-8-016:001
Honolulu, Oʻahu, Hawaiʻi

Ms. Akau,

Thank you for your letter dated April 8, 2020 in response to the subject Draft EA – Anticipated Finding of No Significant Impact (DEA-AFNSI) for the Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center published in the Office of Environmental Quality Control's March 8, 2020 issue of *The Environmental Notice*. Your participation in the EA process & review of EA documentation is welcomed and most appreciated.

We offer the following in response to your comments:

> Your concerns regarding existing area parking and traffic conditions, noise, potential project parking demands and traffic generation, and community based sustainability. The proposed project will be subject to a comprehensive review process pursuant to the permitting requirements administered by the City and County of Honolulu's Department of Permitting and Planning (DPP). The scope and extent of anticipated permitting requirements are outlined and disclosed within the subject EA.
>
> Parking within the surrounding neighborhood is a well-recognized issue. As discussed in the subject EA, it is anticipated that the programming of the proposed project will seek to minimize project related demand for on-site parking inventory (the general population of the project will consist of students), and be provided for off-site within on-campus parking inventory. Multimodal transit alternatives will be promoted under the context of project programming and integration with the Mānoa Campus.
>
> The operation of street parking stalls within the vicinity of the project is not controlled by the project team or landowner, nor are property taxes.
>
> Projected Traffic impacts are anticipated to be minimal, existing levels of service at key intersections within the vicinity of the project are forecast to remain the same following the construction and eventual operation of the proposed project.
>
> As project design progresses, the design team will endeavor to minimize potential external noise impacts.

As mentioned previously, your continued participation in the EA process and review of forthcoming EA documentation is very much appreciated.

Sincerely,

Keola Cheng,
Director of Planning

cc: Kalbert Young, University of Hawai‘i
Jan Gouveia, University of Hawai‘i
Mike Lam, Hunt Moss
Lance Wilhelm, The Wilhelm Group, LLC

From: Paula Crabb <pcrabb@punahou.edu>
Sent: Wednesday, April 8, 2020 4:13 PM
To: Public Comment
Subject: Atherton Y Development proposed project

As an educator I understand the need for providing areas for student learning. I am opposed to the size of this project and the impact it will have to the residents of Manoa. Please consider downsizing this project. Aloha
Paula & Chris Crabb

--

Paula Crabb
Physical Education Teacher & Yoga Instructor
Physical Education | Punahou School
1601 Punahou Street, Honolulu, HI 96822
808.944.5768 |
pcrabb@punahou.edu
www.punahou.edu

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WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10490-02
May 23, 2020

Ms. Paula Crabb
<pcrabb@punahou.edu>

Subject: Draft Environmental Assessment (EA) for
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Key (TMK): [1] 2-8-016:001
Honolulu, O‘ahu, Hawai‘i

Ms. Crabb,

Thank you for your letter dated April 8, 2020 in response to the subject Draft EA – Anticipated Finding of No Significant Impact (DEA-AFNSI) for the Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center published in the Office of Environmental Quality Control’s March 8, 2020 issue of *The Environmental Notice*. Your participation in the EA process & review of EA documentation is welcomed and most appreciated.

We offer the following in response to your comments:

> Your concerns regarding the potential size of the project is acknowledged.
>
> As project design progresses, the design team will endeavor to minimize the scale of the proposed development while balancing the density necessary for it to viably achieve the purpose and need as well as the goals and objectives of the proposed action as outlined in the subject EA.

As mentioned previously, your continued participation in the EA process and review of forthcoming EA documentation is very much appreciated.

Sincerely,

Keola Cheng,
Director of Planning

cc: Kalbert Young, University of Hawai‘i
Jan Gouveia, University of Hawai‘i
Mike Lam, Hunt Moss
Lance Wilhelm, The Wilhelm Group, LLC

From: David Hu <davidhhu@gmail.com>
Sent: Wednesday, April 8, 2020 4:51 PM
To: Public Comment
Subject: Atherton Housing and Student Innovation and Entrepreneurship Center

Hi,

I'm writing to express certain concerns regarding the proposed student innovation and entrepreneurship center at the corner of University Avenue and Metcalf Street. In particular, I understand that there may be 350 beds at the proposed site, and have concerns over whether there will be sufficient parking for both the residents and participants at the center. Having grown up in lower Manoa near Mid-Pac and now owning my own home in lower Manoa near Punahou, I am acutely aware of the parking situation at the University of Hawaii (or should I say lack there of) that causes surrounding residential neighborhoods to be inundated with students and workers parking -- both legally and illegally -- on school days, which means that residents living in the neighborhood are unable to find street parking during the day once they vacate their parking stalls in the morning. If, as outlined in the plans, there will only be 40-50 parking stalls, where will all of the residents of the development park? Is it intended that parking occur in the surrounding residential neighborhood where there is already a lack of available parking? I'm not necessarily opposed to the development, it just seems that the number of parking spaces available should be commensurate with the number of beds (instead of, at best, a 1:7 ratio).

In terms of building height and footprint, a 6 to 7 story building will not fit with the character of the neighborhood. It would become the tallest building in the surrounding area with that would seem to fit in more with Waikiki or Kakaako than a suburban residential community. Just a couple of blocks from the proposed development are historic homes built in the early 1900s, and the design of this proposed development is contrary to the character of such homes. We unfortunately already have monster homes being built in the neighborhood that aesthetically detract from what makes lower a Manoa wonderful place to live, attend school and work, and this development, as currently designed, could be an additional eyesore to the history and community of local neighborhoods that many in Hawaii, including in Manoa, are trying to preserve.

I sincerely hope the parking situation will be addressed to bring it in line with what will be the demands of its residents, and the height and footprint of the building will be reconsidered such that the center will fit with the aesthetics of the community.

David Hu

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10490-02
May 23, 2020

Mr. David Hu
<davidhhu@gmail.com>

Subject: Draft Environmental Assessment (EA) for
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Key (TMK): [1] 2-8-016:001
Honolulu, Oʻahu, Hawaiʻi

Mr. Hu,

Thank you for your letter dated April 8, 2020 in response to the subject Draft EA – Anticipated Finding of No Significant Impact (DEA-AFNSI) for the Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center published in the Office of Environmental Quality Control's March 8, 2020 issue of *The Environmental Notice*. Your participation in the EA process & review of EA documentation is welcomed and most appreciated.

We offer the following in response to your comments:

> Your concerns regarding existing area parking conditions, potential project parking demands, and the height and footprint of the proposed project are acknowledged. The proposed project will be subject to a comprehensive review process pursuant to the permitting requirements administered by the City and County of Honolulu's Department of Permitting and Planning (DPP). The scope and extent of anticipated permitting requirements are outlined and disclosed within the subject EA.
>
> Parking within the surrounding neighborhood is a well-recognized issue. As discussed in the subject EA, it is anticipated that the programming of the proposed project will seek to minimize project related demand for on-site parking inventory (the general population of the project will consist of students), and be provided for off-site within on-campus parking inventory.
>
> As project design progresses, the design team will endeavor to minimize, to the extent practicable, the scale of the proposed development while balancing the density necessary for it to viably achieve the purpose and need as well as the goals and objectives of the proposed action as outlined in the subject EA.
>
> In accordance with consultation with the Department of Land and Natural Resources - State Historic Preservation Division (DLNR-SHPD) project compliance with the requirements set forth by HRS §6E-8 (review of effect or proposed state projects will ensure that appropriate mitigation measures will be identified and implemented with respect to preservation of historic resources.

As mentioned previously, your continued participation in the EA process and review of forthcoming EA documentation is very much appreciated.

Sincerely,

Keola Cheng,
Director of Planning

cc: Kalbert Young, University of Hawai‘i
Jan Gouveia, University of Hawai‘i
Mike Lam, Hunt Moss
Lance Wilhelm, The Wilhelm Group, LLC

From: Valerie Hu <valerie.nakamura@gmail.com>
Sent: Wednesday, April 8, 2020 4:46 PM
To: Public Comment
Subject: Development of Atherton YMCA Site on University Ave

Aloha e Wilson Okamoto Corporation,

I'm writing in regard to the development of the historic Atherton YMCA site in Manoa on University Avenue. I am a Manoa resident who loves the charming and peaceful neighborhood we live in. I live near the UH president's house, less than a mile from your proposed development site, and take a daily walk on Oahu Avenue and its surrounding area in lower Manoa.

While I love many aspects of my neighborhood, there are some things that take a toll on the residents of the area. One of these problems is the overabundance of UH students parking in our neighborhood spots from very early in the morning (approximately 6am) until the evening (approximately 6pm). While these are public parking spaces, it seems to me that UH doesn't have adequate parking to accommodate all of its commuting students. Being a former UH student myself, I know this to be true as I sat on the waiting list for years to get a spot on campus. Because of this on-going and pervasive parking problem, it doesn't seem logical or responsible to build a 350-bed building with only 45 parking stalls. Where do you foresee your residents parking their cars? If you are thinking it will be on the street, those parking spaces are already taken by the 6am commuters, so that is not a solution. Are you planning to give them campus parking permission? That's another problem because there's already a long waiting list. This part of the plan makes no sense.

Another problem in our area of lower Manoa is the development of monster homes. Our area is famously known for being the setting of some of the oldest and most character-rich houses on the island. More and more decade-old historic homes are being knocked down to build concrete mammoths that demolish the charm of the area. While I am aware that your new building's design is taking into account the feel of the area, no modern construction could replicate a historic landmark that has been around since 1932. Anything shiny and new will stand out as different and ill-fitting in our area, which will be an eyesore added to the poor aesthetics of the Shidler building which sits along the same street in the same area. I've seen the plans for your building that are supposed to mimic the way the original structure looks, but those rigid lines and geometric blocks of space do not camouflage your design to look like they match the original 1932 structure. To me, it looks like an oversized man-made barnacle attached to a beautiful shell.

Finally, many Manoa residents purchased their homes because of their beautiful views of Diamond Head and the city lights of Waikiki and Ala Moana. By building a 6-7 story high building, you will inevitably be blocking the view of many neighborhood residents. Do you care that you are affecting people's daily lives and happiness? What about their property value? If so, you won't build that high.

Please do not take away the beauty of one of our cherished historic landmarks. Think about our history, the community, its negative impact, and the logistics, and you'll know that this plan is not right.

Mahalo piha for considering my opinion,
Valerie

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10490-02
May 23, 2020

Ms. Valerie Hu
<valerie.nakamura@gmail.com>

Subject: Draft Environmental Assessment (EA) for
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Key (TMK): [1] 2-8-016:001
Honolulu, Oʻahu, Hawaiʻi

Ms. Hu,

Thank you for your letter dated April 8, 2020 in response to the subject Draft EA – Anticipated Finding of No Significant Impact (DEA-AFNSI) for the Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center published in the Office of Environmental Quality Control's March 8, 2020 issue of *The Environmental Notice*. Your participation in the EA process & review of EA documentation is welcomed and most appreciated.

We offer the following in response to your comments:

> Your concerns regarding existing area parking conditions, potential project parking demands, and the height and footprint of the proposed project are acknowledged. The proposed project will be subject to a comprehensive review process pursuant to the permitting requirements administered by the City and County of Honolulu's Department of Permitting and Planning (DPP). The scope and extent of anticipated permitting requirements are outlined and disclosed within the subject EA.
>
> Parking within the surrounding neighborhood is a well-recognized issue. As discussed in the subject EA, it is anticipated that the programming of the proposed project will seek to minimize project related demand for on-site parking inventory (the general population of the project will consist of students), and be provided for off-site within on-campus parking inventory.
>
> As project design progresses, the design team will endeavor to minimize the scale of the proposed development while balancing the density necessary for it to viably achieve the purpose and need as well as the goals and objectives of the proposed action as outlined in the subject EA. Consideration of proposed building massing will take into account measures to mitigate potential impacts to important view planes.
>
> In accordance with consultation with the Department of Land and Natural Resources - State Historic Preservation Division (DLNR-SHPD) project compliance with the requirements set forth by HRS §6E-8 (review of effect or proposed state projects will ensure that appropriate mitigation measures will be identified and implemented with respect to preservation of historic resources.

As mentioned previously, your continued participation in the EA process and review of forthcoming EA documentation is very much appreciated.

Sincerely,

Keola Cheng,
Director of Planning

cc: Kalbert Young, University of Hawai‘i
Jan Gouveia, University of Hawai‘i
Mike Lam, Hunt Moss
Lance Wilhelm, The Wilhelm Group, LLC

From: Elizabeth Hueu <ehueu22@gmail.com>
Sent: Tuesday, April 7, 2020 6:49 PM
To: Public Comment
Subject: ATTN: Atherton EA

Dear Sirs and Madams,

Let this email as my written public comment in regard to the Draft Environmental Impact Statement for the Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center, dated March 2020.

I am a homeowner in the neighborhood. I have been a resident in the neighborhood since 1961. I attended the University of Hawaii from 1971 to 1975 (BFA), from 1991 to 1993 (PD), from 2003 to 2008 (MEd).

I have been aware of the proposed project; however I was only recently informed of the details of the project as described in the Draft EIS. Since, the deadline for comments is tomorrow, April 8, 2020, I will respond specifically to my greatest concern which I feel has not be adequately addressed in this Draft EIS ~ PARKING.

The University of Hawaii (UH) has grown with new facilities across the mouth of the valley, as well as grown in the number of the students and staff, over the decades. Three-story halls have been replaced with six-, seven-, and eight-story buildings, as well as filling spaces in between. And yet, the only parking structure at the Quarry which is severely inadequate, is the ONLY on-campus parking.

I object to the Draft EIS limiting parking concerns to the adjacent streets of University Avenue, Seaview Rise, and Metcalf Street, and Dole Street, and Wilder. These are just the major thoroughfares. On-street parking for students and staff are already a concern on Vancouver Drive, Hunnewell Street, Hyde Street, Vancouver Place, McKinley Street, Atherton Road, Damon Street, Kakela Drive, Haena Street, Lanihuli Street, Kamehameha Avenue, Oahu Avenue.

At the beginning of very semester, I inform the Honolulu Police Department (HPD) who ticket cars which are left in the middle of intersections, beyond the no parking here to corners signs, cars which block the line of sight near the intersections. My neighbors must call HPD to ticket and tow cars left in their driveways.

Therefore, I am opposed to any and all increase in density in our neighborhood without additional parking provided for UH students and staff.

I am also opposed to the height limit of the project but purely on an aesthetic basis. I fear that allowing one project of this height off-campus will set a precedent for increasing building heights along Metcalf Street, Dole Street and Wilder Avenue. I understand zoning for student housing already exists, but none as high or as dense as this proposed housing.

Thank you for your consideration.

Respectfully submitted,

Elizabeth W. Hueu

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10490-02
May 23, 2020

Ms. Elizabeth Hueu
<ehueu22@gmail.com>

Subject: Draft Environmental Assessment (EA) for
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Key (TMK): [1] 2-8-016:001
Honolulu, Oʻahu, Hawaiʻi

Ms. Hueu,

Thank you for your letter dated April 8, 2020 in response to the subject Draft EA – Anticipated Finding of No Significant Impact (DEA-AFNSI) for the Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center published in the Office of Environmental Quality Control's March 8, 2020 issue of *The Environmental Notice*. Your participation in the EA process & review of EA documentation is welcomed and most appreciated.

We offer the following in response to your comments:

> Your concerns regarding existing area parking conditions, potential project parking demands, and the height and density of the proposed project are acknowledged. The proposed project will be subject to a comprehensive review process pursuant to the permitting requirements administered by the City and County of Honolulu's Department of Permitting and Planning (DPP). The scope and extent of anticipated permitting requirements are outlined and disclosed within the subject EA.
>
> Parking within the surrounding neighborhood is a well-recognized issue. As discussed in the subject EA, it is anticipated that the programming of the proposed project will seek to minimize project related demand for on-site parking inventory (the general population of the project will consist of students), and be provided for off-site within on-campus parking inventory.
>
> As project design progresses, the design team will endeavor to minimize the scale of the proposed development while balancing the density necessary for it to viably achieve the purpose and need as well as the goals and objectives of the proposed action as outlined in the subject EA. Consideration of proposed building massing will take into account measures to mitigate potential impacts to important view planes.

As mentioned previously, your continued participation in the EA process and review of forthcoming EA documentation is very much appreciated.

Sincerely,

Keola Cheng,
Director of Planning

cc: Kalbert Young, University of Hawai‘i
Jan Gouveia, University of Hawai‘i
Mike Lam, Hunt Moss
Lance Wilhelm, The Wilhelm Group, LLC

From: thomas nordyke <thomnmd@hotmail.com>
Sent: Monday, April 6, 2020 8:43 PM
To: Public Comment
Subject: Re: Atherton Y building development project

Subject: Atherton Y building development project

Dear Community Leaders,

It has come to my attention that there are plans to develop a monstrous building on the site of the present Atherton Y property to be used as an innovation center and dormitory.

I have no problems with the intent of the project but the sheer scale of the building, as proposed and demonstrated on the architectural drawings, is far beyond the present zoning limits and should not be allowed. The enormity of the structure is completely out of place in Manoa and the 45 parking stalls allotted for the building are grossly insufficient to meet the needs of the people living in the approximately 300 dorm units. The surrounding neighborhoods, already over-crowded with university students seeking parking each morning, will be deluged with even more itinerant people.

I strongly believe that the project needs to be scaled down and redesigned.

Thank you for your consideration.

Tom Nordyke
808-221-2824

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10490-02
May 23, 2020

Mr. Thomas Nordyke
<thomnmd@hotmail.com>

Subject: Draft Environmental Assessment (EA) for
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Key (TMK): [1] 2-8-016:001
Honolulu, O‘ahu, Hawai‘i

Mr. Nordyke,

Thank you for your letter dated April 8, 2020 in response to the subject Draft EA – Anticipated Finding of No Significant Impact (DEA-AFNSI) for the Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center published in the Office of Environmental Quality Control’s March 8, 2020 issue of *The Environmental Notice*. Your participation in the EA process & review of EA documentation is welcomed and most appreciated.

We offer the following in response to your comments:

> Your concerns regarding existing area parking and traffic conditions, as well as the scale of the proposed project are acknowledged. The proposed project will be subject to a comprehensive review process pursuant to the permitting requirements administered by the City and County of Honolulu’s Department of Permitting and Planning (DPP). The scope and extent of anticipated permitting requirements are outlined and disclosed within the subject EA.
>
> Parking within the surrounding neighborhood is a well-recognized issue. As discussed in the subject EA, it is anticipated that the programming of the proposed project will seek to minimize project related demand for on-site parking inventory (the general population of the project will consist of students rather than itinerant occupants), and be provided for off-site within on-campus parking inventory.
>
> As project design progresses, the design team will endeavor to minimize, to the extent practicable, the scale of the proposed development while balancing the density necessary for it to viably achieve the purpose and need as well as the goals and objectives of the proposed action as outlined in the subject EA. Consideration of proposed building massing will take into account measures to mitigate potential impacts to important view planes.

As mentioned previously, your continued participation in the EA process and review of forthcoming EA documentation is very much appreciated.

Sincerely,

Keola Cheng,
Director of Planning

cc: Kalbert Young, University of Hawai‘i
Jan Gouveia, University of Hawai‘i
Mike Lam, Hunt Moss
Lance Wilhelm, The Wilhelm Group, LLC

From: Mary Ellen Nordyke Grace <norgracefamily@gmail.com>
Sent: Wednesday, April 8, 2020 4:57 PM
To: Public Comment
Subject: 2020-03-08-OA-DEA Atherton Mixed Use Student Housing Innovation and Entrepreneurship

Dear sirs:

As a long-time resident of Manoa, I am concerned about the proposed project as described.

- the Mason report highlights the need to absolutely preserve the historic character of the Atherton YMCA building, without such massive development nearby in that nearby block;

- the height is out of character for the lower Manoa neighborhood;

- the traffic is already congested at the University-Metcalf intersection and should not be worsened;

- student parking already extends into the lower Manoa neighborhoods where we live and should not be exacerbated by this influx of student residents;

- Manoa is a jewel to preserve and this project is out of proportion with the treasured character of the area.

Noise, traffic, visual impacts, and historic impacts are immense.

Please reconsider and downsize this project.

With aloha,

Mary Ellen Nordyke-Grace
50+ year resident of lower Manoa

Sent from my iPhone
Mary Ellen Nordyke-Grace
808-721-7086
norgracefamily@gmail.com

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10490-02
May 23, 2020

Ms. Mary Ellen Nordyke-Grace
<norgracefamily@gmail.com>

Subject: Draft Environmental Assessment (EA) for
Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center
Tax Map Key (TMK): [1] 2-8-016:001
Honolulu, Oʻahu, Hawaiʻi

Ms. Nordyke-Grace,

Thank you for your letter dated April 8, 2020 in response to the subject Draft EA – Anticipated Finding of No Significant Impact (DEA-AFNSI) for the Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center published in the Office of Environmental Quality Control's March 8, 2020 issue of *The Environmental Notice*. Your participation in the EA process & review of EA documentation is welcomed and most appreciated.

We offer the following in response to your comments:

> Your concerns regarding existing area parking and traffic conditions, noise, potential project parking demands and traffic generation, historic resources, and the height of the proposed project are acknowledged. The proposed project will be subject to a comprehensive review process pursuant to the permitting requirements administered by the City and County of Honolulu's Department of Permitting and Planning (DPP). The scope and extent of anticipated permitting requirements are outlined and disclosed within the subject EA.
>
> Parking within the surrounding neighborhood is a well-recognized issue. As discussed in the subject EA, it is anticipated that the programming of the proposed project will seek to minimize project related demand for on-site parking inventory (the general population of the project will consist of students), and be provided for off-site within on-campus parking inventory.
>
> Projected Traffic impacts are anticipated to be minimal, existing levels of service at key intersections within the vicinity of the project are forecast to remain the same following the construction and eventual operation of the proposed project.
>
> As project design progresses, the design team will endeavor to minimize, to the extent practicable, the scale of the proposed development while balancing the density necessary for it to viably achieve the purpose and need as well as the goals and objectives of the proposed action as outlined in the subject EA. Consideration of proposed building massing will take into account measures to mitigate potential impacts to important view planes.

In accordance with consultation with the Department of Land and Natural Resources - State Historic Preservation Division (DLNR-SHPD) project compliance with the requirements set forth by HRS §6E-8 (review of effect or proposed state projects will ensure that appropriate mitigation measures will be identified and implemented with respect to preservation of historic resources.

As mentioned previously, your continued participation in the EA process and review of forthcoming EA documentation is very much appreciated.

Sincerely,

Keola Cheng,
Director of Planning

cc: Kalbert Young, University of Hawai‘i
Jan Gouveia, University of Hawai‘i
Mike Lam, Hunt Moss
Lance Wilhelm, The Wilhelm Group, LLC

Atherton Mixed Use Student Housing Innovation & Entrepreneurship Center

Final Environmental Assessment

Wilson Okamoto Corporation

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