

FILE COPY

**DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU**

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MAR 23 2021

RICK BLANGIARDI
MAYOR



J. ROGER MORTON
DIRECTOR DESIGNATE

JON Y. NOUCHI
DEPUTY DIRECTOR

TP3/21-844209

March 15, 2021

Mr. Keith Kawaoka, Acting Director
State of Hawaii, Department of Health
Office of Environmental Quality Control (OEQC)
235 South Beretania Street, Room 702
Honolulu, Hawaii 96813

Subject: Draft Environmental Assessment and Anticipated Finding of No Significant
Impact (HRS Ch. 343) for the Ala Wai Bridge Project.
Waikiki Ahupuaa, Kona Moku, Island of Oahu.
Federal-Aid Project No. TAP-0300 (159)

Dear Mr. Kawaoka:

With this letter, the City and County of Honolulu Department of Transportation Services, in partnership with Federal Highway Administration – Hawaii Division and the State of Hawaii Department of Transportation, transmits the Draft Environmental Assessment and Anticipated Finding of No Significant Impact (DEA-AFONSI HRS Ch. 343) for the proposed Ala Wai Bridge Project situated in the Ahupuaa of Waikiki, Kona Moku, on the island of Oahu for publication in the next available edition of the Environmental Notice.

Enclosed is an Adobe Acrobat PDF file of the DEA-AFONSI. All required information associated with this request for publication is being furnished via the Office of Environmental Quality Control's online form.

Should you have any questions, please contact Meredith Soniat, of my staff at 768-6682 or email at meredith.soniat@honolulu.gov.

Very truly yours,

A handwritten signature in black ink, appearing to read "J. Roger Morton".

Digitally signed by Morton,
Roger
Date: 2021.03.15 15:03:52
-10'00'

J. Roger Morton
Director Designate

Enclosure

21-136

From: webmaster@hawaii.gov
To: [HI Office of Environmental Quality Control](#)
Subject: New online submission for The Environmental Notice
Date: Tuesday, March 16, 2021 3:56:03 PM

Action Name

Ala Wai Bridge Project

Type of Document/Determination

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

HRS §343-5(a) Trigger(s)

- (1) Propose the use of state or county lands or the use of state or county funds
- (4) Propose any use within any historic site as designated in the National Register or Hawai'i Register
- (5) Propose any use within the Waikiki area of O'ahu

Judicial district

Honolulu, O'ahu

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

Numerous. (1) 2-6-015:012; 2-6-016:001, 038, 056:060; 2-6-017:024, 025, 029, 033, 034; 2-7:013:002, 011; 2-7-036:000, 001, 002, 005 through 007

Action type

Agency

Other required permits and approvals

Numerous. Section 4(f) Department of Transportation Act; Section 106 of the National Historic Preservation Act; Section 7 of the Endangered Species Act; Safe Drinking Water Act; Coastal Zone Management Federal Consistency Review; Disability and Communication Access Board Review / Approval; Clean Water Act Section 402, National Pollutant Discharge Elimination System for Stormwater Discharges Associated with Construction Activities; Air Quality Permit; State Historic Preservation Review (HRS 6E); Special District Permits; Erosion Control Plan Review; Grading, Grubbing, Stockpiling, and Excavation Permit; Street Usage Permit; Construction Plan review and approval; Noise Permit.

Proposing/determining agency

City and County of Honolulu, Department of Transportation Services

Agency contact name

Meredith Soniat

Agency contact email (for info about the action)

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Email address or URL for receiving comments

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Agency contact phone

(808) 768-6682

Agency address

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[Map It](#)

Was this submittal prepared by a consultant?

Yes

Consultant

HDR inc.

Consultant contact name

Linda Fisher

Consultant contact email

linda.fisher@hdrinc.com

Consultant contact phone

(530) 400-3212

Consultant address

1001 Bishop Street
Honolulu, Hawaii 96813
United States
[Map It](#)

Action summary

The proposed project consists of a new pedestrian and bicycle bridge that would span the historic Ala Wai Canal, improving access for people traveling by foot or by bicycle across the Ala Wai Canal between Ala Moana Boulevard and the Manoa/Palolo Stream and would connect the Waikiki, McCully, and Moiliili neighborhoods; businesses; parks; schools; and recreational activities. The proposed project is consistent with numerous regional and area plans that have been developed in the last two decades, including the Honolulu Complete Streets Program, which implements projects to improve safety, accessibility, and comfort for all people walking, bicycling, accessing transit, and driving. The proposed project is needed to provide safe and comfortable pedestrian and bicycle access across the Ala Wai Canal, improve nonmotorized emergency evacuation from Waikiki, improve travel time and convenience, improve environmental and public health, and provide affordable access.

Reasons supporting determination

The potential effects of the proposed project were evaluated based on the Significance Criteria specified in HAR Section 11-200.1-13. Discussion of the project's conformance to the HAR criteria is presented in Chapter 8 of the Draft EA. Through bridge design, impact avoidance and minimization actions, and proposed best management practices and mitigation measures, the analysis contained in the Draft EA has determined that project-related impacts would be mitigated to less than significant levels, such that the proposed project would not result in significant adverse impacts.

Attached documents (signed agency letter & EA/EIS)

- [Ala-Wai-Bridge-Draft-EA-agency-letter.pdf](#)
- [Ala-Wai-Bridge_Public-Draft-Environmental-Assessment_03162021.pdf](#)

Action location map

- [Project_Area.zip](#)

Authorized individual

Linda Fisher

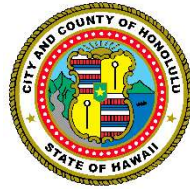
Authorization

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

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

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Very truly yours,

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Digitally signed by Morton,
Roger
Date: 2021.03.15 15:03:52
-10'00'

J. Roger Morton
Director Designate

Enclosure

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AGENCY PUBLICATION FORM

Project Name:	Ala Wai Bridge Project, Federal Aid Project No. TAP 0300 (159)
Project Short Name:	Ala Wai Bridge Project
HRS §343-5 Trigger(s):	<ul style="list-style-type: none"> Propose the use of state or county lands or the use of state or county funds, other than funds to be used for feasibility or planning studies for possible future programs or projects that the agency has not approved, adopted, or funded, or funds to be used for the acquisition of unimproved real property; provided that the agency shall consider environmental factors and available alternatives in its feasibility or planning studies; provided further that an environmental assessment for proposed uses under section 205-2(d)(11) or 205-4.5(a)(13) shall only be required pursuant to section 205-5(b); Propose any use within the Waikiki area of Oahu, the boundaries of which are delineated in the land use ordinance as amended, establishing the "Waikiki Special District" Propose any use within any historic site as designated in the National Register or Hawaii Register, as provided for in the Historic Preservation Act of 1966, Public Law 89-665, or chapter 6E
Island(s):	Oahu
Judicial District(s):	Honolulu
TMK(s):	[1] 2-6-015:012; 2-6-016:001, 038, 056 through 060; 2-6-017:024, 025, 029, 033, 034; 2-7:013:002, 011; 2-7-036:000, 001, 002, 005 through 007
Permit(s)/Approval(s):	Section 4(f) Department of Transportation Act; Section 106 of the National Historic Preservation Act; Section 7 of the Endangered Species Act; Safe Drinking Water Act; Coastal Zone Management Federal Consistency Review; Disability and Communication Access Board Review / Approval; Clean Water Act Section 402, National Pollutant Discharge Elimination System for Stormwater Discharges Associated with Construction Activities; Air Quality Permit; State Historic Preservation Review (HRS 6E); Special District Permits; Erosion Control Plan Review; Grading, Grubbing, Stockpiling, and Excavation Permit; Street Usage Permit; Construction Plan review and approval; Noise Permit.
Proposing/Determining Agency:	City and County of Honolulu (CCH) Department of Transportation Services (DTS)
Contact Name, Email, Telephone, Address	Meredith Soniat Email: Meredith.soniat@honolulu.gov Telephone: (808) 768-6682 Address: 650 South King Street, 3 rd Floor, Honolulu, Hawaii 96813
Accepting Authority:	(for EIS submittals only)
Contact Name, Email, Telephone, Address	N/A
Consultant:	HDR Inc.
Contact Name, Email, Telephone, Address	Linda Fisher Email: linda.fisher@hdrinc.com Telephone: (530) 400-3212 Address: 1001 Bishop Street, Honolulu, Hawaii, 96813-3429

Status (select one)
☒ X DEA-AFNSI

☐ FEA-FONSI
Submittal Requirements

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

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

<input type="checkbox"/> FEA-EISPN	Submit 1) the proposing agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; a 30-day comment period follows from the date of publication in the Notice.
<input type="checkbox"/> Act 172-12 EISPN ("Direct to EIS")	Submit 1) the proposing agency notice of determination letter on agency letterhead and 2) this completed OEQC publication form as a Word file; no EA is required and a 30-day comment period follows from the date of publication in the Notice.
<input type="checkbox"/> DEIS	Submit 1) a transmittal letter to the OEQC and to the accepting authority, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEIS, 4) a searchable PDF of the DEIS, and 5) a searchable PDF of the distribution list; a 45-day comment period follows from the date of publication in the Notice.
<input type="checkbox"/> FEIS	Submit 1) a transmittal letter to the OEQC and to the accepting authority, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEIS, 4) a searchable PDF of the FEIS, and 5) a searchable PDF of the distribution list; no comment period follows from publication in the Notice.
<input type="checkbox"/> FEIS Acceptance Determination	The accepting authority simultaneously transmits to both the OEQC and the proposing agency a letter of its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS; no comment period ensues upon publication in the Notice.
<input type="checkbox"/> FEIS Statutory Acceptance	Timely statutory acceptance of the FEIS under Section 343-5(c), HRS, is not applicable to agency actions.
<input type="checkbox"/> Supplemental EIS Determination	The accepting authority simultaneously transmits its notice to both the proposing agency and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that a supplemental EIS is or is not required; no EA is required and no comment period ensues upon publication in the Notice.
<input type="checkbox"/> Withdrawal	Identify the specific document(s) to withdraw and explain in the project summary section.
<input type="checkbox"/> Other	Contact the OEQC if your action is not one of the above items.

Project Summary

The proposed project consists of a new pedestrian and bicycle bridge that would span the historic Ala Wai Canal, improving access for people traveling by foot or by bicycle across the Ala Wai Canal between Ala Moana Boulevard and the Manoa/Palolo Stream and would connect the Waikiki, McCully, and Moiliili neighborhoods; businesses; parks; schools; and recreational activities. The project's goal is to improve multimodal network connectivity and enhance public safety for people walking and bicycling. The proposed project is consistent with numerous regional and area plans that have been developed in the last two decades, particularly fulfilling part of the broader Honolulu Complete Streets Program, which implements projects to improve safety, accessibility, and comfort for all people walking, bicycling, accessing transit, and driving.

The proposed project is needed to provide safe and comfortable pedestrian and bicycle access across the Ala Wai Canal, improve nonmotorized emergency evacuation from Waikiki, provide Complete Streets connectivity, improve travel time and convenience, improve environmental and public health, and provide affordable access.

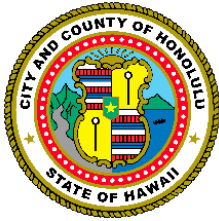
DRAFT ENVIRONMENTAL ASSESSMENT

Ala Wai Bridge Project Honolulu District, Oahu Island, Hawaii

Contract No. SC-DTS-1900086

Federal-Aid Project No. TAP-0300 (159)

Submitted Pursuant to Hawaii Revised Statutes, Chapter 343
and National Environmental Policy Act



City and County of Honolulu,
Department of Transportation
Services
650 S. King St., 3rd Floor, Honolulu,
HI 96813



State of Hawaii, Department of
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U.S. Department of
Transportation Federal
Highway Administration

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U.S. Department of Transportation, Federal Highway Administration, Hawaii Division;
Hawaii Department of Transportation;
and
City and County of Honolulu, Department of Transportation Services

DRAFT ENVIRONMENTAL ASSESSMENT

Submitted Pursuant to:

(Federal) 42 U.S.C. 4332(2)(c)
(State) Chapter 343, Hawaii Revised Statutes

for

Ala Wai Bridge Project
Federal-Aid Project No. TAP-0300(159)
Honolulu, HI



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J. Roger Morton, Director Designate
City and County of Honolulu, Department of Transportation Services

March 15, 2021

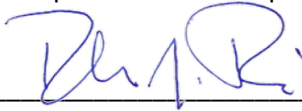
Date



Jade T. Butay, Director of Transportation
Hawaii Department of Transportation

Mar 16, 2021

Date



Ralph Rizzo, Division Administrator
Federal Highway Administration, Hawaii Division

March 16, 2021

Date

Additional information may be obtained from the following individuals:

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U.S. Department of Transportation, Federal Highway Administration, Hawaii Division;
Hawaii Department of Transportation;
and
City and County of Honolulu, Department of Transportation Services

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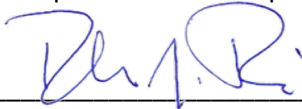
Date



Jade T. Butay, Director of Transportation
Hawaii Department of Transportation

Mar 16, 2021

Date



Ralph Rizzo, Division Administrator
Federal Highway Administration, Hawaii Division

March 16, 2021

Date

Additional information may be obtained from the following individuals:

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Acronyms and Abbreviations

AAQS	Ambient Air Quality Standards	DPR	City and County of Honolulu Department of Parks and Recreation
ACM	Asbestos-containing Material		
ACS	American Community Survey	DTS	City and County of Honolulu Department of Transportation Services
ADA	Americans with Disabilities Act		
APE	Area of Potential Effects	EA	environmental assessment
APPR	Advanced Project Planning Report	EFH	Essential Fish Habitat
BLNR	Board of Land and Natural Resources	EIS	environmental impact statement
BMP	best management practice	ENV	City and County of Honolulu Department of Environmental Services
BWS	City and County of Honolulu Board of Water Supply		
CAA	Clean Air Act	EPA	United States Environmental Protection Agency
CCH	City and County of Honolulu	ESA	Endangered Species Act
CE	categorical exclusion	F	Fahrenheit
CEQ	Council on Environmental Quality	FEMA	Federal Emergency Management Agency
CFR	Code of Federal Regulations	FHWA	Federal Highway Administration
CIA	Cultural Impact Assessment	FIRM	Flood Insurance Rate Map
CIP	cast-in-place	FONSI	Finding of No Significant Impact
CCH	City and County of Honolulu	FWPCA	Federal Water Pollution Control Act
cm	centimeters	GHG	greenhouse gas
CO	carbon monoxide	GWP	global warming potential
CO ₂	carbon dioxide	H ₂ S	hydrogen sulfide
CPTED	Crime Prevention Through Environmental Design	HAR	Hawaii Administrative Rules
CWA	Clean Water Act	HDOH	State of Hawaii Department of Health
CWB	Clean Water Branch	HDOT	State of Hawaii Department of Transportation
CZM	Coastal Zone Management	HECO	Hawaiian Electric Company
CZMA	Coastal Zone Management Act	HFD	Honolulu Fire Department
CZMP	Coastal Zone Management Program	HPD	Honolulu Police Department
dBA	A-weighted decibel	HRS	Hawaii Revised Statutes
DBEDT	State of Hawaii Department of Business, Economic Development, and Tourism	KIA	Kawaihapai clay loam
DDC	City and County of Hawaii Department of Design and Construction	kV	kilovolt
DFM	City and County of Honolulu Department of Facility Maintenance	LCA	Land Commission Award
DLNR	State of Hawaii Department of Land and Natural Resources	LUO	City and County of Honolulu Land Use Ordinance
DP	development plan	MASON	Mason Architects, Inc.
DPP	City and County of Honolulu Department of Planning and Permitting	mgd	million gallons per day
		MOA	Memorandum of Agreement
		mph	miles per hour
		MPO	Oahu Metropolitan Planning Organization
		msl	mean sea level

NAAQS	National Ambient Air Quality Standards	SHPD	State Historic Preservation Division
NEPA	National Environmental Policy Act	SHPO	State Historic Preservation Officer
NHPA	National Historic Preservation Act	SIHP	State Inventory of Historic Places
NMFS	National Marine Fisheries Service	SLR	sea level rise
NO ₂	nitrogen dioxide	SO ₂	sulfur dioxide
NO _x	nitrogen oxide	SO _x	sulfur oxide
NPDES	National Pollutant Discharge Elimination System	SWPPP	Stormwater Pollution Prevention Plan
NRCS	Natural Resources Conservation Service	TMD	Transportation Mobility Division
NRHP	National Register of Historical Places	UH	University of Hawaii
O ₃	ozone	USACE	U.S. Army Corps of Engineers
OahuMPO	Oahu Metropolitan Planning Organization	USC	United States Code
ORTP2040	Oahu Regional Transportation Plan	USDA	United States Department of Agriculture
Pb	lead	USFWS	United States Fish and Wildlife Service
PM _{2.5}	fine particulate matter, 2.5 microns (size) or smaller	VIA	Visual Impact Assessment
PM ₁₀	particulate matter, 10 microns (size) or smaller	VOC	volatile organic compound
PUC	primary urban center	WQC	water quality certification
ROG	reactive organic gas		
ROH	Revised Ordinances of Honolulu		
ROW	right(s)-of-way		
SDWA	Safe Drinking Water Act		

1 Introduction

1.1 Proposing Agency and Action

The City and County of Honolulu (CCH) Department of Transportation Services (DTS), in partnership with the State of Hawaii Department of Transportation (HDOT) and the Federal Highway Administration (FHWA), is proposing a new pedestrian and bicycle bridge over the Ala Wai Canal on the Island of Oahu. This Environmental Assessment (EA) has been prepared in compliance with Hawaii Revised Statutes (HRS) Chapter 343, with CCH DTS as the proposing agency, and the National Environmental Policy Act (NEPA), with FHWA as the lead federal agency.

The proposed project would span the historic Ala Wai Canal, improving access for people traveling by foot or by bicycle across the Ala Wai Canal between Ala Moana Boulevard and the Manoa/Palolo Stream and would connect the Waikiki, McCully, and Moiliili neighborhoods; businesses; parks; schools; and recreational activities. The proposed project is consistent with numerous regional and area plans that have been developed in the last two decades, particularly fulfilling part of the broader Honolulu Complete Streets Program, which implements projects to improve safety, accessibility, and comfort for all people walking, bicycling, accessing transit, and driving.

The federal share of project funding is 80 percent, and CCH DTS is providing a required 20 percent match. The proposed project is currently programmed in the Oahu Metropolitan Planning Organization (OahuMPO) Transportation Improvement Program for federal fiscal years 2020, 2021, 2022, 2023, and 2024.

1.2 Purpose of the Environmental Assessment

This Draft EA has been prepared to comply with both HRS Chapter 343 and NEPA in determining whether the proposed action would have significant adverse effects on the human environment.

As stated above, the proposed action would be largely funded by FHWA; this federal funding subjects the project to the environmental review requirements of NEPA, prescribed under 40 Code of Federal Regulations (CFR) Parts 1500 to 1508 (Council on Environmental Quality [CEQ]). FHWA serves as the lead federal agency, responsible for the project's compliance with NEPA documentation and processing requirements, as provided in 23 CFR Part 771, Environmental Impact and Related Procedures.

The proposed action also requires a local funding match through CCH DTS and, as a result, this local funding subjects the project to the environmental review requirements of HRS Chapter 343 and Hawaii Administrative Rules (HAR), Title 11, Chapter 200.1, Environmental Impact Statement (EIS) Rules, and other environmental compliance requirements. HRS Chapter 343 outlines statutory “trigger” conditions, which are specific instances when a proposing or approving agency must prepare an EA. In accordance with HRS Chapter 343, Section 5, the proposed action includes the following trigger that requires the preparation of an EA.

Propose the use of state or county lands or the use of state or county funds.

Under HRS Chapter 343, agency actions or government actions are carried out by the proposing agency. The proposing agency is responsible for preparing the EA and defining the reasons to support the determination on the EA. For the proposed action, CCH DTS is the proposing agency.

The environmental review conducted in support of this Joint Draft EA, and the comments received in response to it, will help decision makers consider the potential environmental effects of the project before deciding how to proceed. The Draft EA process provides the public, affected landowners, agencies, and interested Native Hawaiian organizations with an opportunity to review potential project effects and solicits constructive comments that could help CCH DTS and HDOT/FHWA refine the project design to minimize these effects.

1.3 Project Purpose and Need

1.3.1 Purpose

The purpose of the proposed project is to provide safe access for people traveling by foot or by bicycle across the Ala Wai Canal between Ala Moana Boulevard and the Manoa/Palolo Stream. The project's goal is to improve multimodal network connectivity and enhance public safety for people walking and bicycling.

As mentioned above, the project would implement the recommendations and policy guidance of the following regional and area plans: *Oahu Bike Plan Update* (2019), *Oahu Regional Transportation Plan 2040* (2016), *Honolulu Complete Streets Design Manual* (2016), *Statewide Pedestrian Master Plan* (2013), *Waikiki Regional Circulator Study* (2013), *City and State Complete Streets Policies* (2009 and 2012), *Primary Urban Center Development Plan* (2004), *Bike Plan Hawaii* (2003), and *Waikiki Transportation Plan* (1972).

1.3.2 Need

The proposed project is needed to provide safe and comfortable pedestrian and bicycle access across the Ala Wai Canal, improve nonmotorized emergency evacuation from Waikiki, provide Complete Streets connectivity, improve travel time and convenience, improve environmental and public health, establish a vibrant canal, and provide affordable access, as described below.

Safety from Traffic

Travel time, safety, and convenience were the top three priorities cited by respondents to a 2018 origin-destination survey, regarding making the decision to walk or bicycle across the Ala Wai Canal (CCH 2018). A history of collisions involving people walking and bicycling on and near existing canal crossings indicates the need for an additional safe, comfortable, convenient crossing of the canal that reduces the travel time and exposure for people walking and bicycling. Between 2012 and 2016, 17 car collisions involving people walking and bicycling were reported on the existing bridges (OahuMPO 2018).

Survey respondents agreed that existing bridges over the canal are congested (79 percent) (CCH 2018). Consistent with the Complete Streets Objective 1 to improve safety (CCH 2012), respondents who bicycle, walk, or ride scooters strongly agreed that the existing facilities are unsafe (76 percent), uncomfortable (65 percent), and out of the way (67 percent).

Improved Nonmotorized Emergency Evacuation and Public Safety

All existing evacuation routes out of Waikiki rely on three existing vehicle bridges (Ala Moana Boulevard, McCully Street, and Kalakaua Avenue) concentrated in the west end of the neighborhood and a narrow land connection to Kapahulu on the east end of the neighborhood. Waikiki hosts 32,000 regular employees and four (4) million visitors annually. Evacuation options by foot and by bicycle for both residents and tourists are imperative in the event of a tsunami or emergency. A new walking and bicycling connection crossing the Ala Wai Canal can serve as an alternative evacuation route out of Waikiki in the event of an emergency. In addition, per the United States Army Corps of Engineers (USACE) Ala Wai Canal Flood Risk Management Project, during future flood events the existing vehicle bridges over the Ala Wai may be impacted and may not be reliable, further reinforcing the need for a new, safe emergency evacuation route and bridge over the Ala Wai Canal (USACE 2017).

The Ala Wai Canal was constructed to serve as a drainage canal for the entire Ala Wai Watershed (approximately 1,358 acres). Therefore, the project must maintain the effectiveness of the drainage and flood control system through keeping unobstructed flow. As a function of coordinating the proposed project with other currently planned projects on the Ala Wai Canal, CCH was made aware of the USACE Flood Risk Management Project for the Ala Wai Canal. In order to protect the lands adjacent to the canal from a catastrophic 100-year flood event, the USACE intends to enhance the canal's capacity in the future. To increase the canal capacity, the canal will be dredged to remove sediment deposits, and a combination of floodwalls and levees are being planned for both sides of the Ala Wai Canal as part of a separate USACE project. During the proposed project planning and coordination effort, the USACE advised CCH that the USACE's hydrology model would not be able to accommodate any physical structures in the canal. The USACE also provided CCH with a minimum 100-year flood water elevation of 11.3 feet above mean sea level (msl) that the proposed bridge would need to clear vertically, in order to convey flood waters in the canal properly during a 100-year flood event. Based on these requirements from the USACE, the proposed project needs to clear span the Ala Wai Canal thereby avoiding any obstruction to the flow of flood waters through the drainage canal. Furthermore, incorporating the USACE's flood risk management requirements and sea level rise (SLR) resiliency into the proposed project helps ensure the aforementioned nonmotorized evacuation outlet and public safety is maintained in the event of emergency.

Complete Streets Connectivity

The Ala Wai Canal was identified by the 2013 Waikiki Regional Circulator Study as a barrier in Honolulu's multimodal transportation network between McCully Street and Kapahulu Avenue. It decreases pedestrian and bicycle connectivity between the Waikiki

and McCully-Moiliili neighborhoods. In line with the Complete Streets Objectives 3 and 4 to protect and promote accessibility and mobility for all and to balance the needs and comfort of all users (CCH 2012), over half of the survey respondents indicated “lack of connections” and “poor infrastructure” as barriers that prevented them from bicycling or walking more often across the canal (CCH 2018).

Travel Time and Convenience

The 2018 survey (CCH 2018) indicated that travel time and convenience are key factors influencing people’s travel decisions: 75 percent of people responding to the survey identified travel time as a top travel priority, and 57 percent selected convenience.

The 2018 survey indicated that people walking and bicycling represent 65 percent of travelers who cross the canal most frequently (several times a day) (CCH 2018). There is currently no direct connection for people walking and bicycling that would support Honolulu’s progress toward the Complete Streets Objective 7, which encourages opportunities for physical activity (CCH 2012). Furthermore, the lack of comfort and convenience of active travel modes decreases public health because there is a limited number of people walking and bicycling over the canal, which is in line with lower levels of physical activity, chronic disease, and obesity.

The areas within convenient walking and bicycling distances of central Waikiki, which the new crossing over the Ala Wai Canal would serve, host 96,000 residents, 87,000 employees, and 23,000 students (United States Census Bureau 2010). The appearance and experience of the canal plays a role in not only the quality of life of these surrounding areas but also in Waikiki’s role as a world-class destination attracting four (4) million visitors annually (DLNR 2013). Bolstering the economic vibrancy and environmental vitality of the Ala Wai Canal with quicker, attractive access to destinations and public spaces would enhance the canal as a regional destination.

Affordable Access

Upwards of 25 percent of Waikiki, McCully, and Moiliili residents do not own a car and regularly commute by means other than a private automobile (OahuMPO 2018). Additionally, these neighborhoods are home to relatively high proportions of transportation marginalized residents, with 17 percent of residents over 65 years of age and seven (7) percent of households living under the poverty level (United States Census Bureau 2010). In Hawaii, the poverty level for a family of three is \$23,900. With housing costs averaging 36 percent of income, and transportation costs accounting for 14 percent of income, many low-income Honolulu residents experience affordability challenges (Bureau of Labor Statistics 2020). Increasing the convenience and comfort of walking and bicycling for residents around the canal provides lower-cost transportation options for people who would benefit the most and are most likely to walk or bicycle.

2 Description of the Proposed Action and Alternatives

2.1 Location and Land Use

The project would span the Ala Wai Canal on the Island of Oahu in Honolulu's district of Waikiki. The Ala Wai Canal is a human-made waterway that forms the boundary of the Waikiki district and is approximately two (2) miles long. The canal separates Waikiki from the McCully, Moiliili, and Ala Moana neighborhoods. The project area is zoned as part of Waikiki Special District, according to the Revised Ordinances of Honolulu (ROH) Chapter 21 Land Use Ordinance (LUO). The proposed bridge alignment would span the canal, connecting to University Avenue mauka (mountain side) of the canal and to Kalaimoku Street makai (ocean side) of the canal (see Figure 2-1).

The existing conditions along the makai side of the proposed alignment consist of the Ala Wai Canal Promenade and Ala Wai Boulevard. The promenade is considered a part of the Ala Wai Boulevard right-of-way (ROW) and is owned by CCH. Maintenance along the promenade is performed by the CCH Department of Facility Maintenance. Repairs and maintenance to the Ala Wai Canal wall are the responsibility of the State of Hawaii Department of Land and Natural Resources (DLNR). Frequented by pedestrians, commuters, and tourists, the promenade connects from Kapahulu Avenue to Ala Moana Boulevard. The promenade is approximately 30 feet wide from the top edge of the canal wall to the outside edge of the existing bicycle lane. It includes adjacent landscaping and parking lane.

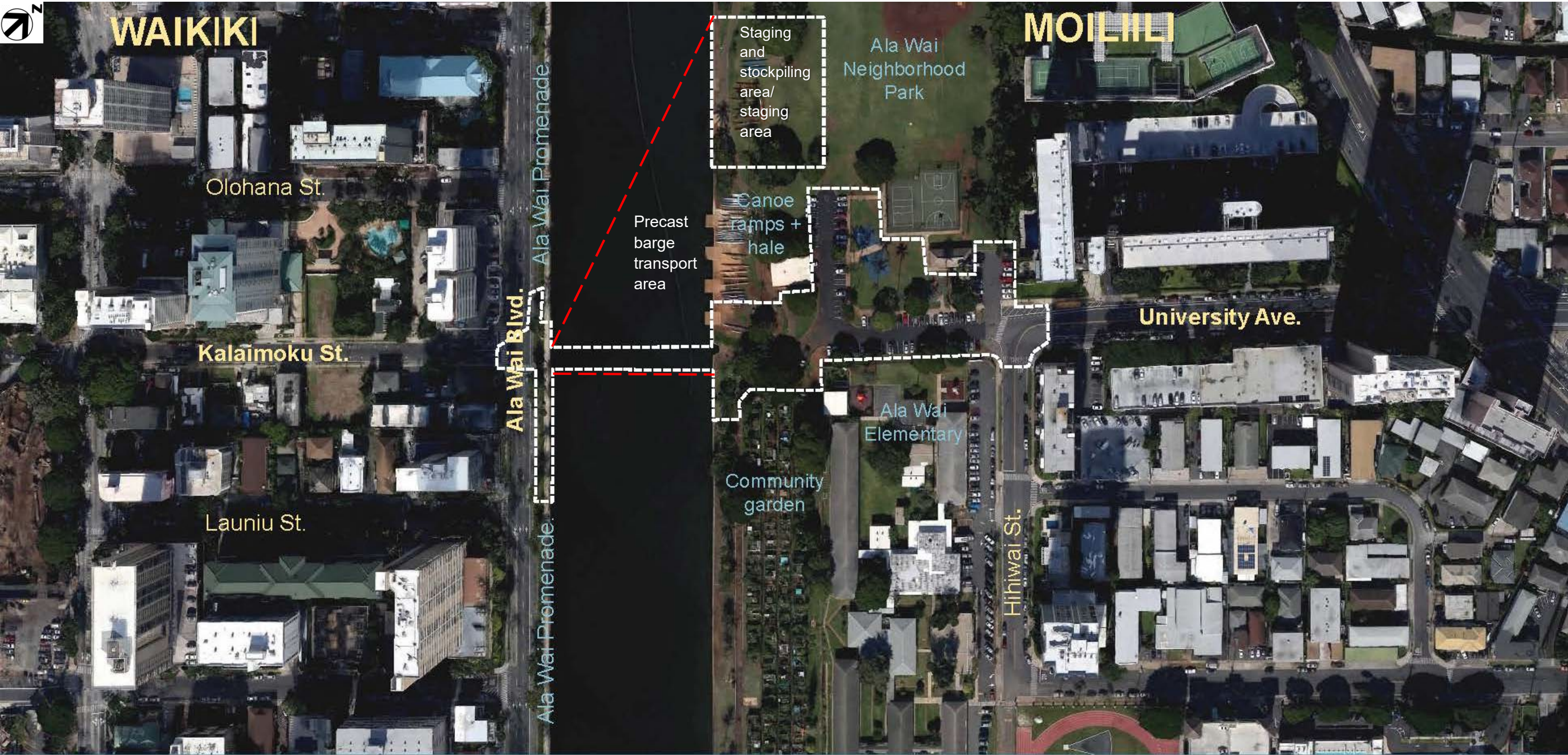
The existing conditions along the mauka side of the proposed alignment consist of the Ala Wai Neighborhood Park and Ala Wai Elementary School. The Ala Wai Neighborhood Park is owned by DLNR and managed by the CCH Department of Parks and Recreation. Within the Ala Wai Neighborhood Park, the Ala Wai Community Garden, canoe clubhouse and launch ramps, multiuse path, and parking lot currently exist in the vicinity of the proposed mauka bridge landing. Park users include the community gardeners, paddlers, sports groups, and school groups in addition to area residents and park visitors.

Existing utilities at the proposed University-Kalaimoku alignment include the following.

- 42-inch force main parallel to Ala Wai Boulevard (makai)
- Stormwater culvert aligned with Kalaimoku Street (makai)
- Traffic signals and transformer at Kalaimoku intersection (makai)
- Hawaiian Electric Company (HECO) duct lines parallel to Ala Wai Boulevard (makai)
- 72-inch force main parallel to Ala Wai Community Park (mauka)
- Park lights and transformer near Ala Wai Community Park multiuse path (mauka)
- Stormwater culvert aligned with University Avenue (mauka)
- HECO 46 kilovolt (kV) sub-transmission duct line aligned with University Avenue (mauka)

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Figure 2-1. Project Area



Project Area
(outlined in white)

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2.2 Description of the Proposed Action

2.2.1 Proposed Action Overview

The proposed bridge would span the historic Ala Wai Canal, which was added to the Hawaii Register of Historic Places in 1992. The proposed action involves construction of a new pedestrian and bicycle bridge that would connect the Waikiki, McCully, and Moiliili neighborhoods; businesses; parks; schools; and recreational activities. The project also includes a pedestrian and bicycle connection to University Avenue and improvements to a parking lot mauka of the canal. The site plan, which includes the project area and these project components, is provided in Figure 2-2. The proposed bridge is a cable-stayed design with an asymmetric configuration that uses a main concrete tower sited on the mauka side of the canal. Lighting would be incorporated on the bridge deck, cables, and bridge design features. The tower would include facets designed to reduce wind loads and create shadows based on the time of year and atmospheric condition. The bridge would be approximately 20 feet wide to accommodate people walking and bicycling. A rendering of the bridge from an aerial view is presented in Figure 2-3; the bridge plan is provided in Figure 2-4.

2.2.2 Makai Ramp and Abutment

Makai of the canal, the proposed action would involve improvements to the Ala Wai Canal Promenade to accommodate the makai bridge access ramp, designed to meet Americans with Disabilities Act (ADA) requirements. As such, the makai approach ramp structure would be approximately 16 feet wide and would have a slope of less than five (5) percent. The makai ramp is designed to cantilever out over the existing floodwall from a wall supported on secant piles. The makai abutment would be supported on two shafts, approximately four (4) feet in diameter and drilled approximately 80 feet deep. As the concrete is poured into the shafts, the groundwater would be pumped out and into a tanker truck, where it would be hauled off site for processing. The design of the makai ramp and sections is presented in Figure 2-5.

2.2.3 Mauka Ramp, Abutment, Tower, and Multiuse Path Connections

On the mauka end of the bridge, the 180-foot tower would straddle a cast-in-place deck that would cantilever over the existing canal wall. The first precast deck segment would connect to the end of the cast-in-place cantilevered slab. The mauka tower itself is expected to be cast-in-place concrete that would be cast in formwork to provide the desired aesthetic appearance. The tower would have openings blocked out of the wings that would be oriented in a radial fashion. The mauka abutment and tower would be supported on six 6-foot-diameter shafts, drilled approximately 100 feet into the ground. As the concrete is poured into the shafts, the groundwater would be pumped out into a tanker truck, where it would be hauled off site for processing. The mauka ramp, also referred to as the mauka landing, would include a connection to the existing Ala Wai multiuse path (see Figure 2-6). The mauka ramp would be constructed of concrete and would be supported on the backspan of the bridge. Minimal excavation would be required for the ramp foundations.

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Figure 2-2. Site Plan

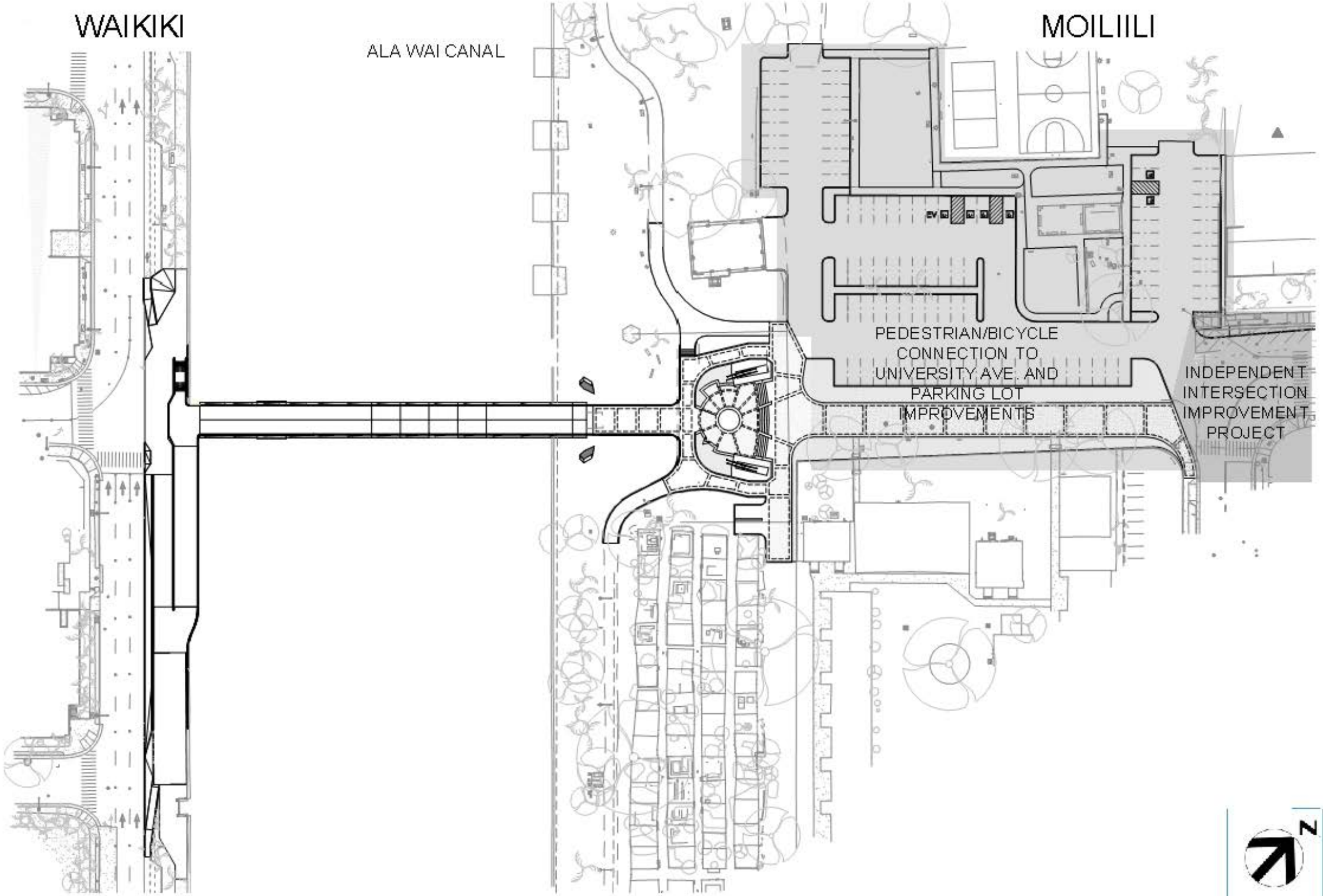


Figure 2-3. Aerial View of Bridge

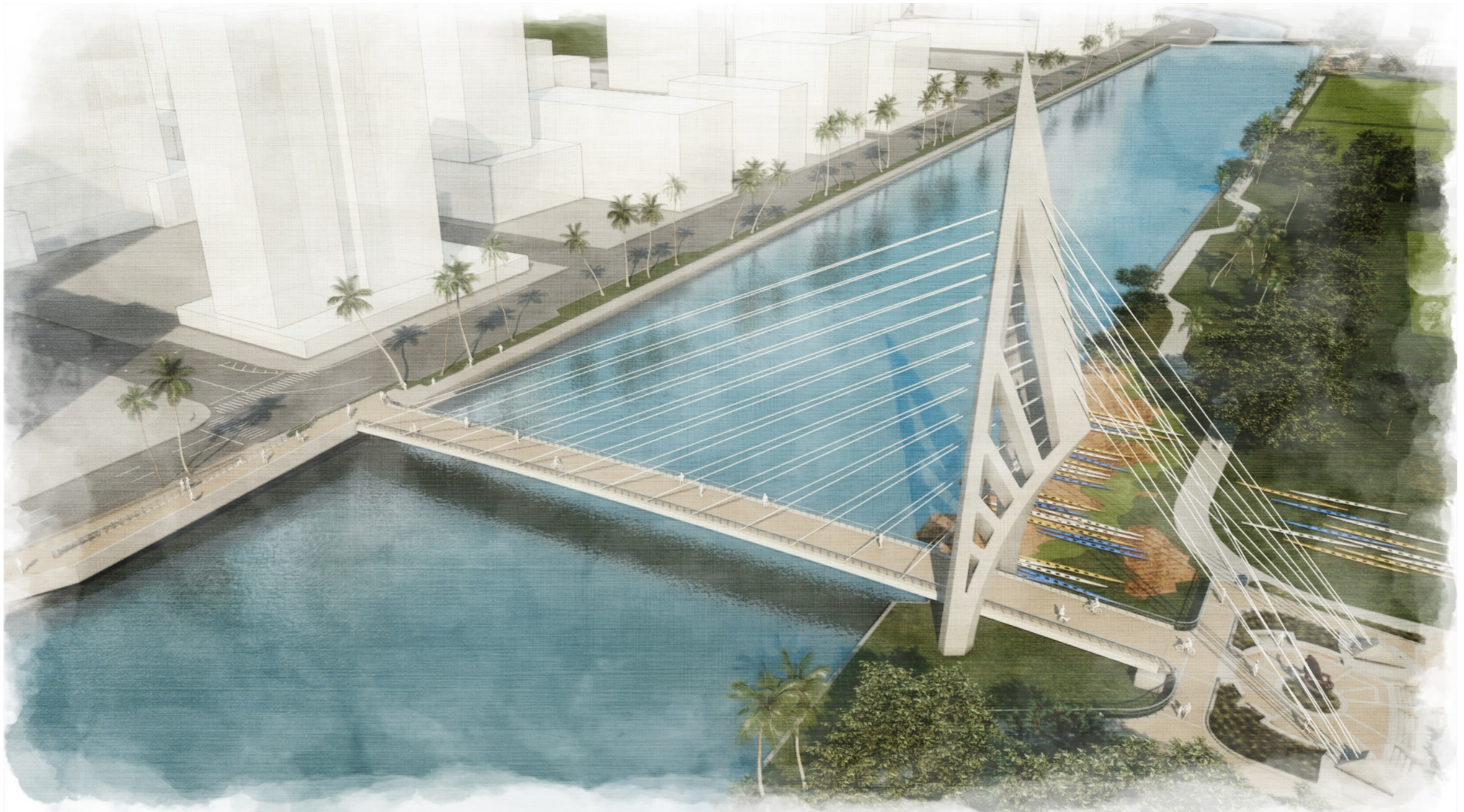


Figure 2-4. Bridge Plan

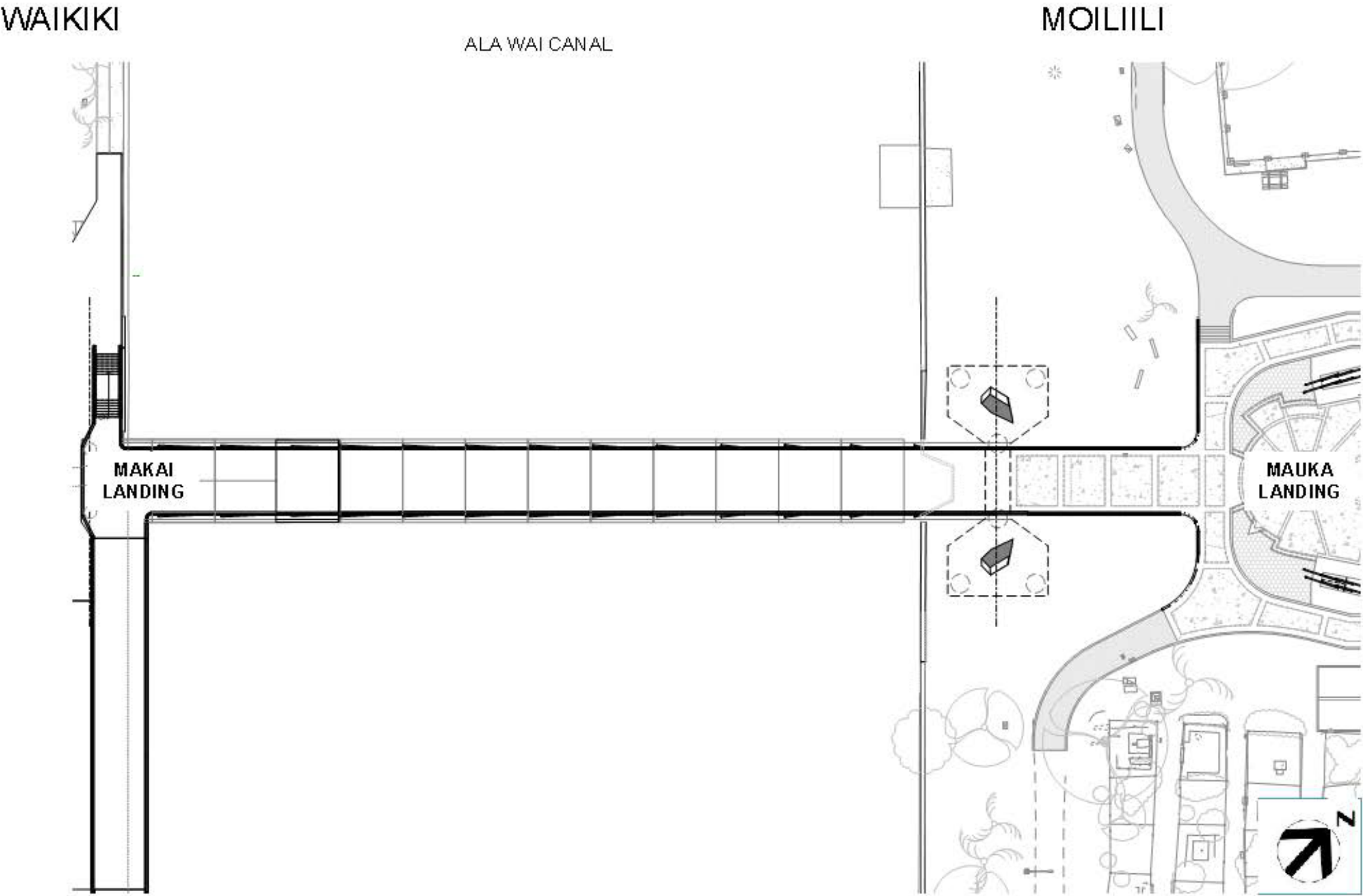


Figure 2-5. Makai Ramp and Sections

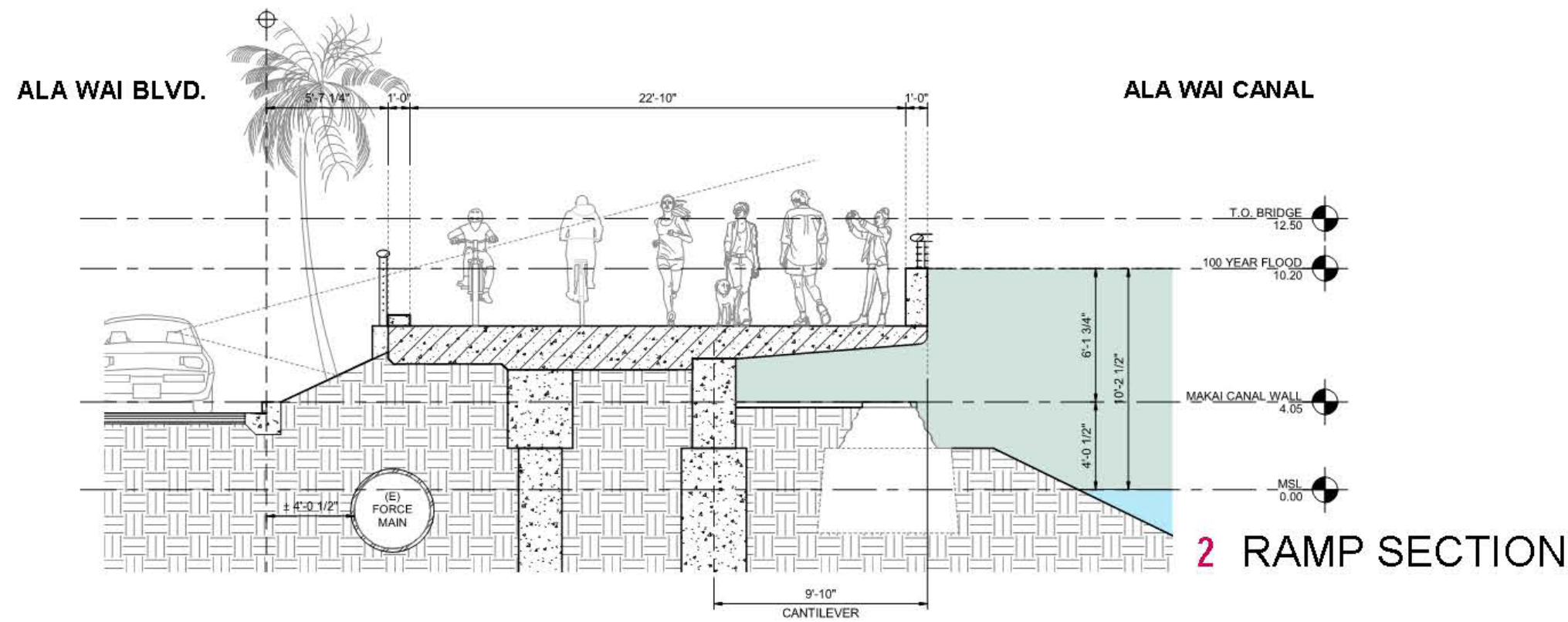
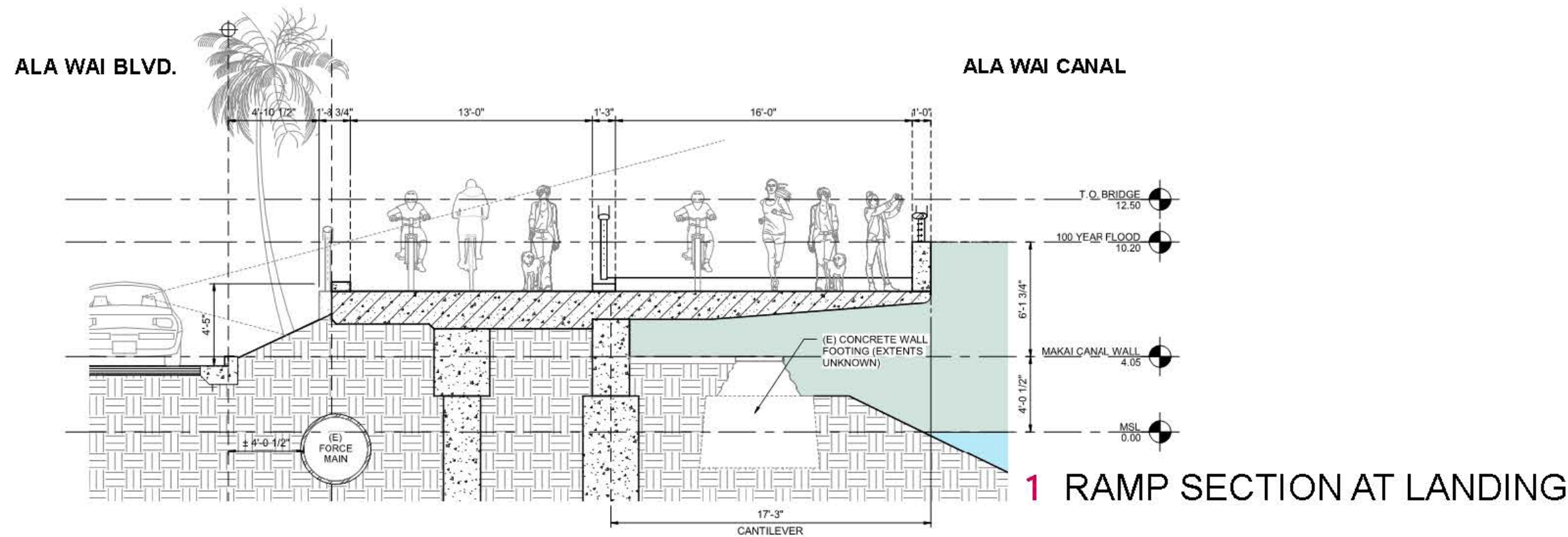


Figure 2-6. Mauka Landing



Note: landscaping design is schematic

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2.2.4 Bridge Deck

The contractor could construct the bridge using one of two methods: precast concrete deck planks or casting the concrete deck in place. The bridge deck would be constructed in a mauka-to-makai sequence and direction. The bridge deck segments would be 20 foot by 26 foot. The proposed precast construction method and the cast-in-place construction method are described below. The design of the completed bridge sections, including the bridge deck and views of the mauka and makai abutments, are displayed in Figure 2-7.

2.2.5 Bridge Lighting

Lighting would be incorporated into the following project components.

- Accent lighting at bridge landings
- Lighting along cable stays
- Lighting at underside of bridge span
- Integrated handrail lighting on the bridge deck, makai ramp, and mauka landing
- Floodlights mounted in in-grade grated pit at tower base
- Spotlights mounted within the voids of the tower
- Street and parking lot lighting
- Bollard lighting

2.2.6 Construction Phasing and Details

Listed on page 19 is the proposed construction phasing on both sides of the canal for the proposed action. The main construction areas, which are on the mauka side are shown in Figure 2-8. The completed project overview is shown in Figure 2-9.

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Figure 2-7. Bridge Section

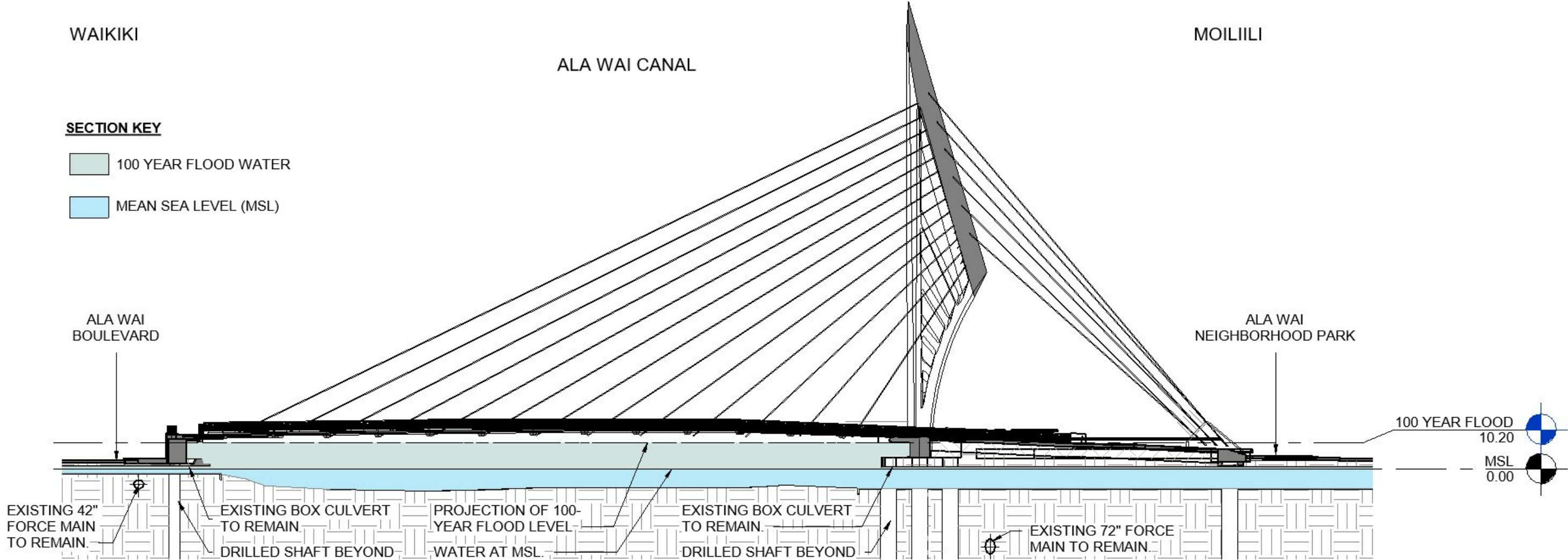


Figure 2-8. Mauka Construction Areas

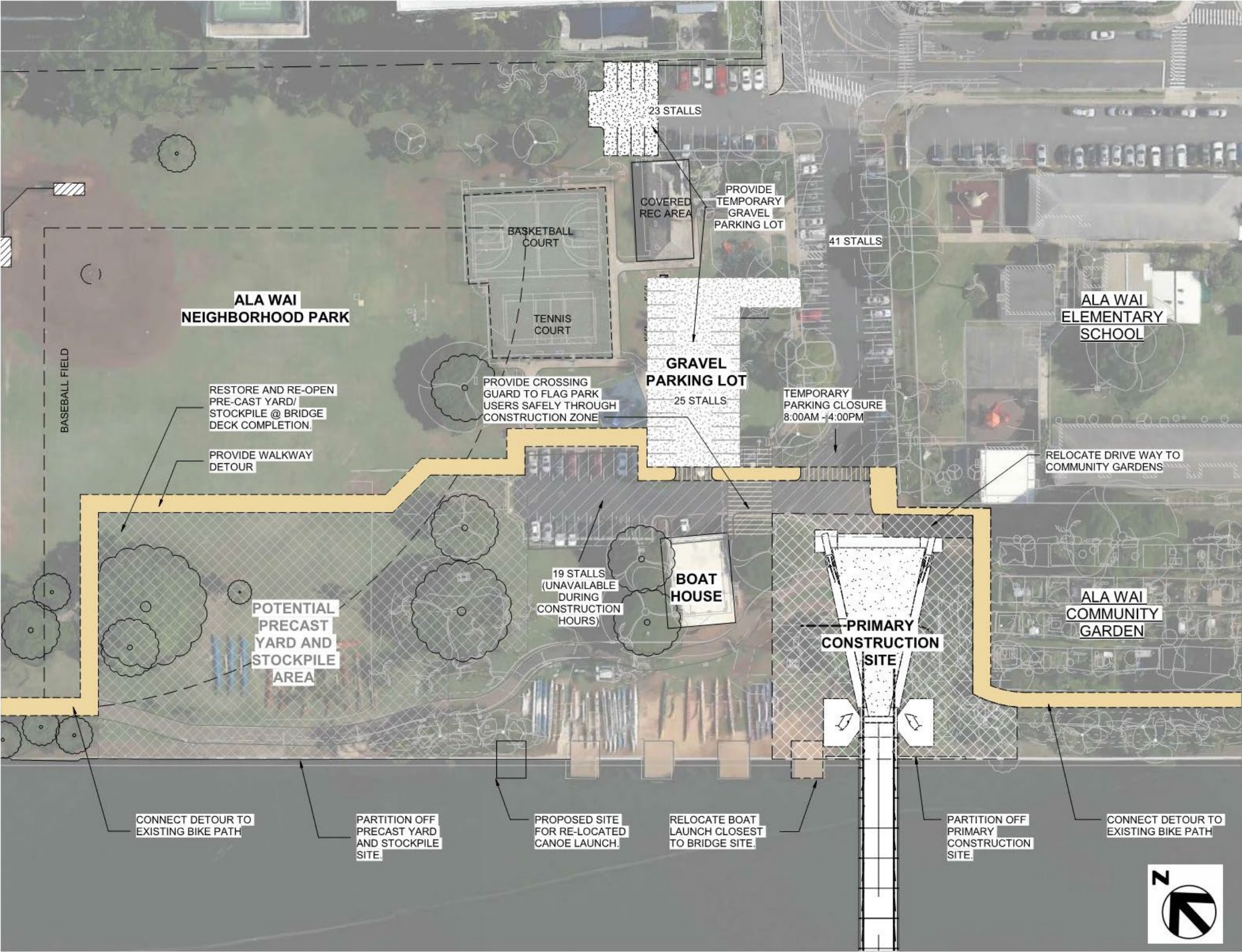
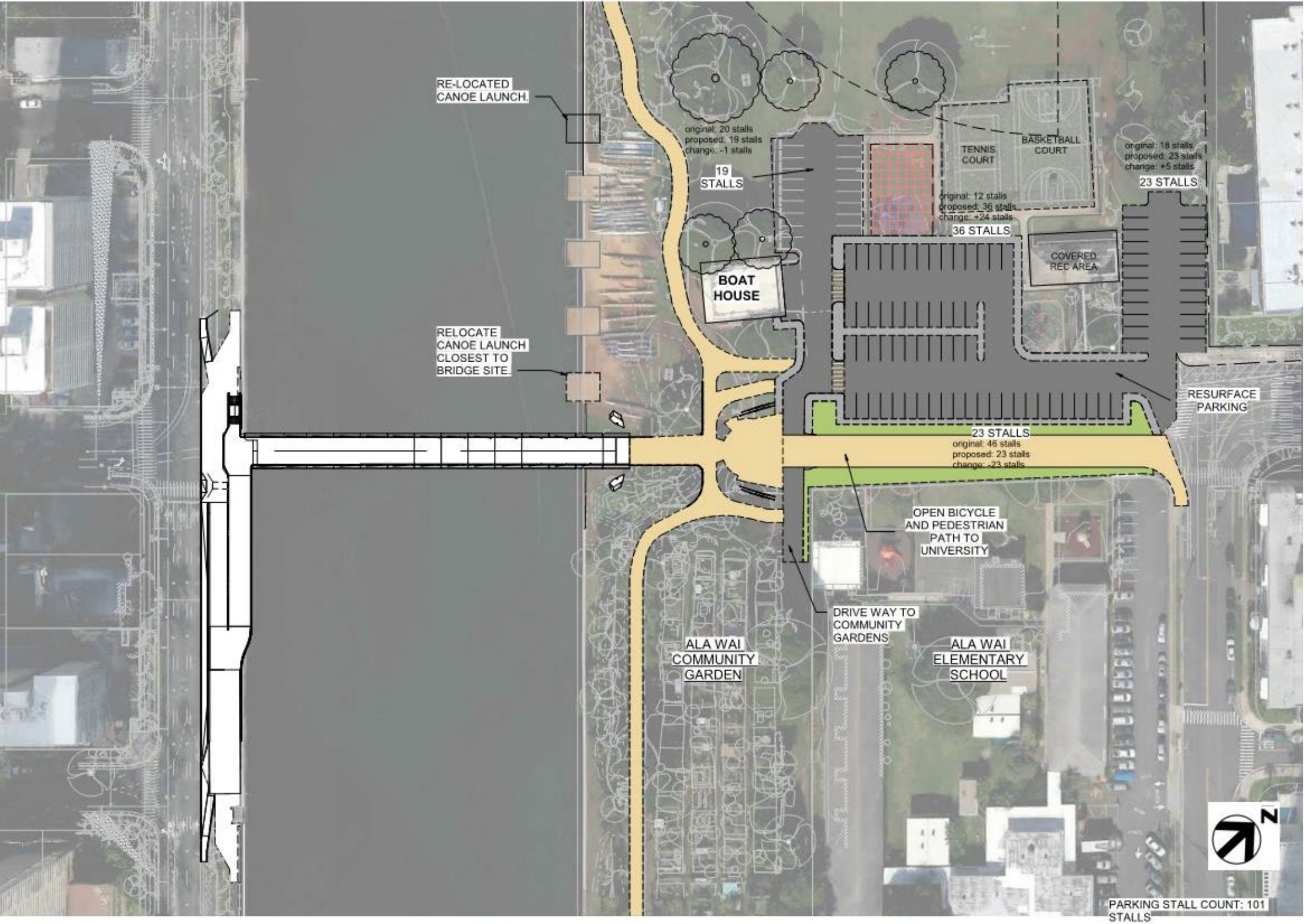


Figure 2-9. Completed Project Overview



Makai Phasing

1. Close Kalaimoku Street (except for local access), install best management practices (BMPs).
2. Create a temporary staging area north of Kalaimoku Street for access and shaft construction.
3. Implement traffic control on Ala Wai Boulevard for shaft construction while drilling operations are being performed.
4. Construct makai drilled shafts.
 - a. Excavate shaft spoils.
 - b. Place concrete into shaft.
5. Construct makai ramp and stair structures.
 - a. Excavate ramp and stair secant pile and small diameter drilled shaft foundations.
 - b. Place concrete foundations.
 - c. Complete construction of concrete ramp and stair

Mauka Phasing – Precast method

1. Prepare construction site.
 - a. Partition off staging and stockpiling area and stockpile site, install BMPs.
 - b. Relocate boat launch closest to bridge site.
 - c. Partition off the primary construction site.
 - d. Relocate the driveway to the Community Garden.
 - e. Detour multiuse path around construction area.
 - f. Provide crossing guard to flag park users safely through the construction zone.
 - g. Implement temporary parking closures and traffic controls.
 - h. Remove/relocate trees.
2. Construct bridge.
 - a. Construct drilled shafts for backstays.
 - b. Construct drilled shafts for tower.
 - c. Excavate shaft spoils.
 - d. Place concrete into the shaft.
 - e. Construct the mauka abutment and cantilevered cast-in-place span.
 - f. Construct beams connecting tower to backstays.
 - g. Construct backstay anchorages.
 - h. Cast tower using falsework and planar steel forms.

- i. Install backstays.
 - j. Construct deck using segmental panels, which are floated in on barges and lifted into position using stand jacks. Install forestay cables as each deck segment is installed.
3. Complete bridge construction.
4. Restore casting yard site.
5. Connect multiuse paths.
6. Connect bridge to University Avenue with multiuse path.
7. Resurface the parking lot.

Mauka Phasing – Cast-in-Place method

1. Prepare construction site.
 - a. Relocate boat launch closest to bridge site, install BMPs.
 - b. Partition off the primary construction site.
 - c. Relocate the driveway to the Community Garden.
 - d. Detour multiuse path around construction area.
 - e. Provide crossing guard to flag park users safely through the construction zone.
 - f. Implement temporary parking closures and traffic controls.
 - g. Remove/relocate trees.
2. Construct bridge.
 - a. Construct drilled shafts for backstays.
 - b. Construct drilled shafts for tower.
 - c. Excavate shaft spoils.
 - d. Place concrete into the shaft.
 - e. Construct the mauka abutment and cantilevered cast-in place span.
 - f. Construct beams connecting tower to backstays.
 - g. Construct backstay anchorages.
 - h. Cast tower using falsework and planar steel forms.
 - i. Install backstays.
 - j. Construct deck using travelling formwork. Install forestay cables as each deck segment is installed.
3. Complete bridge construction.
4. Restore casting yard site.
5. Connect multiuse paths.
6. Resurface the parking lot.

Bridge Deck Construction Methods

Measurements and areas provided under each construction method describe “width” in the mauka to makai direction and “length” in the Diamond Head direction.

PRECAST CONSTRUCTION METHOD

The bridge deck would be comprised of 13 precast deck segments (20 feet x 26 feet) that under the precast construction method would be constructed in three phases. The first phase involves the erection of the first four (4) segments of the bridge deck, beginning at the mauka end. This phase would require an area approximately 100 foot wide by 30 foot long directly beneath the bridge deck within the canal, to be temporarily closed. The first four (4) segments would take approximately four (4) weeks to install. During this 4-week period, recreational activities would be allowed in the open, approximately 150 foot wide area of the canal that is not in the active construction area and temporarily closed. See Figure 2-10 for an illustration of the proposed closure requirements for the precast construction method.

Following completion of the first phase of the bridge deck construction, the second phase of bridge deck construction would begin immediately. The second phase involves the erection of the next five (5) segments (20 foot x 26 foot). This phase would require an area approximately 60 feet wide by 30 feet long directly beneath the bridge deck within the canal, to be temporarily closed for each 20 foot segment to be installed. The 60 foot wide by 30 foot long closure area would shift in a makai direction as each 20 foot segment is erected. These five (5) segments would take approximately five (5) weeks to install. During this 5-week period, recreational activities would be allowed in the open, approximately 95 foot wide area of the canal on either side that is not in the active construction area and temporarily closed.

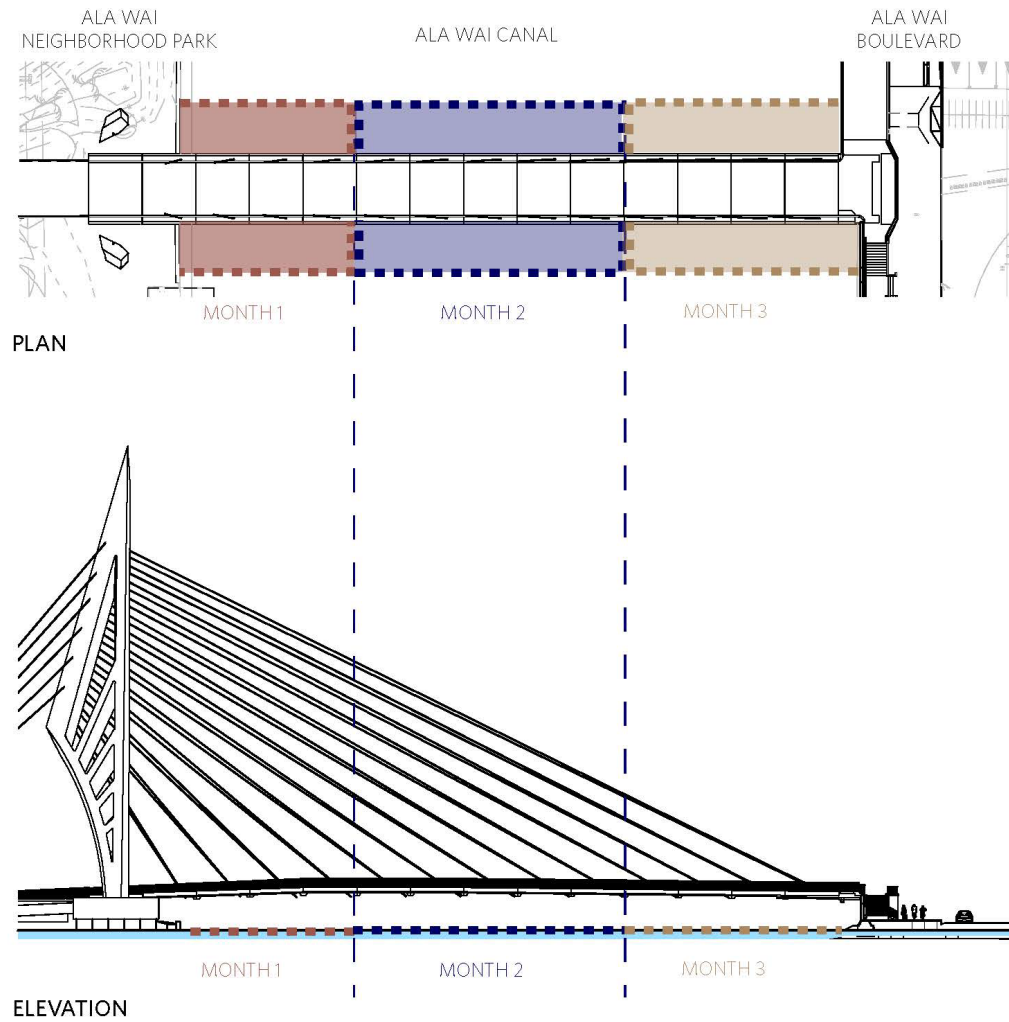
The third and final phase of the bridge deck construction would begin immediately after the completion of the second phase. The third phase involves the erection of the last four (4) segments to complete the bridge deck connection to the makai abutment. This phase would require an area approximately 100 foot wide by 30 foot long area directly beneath the bridge deck within the canal to be temporarily closed. The last four (4) segments would take approximately four (4) weeks to install. During this 4-week period recreational activities would be allowed in the open, approximately 150 foot wide area of the canal that is not in the active construction area and temporarily closed.

The canal would also be briefly closed for the movement of each bridge deck segment from the staging and stockpiling area on the mauka shore to the proposed bridge alignment construction area. For construction of the bridge deck under this method, flexifloat pontoon barges, or similar, would be used to transfer precast deck segments from the casting beds onshore to the bridge location, and for lifting the segments up into position. To prevent the barges from moving upstream and downstream during the lifting operation, two temporary spud columns would extend from the sides of the barge down to the mud line of the canal to maintain stability.

Figure 2-10. Precast Option



WATER CLOSURES DURING BRIDGE CONSTRUCTION - PRECAST OPTION



Each segment would be transported via barge, taking approximately one (1) hour for transport. Therefore, at the beginning of each week of bridge deck segment construction, there would be a brief closure of a larger area of the Ala Wai Canal for this movement. The transport area is approximately identified by dashed red line in Figure 2-1. The exact closure area of the canal for the barge transport would be determined by the contractor. As the bridge deck construction progresses from mauka to makai the barge transport would have to traverse a larger area of the canal and thus a larger area would be briefly closed during this time for safety purposes. In total the incremental, temporary closure of the canal for the precast construction method would take approximately three (3) months.

CAST-IN-PLACE CONSTRUCTION METHOD

The cast-in-place (CIP) method of construction would not require using barges. Instead of sequentially placing precast segments into position across the canal, the CIP method would utilize what is called “traveling formwork” for casting the deck in 20 foot lengths. Once the first 20 foot length is poured and cured for approximately 10 days, the formwork would slide across the proposed bridge alignment and be positioned for pouring the next 20 foot length. Traveling formwork assembly is approximately 25 feet long by 30 feet wide and would extend down beneath the bridge deck for approximately 4 feet to 6 feet. For safety reasons, an area of approximately 50 foot wide by 30 foot long directly beneath the bridge deck within the canal would be closed for recreational activities. At the end of each 10-day curing period the 50 foot wide by 30 foot long temporary, closure area would shift in the makai direction. See Figure 2-11 for an illustration of the proposed closure requirements for the CIP construction method. If the CIP method of construction is used, the Ala Wai canal would have temporary partial closures for a length of 4.5 months.

Under either construction method, concrete for the bridge deck would be delivered in ready-mix trucks to the site. No permanent structures would be installed in the Ala Wai Canal. The bridge deck would be supported by 13 sets of forestay cables; one set of cables supports each 20 foot section. To balance the forces on the tower that are exerted by the forestays, six sets of backstay cables would extend down to anchorages located within the mauka landing structure. In constructing the bridge backstay foundations, two drilled shafts, approximately six (6) feet in diameter and 80 feet deep, would be placed beneath the backstay anchorages. These shafts would be constructed to counter potential uplift force on the backstay foundations.

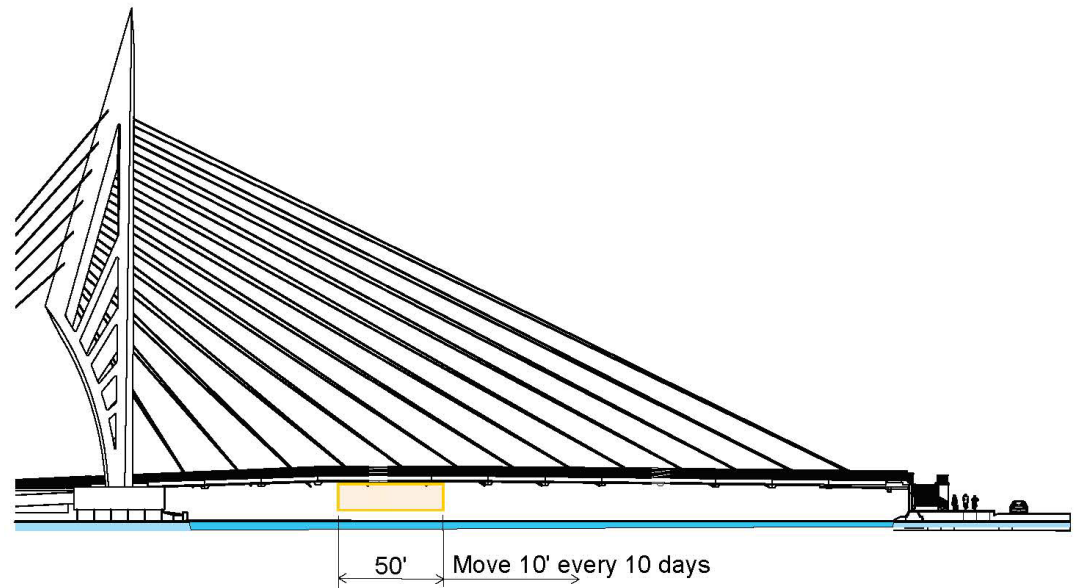
Figure 2-11. CIP Option



WATER CLOSURES DURING BRIDGE CONSTRUCTION - CAST IN PLACE OPTION



PLAN



ELEVATION

2.2.7 Utility Relocations

Utility relocation would consist of electrical lines on the makai side of the canal and water and electrical lines on the mauka side of the canal. Electrical lines to be relocated within the project area would include low-voltage lines that provide electricity to localized equipment such as traffic control lights and streetlights. Water lines to be relocated within the project area would include an 8-inch water line that runs parallel to the canal through the project site and smaller branch lines that feed local structures such as the public shower, irrigation systems, and public use spigots. The electrical and water lines would be relocated or replaced in kind, in size, and capacity.

Construction of the relocated utilities would be completed in accordance with CCH's standards for construction for water, traffic signal, and electrical lines. Standard construction equipment would be used to relocate the utilities, including excavators and skid steer front loaders. Excavated material for the trenches would be placed at the site and screened for reuse as suitable backfill material. If the material is found unsuitable, the material would be hauled off site to an appropriate waste disposal site.

Relocation of the water and electrical lines should be completed within three (3) months of gaining access to the site, including for both the mauka and makai sides. Traffic control may be required on the makai side and would consist of intermittently closing one lane of Ala Wai Boulevard during the utility relocation effort. It is anticipated that the lane would only need to be closed during construction hours and not on a full-time basis since the electrical utilities to be relocated are not located directly beneath the street. Traffic control would not be required on the mauka side since none of the utilities to be relocated are adjacent to or within the street. Some blocking or redirecting of parking stalls of the existing neighborhood park parking lot may be required. Section 3.2.8 describes the traffic controls that are anticipated for the project.

Existing storm drainage culverts and pipes and sewage force main pipes on both the mauka and makai sides of the canal would be avoided during construction of the bridge and, therefore, would not need to be relocated. The high voltage subtransmission ductline on the mauka side would be avoided and, therefore, would not need to be relocated.

2.2.8 Temporary Construction Areas and Parking Improvements

Portions of the Ala Wai Neighborhood Park parking lot would be temporarily closed during construction; however, the park facilities would remain open, with the exception of the keiki play area, which would be relocated. After construction of the bridge is completed, the parking lot would be resurfaced and reconfigured with the addition of a few parking stalls and replacement of parking stops. The existing multiuse path on the mauka side would be temporarily closed and rerouted around the construction area. Upon completion of construction, the multiuse path would be tied into the mauka landing. The existing canoe hale would remain in place and in use during construction; however, access would be limited because of the immediate construction area and safety concerns. Upon completion of construction, the Ala Wai Canal would be reopened and the portions of the Ala Wai Neighborhood Park and parking areas that were disturbed during construction would be restored and replanted. Section 3.2.10 describes the public notification of recreational area closures and detours that are anticipated for the project.

2.2.9 Construction Equipment and Materials

Table 2-1 describes the large equipment proposed for use during construction.

Table 2-1. Construction Equipment	
Equipment	Description/Proposed Use
Modular pontoon barges	Flexifloats or comparable pontoon barges are heavily reinforced to withstand repeated use under extreme load conditions. Modules would be dimensioned for crane placement either as single or multiple, stacked units. For the construction of the bridge deck, the barges would be used to accept the precast deck panels from the casting beds on shore, and to lift the panels up into position. The barge would progress outward as more deck panels are installed and the length of the bridge increases.
Traveling Formwork	Applies only to CIP span construction. A mobile formwork for casting 20 foot lengths. The formwork would be approximately 25 feet long by 30 feet wide and extend down beneath the bridge deck approximately 4 feet to 6 feet. The span could be built using the free cantilever method, with temporary support for the form traveler provided by temporary cables. Once each 20 foot length is poured and cured, the formwork would slide across the proposed bridge alignment and positioned for pouring the next 20 foot length.
75- to 100-ton crane	A 75- to 100-ton crane would be placed onshore within the staging area to maneuver the deck forms into position, and to lift and transport the finished deck panels from the formwork and onto the barges.
50-ton crane	An approximately 50-ton crane would be placed on the barge at critical times during construction to lift heavy materials and equipment onto the bridge deck.
Excavator	Excavation for the abutments would be accomplished by a large excavator on tracks.
Drilled shaft rig	A heavy-duty drilled shaft rig with oscillator would be used to construct the shafts for the deep foundations. A smaller crane would be used to lift the reinforcing steel cage from the flatbed truck and lower it down the drilled hole. After the rebar cage is in place, the hole would be filled with concrete from ready-mix trucks.
Ready-mix trucks	Ready-mix trucks would be used to mix and transport concrete.
Flatbed, pump trucks, tanker trucks, and pickup trucks	The contractor would use a flatbed truck and at least two pickup trucks for job site transporting of supplies, equipment, and materials, and to make deliveries to and from the job site. The contractor would use pump trucks and tanker trucks to pump groundwater out of the makai and mauka shafts into a tanker truck as concrete is poured into the shafts. Groundwater would be hauled off-site in the tanker truck for settling and processing.

2.2.10 Site Preparation, Project Controls, and Best Management Practices

Prior to construction, the following project controls and best management practices (BMPs) would be implemented.

- Installation of signs warning the public of impending construction.
- Installation of pedestrian and vehicle traffic controls, including public signs, at both the makai and mauka ends of proposed bridge site.
- Preparation of a method of safe access into the school for dropping off children in the morning and picking them up at the end of the day.
- Installation of signs and traffic control restrictions to parking at Ala Wai Neighborhood Park.

- Preparation of method and posting of signs explaining access for park users.
- Preparation of method and posting of signs explaining access into the Community Garden area.
- Preparation of method and posting of signs explaining access to the canoe hale.
- Installation of stormwater BMPs at the makai abutment and ramp area and along the canal wall and around the entire mauka site and along the canal wall.
- Installation of construction BMPs at the makai abutment and ramp area and along the canal wall and around entire mauka site and along canal wall, including for storage and handling of excavated materials and slurry control among other things.

Site preparation of the mauka staging areas would include placing fencing and gravel inside the staging area and implementing BMPs at the staging area entrance for vehicles exiting the construction site.

2.2.11 Site Access

Access to the project site would be from Ala Wai Boulevard on the makai side and University Avenue through the Ala Wai Neighborhood Park and parking lot on the mauka side. Material delivery and haul trucks would use Ala Wai Boulevard as a haul route on the makai side and University Avenue as a haul route on the mauka side. Excavated materials from the makai abutment and ramp foundations that are not reused on site would be removed from the job site and are anticipated to be hauled to the PVT Landfill in Nanakuli. Excavated materials from the mauka landing would be screened and re-used on site. Materials that are not able to be reused on site would be removed from the job site and hauled to the PVT Landfill in Nanakuli.

2.3 No Action Alternative

The No Action Alternative involves no new crossings or improvements to existing crossings over the Ala Wai Canal. Connectivity and public safety for people walking and bicycling in the area would not be improved. Travel times for pedestrians and cyclists would remain the same, and no new emergency evacuation routes would be established. The no action alternative is used as a baseline for comparison against the impacts of other proposed alternatives.

The discussion of probable impacts associated with the No Action Alternative and proposed action are presented in subsequent chapters.

2.4 Project Cost and Schedule

2.4.1 Project Cost

The estimated cost for construction is approximately \$34,500,000. CCH DTS proposes to use funds from Federal-Aid Project No. TAP-0300(159), administered by FHWA, to complete the engineering, environmental documentation, and permitting for the project.

2.4.2 Project Schedule

Construction is estimated to start in 2022, and the estimated construction period is up to two (2) years. Estimated work hours are from 7:30 a.m. to 4:00 p.m., Monday through Friday. If nighttime construction work is needed it is anticipated be short-term, lasting no more than 34 days, and would likely take place between the hours of 9:00 pm to 5:00 am.

2.5 Anticipated Permits and Approvals

Table 2-2 lists the federal, state, and local permits and approvals that may be required for the proposed action.

Table 2-2. Anticipated Permits and Approvals Required	
Permit/Approval/Consultation	Agency
Federal	
Clean Water Act (CWA) Section 404, verification of no permit needed	USACE
Section 4(f), Department of Transportation Act	FHWA, DLNR, CCH Department of Parks and Recreation, Board of Land and Natural Resources, SHPO
Section 106, National Historic Preservation Act consultation	State Historic Preservation Officer (SHPO)
Section 7, Endangered Species Act (ESA) consultations	United States Fish and Wildlife Service (USFWS), National Marine Fisheries Service
Safe Drinking Water Act (SDWA) Consultation	Environmental Protection Agency (USEPA)
State	
HRS Section 103-50 (Disability and Communication Access Board Review)	State of Hawaii Department of Health (HDOH), Disability and Communication Access Board
State Historic Preservation Review (HRS 6-E)	State Historic Preservation Division
CWA Water Quality Certification, CWA Section 401, blanket Section 401 Water Quality Certification or no permit need	HDOH Clean Water Branch (CWB)
Coastal Zone Management Act (CZMA), Coastal Zone Consistency	Department of Business, Economic Development, and Tourism
Clean Water Act, Section 402 National Pollutant Discharge Elimination System (NPDES) Permit	HDOH CWB
Air Quality Permit	HDOH Clean Air Branch
Coastal Zone Management (CZM), Federal Consistency Determination	Department of Business, Economic Development and Tourism (DBEDT), Hawaii Coastal Zone Management Program (HCZMP).
Noise Permit (if needed)	HDOH

Table 2-2. Anticipated Permits and Approvals Required

Permit/Approval/Consultation	Agency
<i>Local</i>	
Special District Permits	CCH Department of Planning and Permitting (DPP)
Erosion Control Plan Review	CCH DPP
Grading, Grubbing, and Stockpiling Permit	CCH DPP
Street Usage Permit	CCH DTS
Construction Plan review and approval	CCH DPP

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3 Affected Environment and Potential Effects

This section describes the existing environmental resources in the project area and how these resources may be affected by the proposed project. Section 3.1 presents the analysis of the natural and physical environment in subsections 3.1.1 through 3.1.5. Section 3.2 presents the analysis of the human environment (subsections 3.2.1 through 3.2.10). Resources of concern were identified based on the potential for project actions to result in a significant or adverse impact on these resources.

Under Hawaii Environmental Policy Act implementation guidelines, in most cases, an agency determines that an action may have a significant impact on the environment if it meets any of the following criteria, as outlined in Section 11-200-12, HAR.

- A. Involves an irrevocable commitment to loss or destruction of any natural or cultural resource.
- B. Curtails the range of beneficial uses of the environment.
- C. Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in [Chapter] 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders.
- D. Substantially affects the economic or social welfare of the community or State;
- E. Substantially affects public health.
- F. Involves substantial secondary impacts, such as population changes or effects on public facilities.
- G. Involves a substantial degradation of environmental quality.
- H. Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions.
- I. Substantially affects a rare, threatened, or endangered species, or its habitat.
- J. Detrimentially affects air or water quality or ambient noise levels.
- K. Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water or coastal waters.
- L. Substantially affects scenic vistas and view planes identified in county or state plans or studies.
- M. Requires substantial energy consumption.

3.1 Natural and Physical Environment

3.1.1 Geology, Soils, and Topography

This section describes the existing conditions, potential effects, and proposed mitigation for the topography and soils around the project area at the Ala Wai Canal.

Affected Environment and Existing Conditions

Geology

Two basaltic shield volcanoes are located on Oahu—the Koolau volcano to the east and the Waianae volcano to the west. Millions of years of erosion and sea level change have contributed to Oahu's current geography and subsurface composition. The geology of Waikiki and McCully/Moiliili predominantly consists of sedimentary deposits (Stearns and Vaksvik 1938).

An alluvial plain and fill consisting of marine deposits underlies the site. The fill is permeable marine mud made up of shells, coral, and other calcareous marine organisms that have been dredged from the ocean floor. The marine mud was previously used to fill up salt marshes and other lowlands (Stearns and Vaksvik 1938). The alluvial plain of marine sedimentary deposits extends upland to the east and west of the Ala Wai Canal (Stearns and Vaksvik 1938).

The geology in Waikiki and along the coastline consists of unconsolidated marine calcareous sediments, characteristic of very permeable beach sand consisting of grains of worn coral, coralline algae, and shells with appreciable amounts of foraminifers and other calcareous marine organisms (Stearns and Vaksvik 1938). This sand usually contains a large percentage of ocean and brackish water.

After construction of the Ala Wai Canal in the late 1920s, the lagoonal material that was excavated was used for fill on the mauka and makai sides of the Ala Wai Canal.

Soils

The soil underlying the project area is classified as mixed fill land with 0 to 3 percent slopes (United States Department of Agriculture [USDA] Natural Resources Conservation Service [NRCS] 2014). Mixed fill is typically characterized by a thin top layer (0 to 6 inches) of gravelly sandy loam, and a second layer (6 to 60 inches) of fine sandy loam. Lithic bedrock is often located below these two layers. Mixed fill also consists of materials dredged from the ocean or towed in from nearby areas, garbage, and miscellaneous materials from other sources (Foote et al. 1972). Fill land is typically used for urban development, has a moderate water-holding capacity, and is very permeable (DLNR 2017).

Kawaihapai clay loam (KIA) is also found in the project area. This soil is found along stream banks and is considered productive with slow runoff potential. KIA soil has a slight erosion hazard and its permeability is moderate. Slopes for this land range from 0 to 2 percent (DLNR 2017).

Topography

The topography around the Ala Wai Canal is relatively flat. The land surrounding the Ala Wai Canal ranges from 10 to 20 feet above msl (DLNR 2017).

Subsidence

The rate of and potential for subsidence is generally linked to volcanic activity, with an increase in the rate of subsidence with proximity to currently active volcanoes. As a

result, Oahu is located outside of the areas of subsidence and is subject to uplift because of the material moving down and outward of the subsidence zone (USACE 2017).

Potential Effects

No Action Alternative

Under the No Action Alternative, a bridge spanning the Ala Wai Canal at University Avenue and Kalaimoku Street would not be constructed and the existing conditions for geology, soils, and topography would remain unchanged.

Proposed Action Alternative

The potential for subsistence in the project area is considered low. The proposed action would require excavation for the abutments and ramp foundations on both the mauka and makai sides. Minimal excavation for the mauka ramp foundations would be required. A heavy-duty drill shaft rig with oscillator would be used to construct the shafts for the deep foundations. The depth of the six (6) shafts on the mauka side would be approximately 100 feet below ground surface and the diameter of the shafts would be approximately six (6) feet. The makai abutment would be supported on two 4-foot-diameter drilled shafts, approximately 80 feet deep. Concrete would be poured into the shafts after excavation. The backstay foundation would also require ground disturbance and would involve two drilled shafts, approximately six (6) feet in diameter, beneath backstay anchorages. The upper 30 feet of soil beneath the mauka backstay foundations is relatively poor. To address this challenge, the surrounding substrate may be strengthened by pressure injecting grout into the soil, which would result in a more stable foundation for the bridge.

Topsoil excavated from the abutment and landing areas could be reused in the adjacent community garden. All unused, excavated soil would be removed from the site and disposed of by the contractor, at a suitable location that accepts such soil waste.

Avoidance, Minimization, and/or Mitigation Measures

The project would implement an erosion and sediment control plan to prevent exposed soil during construction from running off into the Ala Wai Canal and to protect soils underlying the site. Additionally, BMPs such as the use of fencing and berms on the construction site to prevent runoff, and watering down of laydown areas to prevent dust, would be implemented during the construction phase. The project would also conform to relevant policies and directives involving excavations, grading, and erosion and sediment control at construction sites, such as those outlined in the ROH Chapter 14, Articles 15 through 18. Large construction equipment would be staged in the dedicated staging and stockpiling area located northwest of the construction site and canoe hale and launch area. The staging area would be covered in gravel to prevent erosion. Vehicles and construction equipment accessing the site would use dedicated improved paths and would not disturb soils in the project area. With these measures in place, the proposed project would not have an adverse effect on geology and soils in the project area.

3.1.2 Surface Water and Groundwater Resources

This section discusses the existing conditions, potential effects, and proposed mitigation for surface water and groundwater resources around the project area at the Ala Wai Canal.

Affected Environment and Existing Conditions

Surface Water Resources

The Ala Wai Canal is located within the Ala Wai Watershed, which is on the southeastern side of Oahu. It includes Maikiki, Manoa, and Palolo streams, which all flow to the Ala Wai Canal. The Ala Wai Watershed has an area of approximately 19 square miles (12,064 acres) and reaches from the Koolau Mountains to Mamala Bay (USACE 2017).

The Ala Wai Canal is a human-made drainage canal measuring two (2) miles in length. It was constructed in 1928 and was originally dredged to combine the flows of several streams into one outlet leading to the ocean. The canal is between approximately 150 and 250 feet in width. The widest portion of the canal is located near the McCully Street Bridge and the Manoa-Palolo Drainage Canal. Cross sectional depths of the canal range from 3 to 8 feet. Spot depths at Ala Wai Canal range from 1 to 12 feet. Sources that discharge into the Ala Wai Canal include the Manoa-Palolo Drainage Canal, Makiki Stream, Husten Ditch, and Kapahuli Drain. Subwatersheds contributing stormwater runoff into the canal include Maikiki, Manoa, Palolo, and Waikiki (USACE 2017).

The Manoa-Palolo Drainage Canal was built between 1935 and 1936 with the intention of realigning the Manoa and Palolo streams so that they would drain directly into the Ala Wai Canal through a single outlet. The drainage canal begins at the intersection of the Manoa and Palolo streams on the mauka side of Waialae Avenue, continues south to the Ala Wai Canal, and creates the border between the Ala Wai Golf Course and the Iolani School Campus (USACE 2017). Most of the drainage canal is lined in concrete, with the exception of the natural bottom that opens into the Ala Wai Canal. The canal's estuarine habitat extends from the Ala Wai Canal to about halfway between the Date Street and Kapiolani Boulevard bridges (USACE 2017; AECOS 2002).

Waters of the Ala Wai Canal and Manoa-Palolo Drainage Canal are in the "*Inland Class 2 Waters*" category as defined by the HDOH. According to HDOH administrative rules, inland waters are categorized as Class 1 or Class 2. Class 2 waters can be used "for recreational purposes, the support and propagation of aquatic life, agricultural and industrial water supplies, shipping and navigation" (HAR, Chapter 11-54, WQS).

Groundwater Resources

Approximately 99 percent of Hawaii's domestic water use comes from groundwater sources. Groundwater also accounts for nearly half of all freshwater used in the state. The proposed project is located in Southern Oahu's coastal plain, which is underlain by sedimentary deposits that form a caprock which extends along the coastline from 800 to 900 feet below sea level. The caprock acts to retard the seaward movement of fresh groundwater from the basal aquifer. Oahu is divided into seven primary groundwater areas based on geologic or hydrologic differences (DLNR 2017). The Proposed Project is located within the Southern Oahu Basal Aquifer and within the designated Southern

Oahu freshwater lens groundwater area. The Southern Oahu Basal Aquifer was designated by the EPA Region 9 as a Sole Source Aquifer under the SDWA (BWS 2015).

Groundwater within the Ala Wai Watershed typically occurs within the basal unconfined flank aquifers. The basal unconfined flank aquifers within the Ala Wai Watershed are a part of the Honolulu aquifer sector and include the Nuuanu, Palolo, and Waialae-West aquifer systems. (USACE 2017). Recharge of the underlying basal aquifers comes from high-level dike-impounded and perched groundwater located in the upper portion of the watershed (USACE 2017). According to the State of Hawaii Commission on Water Resource Management, which is responsible for determining the sustainability yield of each aquifer, Oahu has a sustainable yield of approximately 407 million gallons per day (mgd) (USACE 2017). The Honolulu aquifer sector has a sustainable yield of approximately 50 mgd, and the Nuuanu, Palolo, and Waialae-West aquifer systems have a sustainable yield of 5, 14, and 4 mgd, respectively (USACE 2017). In 1981, the Honolulu aquifer sector was established as a groundwater management area to protect groundwater quality. As a result, water use permits are required for use of water within the Honolulu aquifer sector (USACE 2017).

The Honolulu Board of Water Supply, Rules and Regulations, Chapter III, Protection, Development and Conservation of Water Resources, established a No-Pass Line on Oahu to demarcate the boundary between nonpotable brackish and potable fresh groundwater. Groundwater underlying the makai side of the No-Pass Line is of lower drinking water value. As a result, the No-Pass Line in the project area is located on the makai side of the Ala Wai Canal.

Water Quality

A number of pollutants from human-derived and natural sources have the potential to affect the groundwater and surface water quality of the Ala Wai Watershed. The Ala Wai Watershed is particularly vulnerable to contamination and other changes in water quality within the urbanized areas surrounding the Ala Wai Canal and the Manoa-Palolo Drainage Canal, given its highly developed nature (DLNR 2017). Source waters that affect the quality of water in the Ala Wai Canal include urban storm drains, nearshore ocean water, groundwater, and streams. Water quality issues identified within the Ala Wai Canal include problems related to bacteria, trace metals, nutrients, pesticides, toxic organics, and sediment. Additionally, large amounts of trash and debris are commonly observed in the canal (DLNR 2017).

Potential Effects

No Action Alternative

Under the No Action Alternative, a bridge spanning the Ala Wai Canal at University Avenue and Kalaimoku Street would not be constructed and the existing conditions for surface water resources and ground water resources would remain unchanged.

Proposed Action Alternative

The project would require installation of precast concrete deck slabs, each 20 feet long by 26 feet wide. Under the precast option, a modular barge would be used to transport

the precast deck slabs from the casting yard the bridge site, where the slabs would be jacked into position. The barge would be stabilized with spud columns against the incoming and outgoing tides from the Pacific Ocean, located approximately one (1) mile downstream. Two of these spuds would be connected to the side of the barge and lowered down to the mud line of the canal. The hollow spud pile would penetrate approximately two (2) feet into the soil. These activities would cause temporary disturbance to the canal's mud line; however, the spud piles and barge would be removed once the precast deck slabs are installed. Under the CIP option, there would be no need for barges and traveling formwork would be used along the bridge deck alignment to cast the deck segments. The bridge deck segments would be cast over the canal and would pose a potential effect to water quality.

The mauka abutment and tower would be supported on six, 6-foot-diameter shafts, drilled approximately 100 feet into the ground. As the concrete is poured into the shafts, the groundwater would be pumped out and into a tanker truck and hauled off site for settling and processing. The mauka tower would sit on a CIP deck that would cantilever out over the canal wall. The makai abutment would be supported on two 4-foot-diameter shafts, drilled approximately 80 feet below ground surface. Similar to the mauka abutment, as the concrete is poured into the shafts at the makai abutment, the groundwater would be poured into a tanker truck and then hauled off site for settling and processing. No other project activities would affect groundwater or surface water resources. A CWA Section 402 National Pollutant Discharge Elimination System (NPDES) General Construction Permit would be required and obtained for project construction.

The CCH DTS would coordinate with USACE's Regulatory Division for permitting requirements for temporary construction equipment in the canal under the precast bridge deck option. The Ala Wai Canal is considered a jurisdictional waterway under the CWA and an Advance Approval waterway by the U.S. Coast Guard. The U.S. Coast Guard responded via letter on October 26, 2020 that the project would not require a U.S. Coast Guard Bridge Permit under Section 9 of the Rivers and Harbors Act. Given that work in the canal would be temporary and that no permanent structures, excavations, or dredging in the water are proposed, it is anticipated that the project would be exempt from Section 10 of the Rivers and Harbors Act.

While no long-term effects on water quality are anticipated from the proposed project and the overall hydrology of the canal would be maintained, potential stormwater runoff from the impermeable bridge deck, makai ramp, and mauka landing is expected. The Makai ramp and mauka landing would tie into the existing storm drain system. Once construction of the bridge deck is complete, stormwater runoff would drain directly into the canal. The stormwater runoff is anticipated to be of similar quality as to what currently drains into the canal. Nonetheless, a CWA Section 401 Water Quality Certification from the HDOH may be required for the project.

Avoidance, Minimization, and/or Mitigation Measures

As stated in Section 3.1.1, BMPs, a Sediment Control Plan, and a Stormwater Pollution Prevention Plan (SWPPP) as required for compliance with the CWA Section 402 General Construction NPDES would be implemented to prevent polluted runoff from entering the

canal, as well as erosion and sedimentation during construction. As a result, no adverse effects on surface water, groundwater or water quality are anticipated.

3.1.3 Natural Hazards

This section summarizes the existing conditions, potential effects, and proposed mitigation for the natural hazards around the project area at the Ala Wai Canal.

Affected Environment and Existing Conditions

Earthquake Hazards

Seismic activity on Oahu is relatively low compared with other volcanically active areas, such as the island of Hawaii. On Oahu, earthquakes usually occur because of tectonic activity along seafloor fractures and faults. The Diamond Head Fault is located along the seafloor northeast of Oahu. Earthquakes along the Diamond Head Fault have historically ranged in magnitude from 4.0 to 5.0 (Fletcher et al. 2002).

Ground Shaking

While seismic activity on Oahu is not as high as other areas on the Hawaiian Islands, the sedimentary layer underlying Honolulu is more prone to ground shaking and motion than adjoining areas of bedrock. The earth's gravitational acceleration, or g-force, is how ground shaking is quantified. The most recent Uniform Building Code seismic risk ranking for Oahu was completed in 1997. At that time, the risk ranking for Oahu was 2A on a scale of 0 (no chance of ground shaking) to 4 (10 percent chance of severe shaking in a 50-year interval) (USGS 2016).

Hurricane Hazards

Heavy rains and strong winds associated with tropical storms occasionally impact Oahu and can cause flooding and erosion. Hurricanes occasionally approach, but rarely reach the islands with hurricane force wind speeds. The most recent hurricanes directly affecting the islands included Iniki in 1992, which mainly affected Kauai, and Iselle in 2014, which mainly affected Hawaii. Hurricanes are more prone to affect the Hawaiian Islands from the late summer to early winter months. During hurricanes and storm conditions high winds cause strong uplifting forces on structures. Wind-driven materials and debris can attain high velocity, causing devastating property damage and harm to life and limb. It is difficult to predict when these natural occurrences may occur, but it is reasonable to expect that future events will occur. The project area is, however, no more or less vulnerable than the rest of Oahu to the destructive winds and torrential rains associated with hurricanes.

Tsunami Hazards

Tsunamis are seismic sea waves caused by earthquakes, submarine landslides, and, infrequently, by volcanic eruptions. During a major earthquake, the seafloor can move and an enormous amount of water is set into motion. The result is a series of waves moving at high speeds. In the Hawaiian Islands, both a prehistoric and historic record of locally-generated tsunamis exist. Historic local tsunamis were produced in 1886 and 1975 by large earthquakes that occurred under the island of Hawaii. The earthquakes

that produced these tsunamis had magnitudes of 7.2 or greater and were the result of tectonic movement of the island. (USACE 2017)

The proposed project is located in the Tsunami Evacuation Zone and the Extreme Tsunami Evacuation Zone as delineated by the CCH, Department of Emergency Management. The Tsunami Evacuation Zone calls for an evacuation if a tsunami warning is issued, while the Extreme Tsunami Evacuation Zone calls for an evacuation in the event of an extreme tsunami warning. Extreme tsunamis are not likely to occur; however, there is a possibility for their occurrence (CCH 2017).

Flood Hazards

The project area is characterized by the Federal Emergency Management Agency (FEMA), Flood Insurance Rate Map (FIRM) as Zone A – Ala Wai Canal and Zone AO – Ala Wai Neighborhood Park and Ala Wai Promenade. Flood Zone A corresponds to the 100-year floodplain and is subject to inundation by the 1-percent-annual-chance flood event. Flood Zone AO corresponds to the areas of the 100-year shallow flooding (usually sheet flow on sloping terrain) when average depths are between 1 and 3 feet. (Federal Emergency Management Agency 2020).

The Ala Wai Canal's floodwalls are aging and were overtopped in 1965, 1967, and 1992. As a result, the flood risk at the Ala Wai Canal is considered high. Flooding from hurricanes is also likely but is anticipated to be minimal in the project area because of the breakwaters and revetments located at the Ala Wai Boat Harbor near the canal's mouth (USACE 2017).

Climate and Sea Level Rise

The climate in the project area is characterized as semi-tropical and influenced by Hawaii's geographic location. The principal features of the climate are the calm temperatures from day to day and season to season, northeasterly trade winds, and a noticeable variation in rainfall from the wet to the dry season and from place to place. According to data from the Rainfall Atlas of Hawaii, average monthly rainfall in the project area varies from a low of 0.93 to 1.35 inches in the summer months to a high of 3.99 inches in December (Gimbelluca et al., 2013). The average monthly temperature recorded at Honolulu International Airport ranges from 71 to 84 degrees Fahrenheit. Average annual precipitation is 17 inches. Approximately four-fifths of this total, on average, falls during the six-month wet season which extends from October through March. The dry season includes the months of April through September (DBEDT, 2014). Although the project area is on the leeward side of the island, the humidity is still moderately high, ranging from mid-50 to mid-70 percent, with relative humidity slightly higher in the wet season than in the dry season. Winds are predominantly from the northeast at speeds of 10 to 40 miles per hour (mph). According to recent findings by researchers at the University of Hawaii (IPRC, 2013, var.), the effects of climate change are increasingly evident in Hawaii: air temperature has risen; rain intensity has increased while total rainfall has decreased; stream flows have decreased; sea surface temperatures and sea levels have increased; and the ocean is becoming more acidic (SB No. 2745, 2012). Research is also in agreement that greenhouse gas (GHG) emissions, including carbon dioxide, methane, nitrous oxide, and fluorinated gases, are a key contributor to the unprecedented increases in global atmospheric warming over the

past century (USEPA, 2011 and IPRC, 2013). These trends are projected to continue to increase in the future posing unique and considerable challenges to Hawaii. Research at the University of Hawaii, School of Ocean and Earth Science and Technology indicates that sea level has risen in Hawaii by approximately 0.6 inches per decade (1.5 millimeter per year) over the past century (University of Hawaii, 2012). The estimates point to a potential total rise of 1.3 feet by the year 2060 and a rise of 3.3 feet by 2110.

The projected SLR has the potential to submerge parts of Waikiki, including the Ala Wai Canal. Additionally, high-tide flooding for the island of Oahu is projected to double by 2050. High-tide flooding can block storm drains, causing runoff to flood around drainage sites. Groundwater inundation could also create wetlands in the surrounding area. Figure 3-1 shows the projected three (3) foot water depth SLR scenario in the project area and vicinity.

Figure 3-1. Projected Sea Level Rise in the Proposed Project Area



Source: Pacific Islands Ocean Observing System (PacIOOS) Voyager 2021,
<http://www.pacioos.hawaii.edu/voyager/>

Potential Effects

No Action Alternative

Under the No Action Alternative, a bridge spanning the Ala Wai Canal at University Avenue and Kalaimoku Street would not be constructed and the existing conditions for natural hazards would remain unchanged.

Proposed Action Alternative

The Ala Wai Bridge design has considered natural hazards with regard to both the resiliency of the bridge and its use as an evacuation route out of Waikiki. The proposed action alternative is not anticipated to adversely affect or be adversely affected by natural

hazards. In case of a natural hazard during construction, activities would cease for the period that the flood, seismic, hurricane, or tsunami hazard exists. Equipment would be secured in work and staging areas. No additional impacts related to the construction of the proposed project are anticipated due to flood, seismic, hurricane, or tsunami hazard.

The USACE plans to improve flooding conditions in the Ala Wai Watershed and along the canal through its proposed Flood Risk Management Project. Climate change—as manifested by both SLR and greater storm intensity—is also being factored into the USACE Study. Through coordination with the USACE and CCH DTS, the proposed bridge deck has been set at the 100-year flood elevation with the addition of a few feet of freeboard to ultimately, safely pass 100-year storm flows. Storm surge flooding is an existing concern for the area. The Ala Wai Canal overtopped most recently in 1992 during hurricane Iniki. The need for the proposed project to serve as a reliable evacuation route is part of the purpose and need. Because the proposed bridge deck has been designed to accommodate the 100-year flood elevation, it is anticipated that the bridge would provide a more reliable evacuation route than the existing bridges over the Ala Wai Canal in the event of a hurricane or emergency.

Although coordinated with the USACE for the bridge design, the bridge would be constructed independent of the USACE's Ala Wai Flood Risk Management Project. The bridge design would involve a linear parkway approach with the floodwalls cantilevered over the existing canal walls and integrated into the ramp. The ramp would then be anchored into the continuous sheet-pile walls to prevent overturning and seepage. Coordination with USACE would be required to confirm that the structure cantilevered into the 100-year floodway is appropriately resilient. CCH DTS would continue to coordinate with the USACE as final design of the bridge progresses, to ensure the proposed project sufficiently passes flood flows and does not obstruct drainage.

The potential for seismicity in the project area is considered low. Ground shaking may occur in the project area in the event of an earthquake; however, the bridge is designed to be structurally sound and perform well under seismic stresses. The bridge design also considers seismic and tsunami conditions because the proposed bridge is anticipated to be a reliable evacuation route for numerous residents and employees in Waikiki, providing enhanced evacuation access for over 18,000 people.

The proposed location of the bridge along University Avenue would reduce evacuation time by approximately 15 minutes, particularly for those who use McCully Street or Kapahulu Avenue. In addition, the proposed location would reduce the number of people crossing at the McCully Street Bridge by 60 percent. Emergency services would also gain an additional route to access both sides of the canal. In summary, the proposed project would improve evacuation conditions in the project area in the event of a natural hazard, such as a tsunami.

Avoidance, Minimization, and/or Mitigation Measures

The proposed project would not result in an adverse effect from natural hazards in the project area and would be designed to accommodate the 100-year flood elevation and SLR. As a result, no mitigation would be required.

3.1.4 Flora and Fauna and Aquatic Resources

This section summarizes the existing conditions, potential effects, and proposed mitigation for flora and fauna and aquatic resources in the project area.

Affected Environment and Existing Conditions

Project-specific surveys for biological resources in the project area have not been conducted; however, several previous surveys and projects overlap with the project area. The following resources were reviewed and the findings synthesized to describe the project area's biological setting.

- Ala Wai 46kv Underground Cable Relocation Final Environmental Assessment (HECO 2017)
- Biological Resources Survey Report for Power Cable Relocation, Ala Wai Canal, Oahu, Hawaii (SWCA 2016)
- Ala Wai Canal Dredging and Improvements Draft and Final Environmental Impact Statement (EIS) (DLNR 2017)
- Ala Wai Canal Flood Risk Management Study Feasibility Study with Integrated Environmental Impact Statement (USACE 2017)

Botanical Resources

The project area is located in an urbanized setting and, as a result, the vegetation is dominated by landscaped and nonnative ruderal species. Natural vegetation that would have been found in the project area during the pre-contact and early post-contact periods consisted of coastal marshland species (Martel et al. 2017). Botanical surveys overlapping most of the proposed project area were conducted in 2013 and 2016 to support the Ala Wai 46kv Underground Cable Relocation Project (HECO 2017). During these surveys, over 100 plant species were recorded and, of those, only a little over five (5) percent were native (SWCA 2016). A description of vegetation starting on the makai side and moving to the mauka side of the project area is provided below.

The makai side of the Ala Wai Canal is limited to manicured landscaped vegetation lining the roadways. Species growing along the mauka (canal) side of Ala Wai Boulevard include coconut tree (niu; *Cocos nucifera*) planted at regular intervals and underlain by a manicured lawn of nonnative grasses, including smutgrass (*Sporobolus africanus*), dallisgrass (*Paspalum dilatatum*), Carolina lovegrass (*Eragrostis pectinacea*), Henry's crabgrass (*Digitaria ciliaris*), Bermuda grass (*Cynodon dactylon*), and St. Augustine grass (*Stenotaphrum secundatum*). The makai side of Ala Wai Boulevard is similar to the mauka side, with the addition of scattered ornamental shrubs (SWCA 2016).

Across the Ala Wai Canal, on the mauka side, vegetation associated with the community garden, boat launch, park, and parking areas is more varied, but still dominated by nonnative landscaped species. Most of these areas are characterized by a ground cover of lawn grasses and other weedy grass species. Trees in these areas include monkeypod (ohai; *Samanea saman*), coconut, rainbow shower tree (*Cassia x nealiae*), and kou (*Cordia sebestena*) (SWCA 2016).

Federal- and state-listed plant species are not anticipated to occur in the project area because of an absence of suitable habitat and the highly urbanized environment. The project area does not contain any designated or proposed critical habitat for threatened or endangered plant species.

Terrestrial Faunal Resources

Terrestrial fauna expected to use the urban terrestrial environs of the project area include nonnative mammals such as dog (*Canis familiaris*), cat (*Felis catus*), mongoose (*Herpestes javanicus*), rat (*Rattus* spp.), and mouse (*Mus musculus*). All of these introduced species are detrimental to native ecosystems and native faunal species in the area (SWCA 2016).

The following federally listed species have the potential to occur in, or transit through, the proposed project area. No designated critical habitat overlaps with the project area.

- Federally endangered and state-listed as endangered Hawaiian petrel (uau; *Pterodroma sandwichensis*)
- Federally threatened and state-listed as threatened Newell's shearwater (ao; *Puffinus auricularis newelli*)
- Federally endangered and state-listed as endangered Hawaii Distinct Population Segment of the band-rumped storm petrel (ake ake; *Oceanodroma castro*)
- Endangered Hawaiian hoary bat (opeapea; *Lasiurus cinereus semotus*)

The first three species will be collectively referred to as listed Hawaiian seabirds. The letter from USFWS stated that although the project area does not provide suitable nesting habitat for listed Hawaiian seabirds, they may traverse the sky over the project area at night during the breeding, nesting and fledging season (March 1 to December 15) when they are travelling between nesting and foraging grounds. Newell's shearwater is known to nest exclusively on Kauai (USFWS 2002) and the only nesting colony of band-rumped storm petrel is found on Hawaii (Galase 2019). Hawaiian petrel is known to nest on multiple Hawaiian Islands, but not Oahu (USFWS 2017). As none of the species are known to nest on Oahu, the chance of the Hawaiian seabirds flying over the project area is extremely unlikely; however, these species are still included in the effects analysis.

The federally threatened Hawaiian hoary bat is the only native mammal in Hawaii. This species is known to occur on Oahu in native, nonnative, agricultural, and developed habitats, and will use developed land for roosting and foraging (USDA 2009; USFWS 1998). Hawaiian hoary bats typically roost in trees taller than 15 feet with dense foliage or with open access for launching into flight (USDA 2009). Pups are typically dependent on their mother for the dry season, and are born in May and fledge by the end of September (USDA 2009). The Hawaiian hoary bat has not been observed in the project area or vicinity; however, several trees in the project area may provide suitable roosting habitat for this species, including coconut, kou, monkey pod, and rainbow shower tree.

Numerous bird species likely use the project area for nesting, foraging, or movement. Based on the previously collected data, it is likely that most birds using the project area on a regular basis are nonnative species typically found in urbanized parts of the island. Table 3-1 summarizes documented bird species observed during surveys in 2013 and 2016 to support other projects overlapping the project area. Two native migrant

shorebirds were observed during previous surveys and include the Pacific golden plover (kolea; *Pluvialis fulva*) and wandering tattler (ulili; *Tringa incana*). These and other native migratory shorebird and waterbird species likely only move through the project area and would not use the urban habitat in the project area for nesting or roosting. Native shorebirds, including the wedge-tailed shearwater (Uau kani; *Puffinus pacificus*) and the aforementioned listed Hawaiian seabirds, may fly over the project area in small numbers (DLNR 2017).

Suitable habitat for Hawaiian waterbirds listed as threatened or endangered under federal or state law does not occur in the project area. Listed species such as Hawaiian stilt (aeo; *Himantopus mexicanus knudseni*), Hawaiian coot (alae keokeo), Hawaiian moorhen (alae ula; *Fulica alai*), and Hawaiian duck (koloa maoli; *Anas wyvilliana*) may be found in the upper reaches of the canal or Husten Ditch, where vegetated banks are present; however, the cement walls and absence of emergent or riparian vegetation likely preclude these species from nesting or resting in the project area.

Table 3-1. Bird Species Documented in the Ala Wai Canal Area

Common Name	Scientific Name	Status ^a	Year Observed
Cattle egret	<i>Bubulcus ibis</i>	NN	2013, 2016
Common myna	<i>Acridotheres tristis</i>	NN	2013, 2016
Common waxbill	<i>Estrilda astrild</i>	NN	2013, 2016
Hawaiian duck-mallard hybrids ^b	<i>Anas</i> sp.	NN	2013, 2016
House finch	<i>Haemorhous mexicanus</i>	NN	2013, 2016
House sparrow	<i>Passer domesticus</i>	NN	2013, 2016
Hwamei	<i>Garrulax canorus</i>	NN	2013
Japanese white-eye	<i>Zosterops japonicas</i>	NN	2013, 2016
Java sparrow	<i>Padda oryzivora</i>	NN	2013
Northern cardinal	<i>Cardinal cardinalis</i>	NN	2013
Pacific golden plover (kolea)	<i>Pluvialis fulva</i>	N	2013, 2016
Red-crested cardinal	<i>Paroaria coronate</i>	NN	2013, 2016
Red-vented bubul	<i>Pycnonotus cafer</i>	NN	2013
Red-whiskered bubul	<i>Pycnonotus jocosus</i>	NN	2013, 2016
Rock dove	<i>Columba livia</i>	NN	2013, 2016
Spotted dove	<i>Streptopelia chinensis</i>	NN	2013, 2016
Wandering tattler (ulili)	<i>Tringa incana</i>	N	2013
Zebra dove	<i>Geopelia striata</i>	NN	2013, 2016

Source: *Ala Wai 46kv Underground Cable Relocation Final Environmental Assessment* (HECO 2017)

^a N = native, NN = nonnative permanent resident

^b These were observations of ducks that were likely hybrids of the native Hawaiian duck (*Anas wyvilliana*) and the introduced mallard (*Anas platyrhynchos*).

White tern (manu-o-ku; *Gygis alba*) is the only other state-listed species with the potential to occur in the project area. White tern is a migrant shorebird listed by the State of Hawaii as threatened for the island of Oahu and is also protected under the Migratory Bird Treaty Act. Several tree species in the project area provide suitable nesting and roosting habitat, including coconut, kou, monkey pod, and rainbow shower tree. This species is considered to be highly tolerant of people and noise and commonly nests in urban Honolulu (VanderWerf and Downs 2018).

No additional federal- or state-listed terrestrial faunal species have the potential to occur in the project area because of the urbanized setting and an absence of suitable habitat. The project area does not contain any designated or proposed critical habitat for threatened or endangered terrestrial fauna.

Aquatic Resources

The Ala Wai Canal is highly polluted, making it poor habitat for aquatic species. Previous aquatic surveys of the portion of the canal overlapping with the project were conducted by SWCA biologists in support of the HECO Ala Wai 46kv Underground Cable Relocation Project. The aquatic fauna of the Ala Wai Canal is largely dominated by introduced vertebrate and invertebrate species. The walls of the canal are covered with barnacles (*Balanus* and *Chthamalus* spp.), large clumps of the introduced bryozoan (*Zoobotryon verticillatum*), and clumps of the introduced sponge *Suberites zeteki*. Blue claw crab (*Thalamita crenata*), mangrove crab (*Scylla serrata*), and moon jellies (*Aurelia aurita*) are also found in the canal (SWCA 2016).

In the water column, introduced tilapia (*Oreochromis/Sartherodon*) were the most observed and abundant fish in the waters of the project area. Mosquitofish (*Gambusia/Poecilia*), another introduced species, have also been documented in the Ala Wai Canal. Smaller numbers of native marine fishes have been documented in the area, including lai (*Scomberoides lysan*), juvenile giant barracuda (*Sphyraena barracuda*), and a small school of juvenile striped mullets (*Mugil cephalus*) (SWCA 2016). Other native fish species found within the canal over the past two decades include papio (family Carangidae), bonefish or oio (*Abula glossodonta*), and Hawaiian flagtail or aholehole (*Kuhlia sandvicensis*) (DLNR 2017).

The benthic zone of the canal has relatively few living organisms. HECO reports that recent samples smelled strongly of hydrogen sulfide, indicating anoxic conditions. The few living benthic organisms observed during previous benthic surveys included amphipods (order Amphipoda), fireworms (family Amphinomidae), and one native indigenous speartail mudgoby (*Oxyurichthys lonchotus*) (SWCA 2016).

Federal- and state-listed marine species are not expected to be found in this portion of the Ala Wai Canal given the distance from the marine habitats of the harbor and beyond. No other listed aquatic species are expected to be found in the canal. The project area does not contain any designated or proposed critical habitat for threatened or endangered aquatic species, nor does it contain Essential Fish Habitat (EFH).

Potential Effects

No Action Alternative

Should the alternative of no change be selected, there would be no effects on flora, terrestrial fauna, or aquatic resources in the project area.

Proposed Action Alternative

The project is not expected to adversely affect botanical resources in the project area. The project area does not contain any designated or proposed critical habitat for threatened or endangered plant species. No federal- or state-listed threatened, endangered, or candidate species have been identified in previous surveys of the project area and none of the species would be expected to occur because of the urbanized setting.

Tree removal would be required on both sides of the canal and could include the removal and relocation of coconut and monkeypod trees, among others. In addition to tree removal, minor clearing of ground vegetation would occur; however, most species in the project area are nonnative. The vegetation in the project area is not considered unique and the few native species are common throughout the Hawaiian Islands and elsewhere. Landscaping, including tree relocation and planting, would be included as part of the project to offset the loss of trees and other vegetation resulting from bridge construction. Landscaping would include native Hawaiian species, when feasible. Following project implementation, the extent and quality of vegetation is expected to be commensurate with the existing condition. Overall, the proposed project would not have an adverse effect on botanical resources.

The proposed project is not expected to adversely affect terrestrial faunal resources in the project area. Most terrestrial fauna found in the project area are nonnative and would experience temporary displacement. The project area does not contain any designated or proposed critical habitat for threatened or endangered faunal species. No federal- or state-listed threatened, endangered, or candidate species have been identified in previous surveys; however, trees in and adjacent to the project area may provide breeding habitat for both the Hawaiian hoary bat and white tern. Tree removal would occur as part of the proposed project. In addition, listed Hawaiian seabirds and native shorebirds may fly over or forage near the project area.

In the unlikely event that the Hawaiian hoary bat or white tern are present, direct effects could occur in the form of mortality or other forms of take (such as harm or harassment) of individuals as a result of heavy equipment used during vegetation clearing and construction. The use of heavy equipment would also generate noise, which could disrupt bats and white terns roosting or nesting within the project area.

Listed Hawaiian seabirds and native shorebirds flying over the project area at night could become disoriented by exterior lighting, which could result in collisions with human-made structures and potential death. Given the urbanized setting and nearby baseball fields, the area is already very well lit. As a result, project lighting is not expected to significantly increase the nighttime light levels in the area. The proposed bridge lighting will comply with HRS 201-8.5 Night sky protection strategy and HRS 205A-71 Artificial

light on shoreline and ocean waters requirements to limit the impacts of project lighting on native species.

No significant in-water work is anticipated as part of the project; thus, adverse effects on aquatic species are not anticipated. A barge would be used in transporting the precast deck slabs from the casting yard to the bridge alignment where the slabs can be jacked up into position. The barge would need to be stabilized against the incoming and outgoing tides with spud columns, which are connected to the side of the barge and lowered down to the mud line. It is anticipated that the hollow steel spud column would penetrate approximately two (2) inches into the substrate at most, depending on how soft it is. The project would occur shortly after the canal has been dredged as part of DLNR's Ala Wai Canal Dredging and Improvement Project. For this reason, the canal bottom is expected to be firmer than usual, resulting in less penetration by the spud columns and undetectable amounts of sedimentation resulting from their placement. Sedimentation resulting from runoff or pollutants associated with construction would be captured, and potential effects on the Ala Wai Canal would be minimized, through the implementation of construction BMPs.

The canal's brackish, polluted, anoxic, and generally degraded conditions make it poor-quality habitat for most aquatic species. Federal- and state-listed marine species are not expected to be found in this portion of the Ala Wai Canal on account of the brackish and degraded habitats and the distance from the marine habitats of the harbor and beyond. Other species found in the canal waters would not be significantly affected by the temporary and noninvasive nature of the project activities. The project area does not contain any designated or proposed critical habitat for threatened or endangered aquatic species, nor does it contain EFH. For these reasons, the proposed project would not have an adverse effect on aquatic resources.

Avoidance, Minimization, and/or Mitigation Measures

To avoid adverse effects on Hawaiian hoary bat, listed Hawaiian seabirds, white tern, and other native shorebird species, the following measures would be implemented.

- No woody plants or trees greater than 15 feet in height would be removed or trimmed during the Hawaiian hoary bat breeding season (June 1 through September 15). Removal of any woody vegetation that exceeds 15 feet in height would be conducted between September 16 and May 31, the period of time outside the bat pupping season. In addition, construction of the project's features would be mainly conducted to daylight hours to avoid potential bat foraging activities.
- Use of barbed wire fencing during project-related activities would be prohibited.
- All woody plants and trees would be inspected for white tern eggs or chicks prior to removal. If eggs or chicks are found, the plant or tree would be avoided until breeding is deemed inactive either from nest failure or fledging.
- All project lighting would comply with Hawaii County Code, Article 9, Outdoor Lighting (Sections 14-50 through 14-55.1), which requires the shielding of exterior lights to reduce ambient glare.
- Avoid nighttime construction, to the extent possible, during the seabird fledging period, September 15 through December 15.

- Project personnel should be advised of any potential endangered or threatened species within the project area.
- Project construction-related materials (fill, revetment rock, pipe, etc.) should not be stockpiled in, or in close proximity to aquatic habitats and should be protected from erosion (e.g., with filter fabric, etc.), to prevent materials from being carried into waters by wind, rain, or high surf.
- Fueling of project-related vehicles and equipment should take place away from the aquatic environment and a contingency plan to control petroleum products accidentally spilled during the project should be developed. The plan should be retained on site with the person responsible for compliance with the plan. Absorbent pads and containment booms should be stored on-site to facilitate the clean-up of accidental petroleum releases.
- All deliberately exposed soil or under-layer materials used in the project near water should be protected from erosion and stabilized as soon as possible with geotextile, filter fabric or native or non-invasive vegetation matting, hydro-seeding, etc.

With the implementation of these measures, the proposed project would not have a significant adverse effect on terrestrial faunal resources or aquatic resources.

3.1.5 Aesthetics and Visual Resources

Affected Environment and Existing Conditions

This section summarizes the existing conditions, potential project effects, and mitigation measures to aesthetics and visual resources. It also summarizes the presence of visual resources around the Ala Wai Canal and project area and results of the Visual Impact Assessment (VIA).

Visual Resources

The FHWA VIA process divides visual resources into three categories: natural, cultural, and project. Natural visual resources include the land, water, vegetation, animals, and atmosphere that are visible in the project area. Cultural visual resources include buildings, structures, art, and other artifacts created by people, including visible infrastructure not part of the project. Project visual resources include all the visible elements constructed or installed as part of the proposed project. The FHWA process includes two basic types of viewers: travelers and neighbors. Travelers are defined as people who will have views from the existing or proposed transportation facility. Neighbors are people who have views to the existing or proposed facility. These resources, as they pertain to the project area, are summarized below. The full VIA is included in Appendix A.

Natural Visual Resources

The most noticeable feature of the natural landscape is its terrain. It is the basis of directional orientation. One is oriented makai, toward the ocean, and the other is mauka, toward the mountains. Oahu was formed by volcanos, and the mountains they created frame the plain on which Honolulu developed. Except for forays into adjacent valleys, the city mostly hugs the coast on a generous coastal plain. In the vicinity of the project,

the plain meets the ocean at Waikiki Beach. The striking white sand beachfront setting is terminated at its southern end by a visually domineering dormant volcanic crater, Diamond Head.

In addition to the world-famous beach, the other significant water feature of the project area is the Ala Wai Canal. The canal was constructed in the 1920s to alter the area's drainage. Material dredged to make the canal was used to fill wetlands and raise the elevation on the makai side of the canal, allowing for the development of the Waikiki District.

Cultural Visual Resources

The dominant visual resources of the cultural environment in the project area are the buildings that form Honolulu. In the Waikiki District on the makai side of the canal, the buildings are mostly modern residential high rises (including hotels). In the McCully-Moiliili District on the mauka side of the canal, the buildings are mostly older and shorter and predominantly two-story residential structures. However, several mid-rise structures and clusters of high-rise buildings are adjacent to the Ala Wai Community and Neighborhood Parks, closer to the canal.

Commercial enterprises—local, national, and international—interlace the project area, mostly at ground level, and predominantly between the canal and the beach. Park and recreational facilities are prominently located adjacent to the mauka side of the canal, including field and water sports in Ala Wai Community and Neighborhood Parks. Ala Wai Golf Course is also located on the mauka side.

Eight field lights shine on ballfields in the Ala Wai Community Park on the mainland side of the Ala Wai Canal between McCully Street and University Avenue. Additional lights, although shorter in height, occur in the parking lots, basketball court, and tennis courts of the Ala Wai Neighborhood Park adjacent to University Avenue.

Nestled among the recreational facilities on the mauka side of the canal are elementary, middle, and high schools.

Although buildings are the dominant cultural visual resource in the project area, it was the construction of the canal that created the two features that define the project area—the separation of Waikiki from the rest of Honolulu and the raising of the elevation of the Waikiki District to above ocean level. It is the canal, as a constructed artifact and cultural resource that defined the context for developing Waikiki's tourist-oriented buildings.

A typical grid network of streets, sidewalks, and trails crisscross the project area. Streets with overhead utilities are mostly absent in the Waikiki District, which are frequently lined with trees including in the center medians.

In the McCully-Moiliili District on the mauka side of the canal, overhead utilities typically line every street (with exception of some segments of University Avenue), and boulevard trees are less frequent.

Community Aesthetic Values

The value the community places on the aesthetics of its public domain is essential to the character, livability, and attractiveness of the city and county. This value is articulated in the ROH, listed in Chapter 21, Section 21-1.20 of its Land Use Ordinance. This section

states that the purpose and intent of regulating land uses is to “encourage orderly development” and to minimize the “adverse effects resulting from the inappropriate location, use or design of sites and structures” while conserving “the city’s natural, historic and scenic resources and encouraging design which enhances the physical form of the city.”

Local Policy

The determination of effects to scenic vistas and view planes is based on the existing visual qualities of the area and the degree and duration of disturbance. Public views, in the CCH Development Plan’s (DP) Common Provisions, include “views along streets and highways, mauka-makai view corridors, panoramic and significant landmark views from public places, views of natural features, heritage resources, and other landmarks, and view corridors between significant landmarks” (§24-1.4 ROH). Important views to be protected on Oahu, as identified in the Primary Urban Center (PUC)-DP, are “panoramic views of the Koolau and Waianae Mountain Ranges, Punchbowl, Diamond Head, Pearl Harbor and other natural landmarks.” Objectives of the PUC-DP include “maintaining important view corridors within and across urban Honolulu and keeping Downtown (Waikiki) as the most prominent feature of the urban skyline” (CCH DPP 2004).

Potential Effects

No Action Alternative

Under the No Action Alternative, a bridge spanning the Ala Wai Canal at University Avenue and Kalaimoku Street would not be constructed and the existing conditions for aesthetics and visual resources would remain unchanged. The view plane of the Ala Wai Canal would remain open.

Proposed Action Alternative

The proposed bridge would result in both potential adverse and beneficial effects on the project area’s existing visual quality. During construction, potential temporary effects are anticipated from the presence of construction vehicles and equipment along and in the Ala Wai Canal, local roads, Ala Wai Neighborhood Park, and adjoining recreational areas. Construction vehicles and equipment would be confined to the established work areas and would be staged in designated areas while not in use as described in Chapter 2. All construction-related equipment, including cranes, would be removed following the completion of construction activities. Temporary visual effects would also result from earthwork and ground-disturbing activities during the construction period. These areas would be restored after construction activities are complete, and stockpiling areas would be removed. As such, visual effects during construction would be temporary and would not be adverse.

Post construction, the completed bridge would be a skewed cable-stayed design with an asymmetric configuration that uses a main 180-foot pylon sited on the mauka side of the canal. The mauka ramp would involve tie-ins to the existing Ala Wai Neighborhood Park and existing multiuse path along the canal, integrating the proposed structure into the current landscape. Makai of the canal, the bridge would tie into the existing Ala Wai Promenade. The makai ramp would result in a visual change at the end of the

Kalaimoku Street corridor. The makai ramp would result in an approximately 12-foot tall wall at the end of Kalaimoku Street thereby blocking the view of the canal from pedestrians and travelers along Ala Wai Boulevard and Kalaimoku Street. The makai ramp would also remove some existing coconut trees along the Ala Wai promenade.

The bridge, particularly the tower, may also result in effects on visual resources in the vicinity of Ala Wai Canal. Views from surrounding schools, parks, playing fields, and buildings on the mauka side may be slightly altered or obstructed. The open view plane of the Ala Wai Canal from McCully Street Bridge looking toward Diamond Head would be altered. However, the proposed bridge is not anticipated to disrupt the entire viewshed due to the proposed open, cable-stayed bridge type and design. Furthermore, the proposed bridge would provide new opportunities for views of Diamond Head monument from the bridge deck. Also the mauka landing would include areas to congregate and enjoy the surrounding views.

The bridge was designed to be consistent with the project area's current visual character and is intended to mimic the natural environment in Honolulu. For example, the bridge would feature facets designed to create shadows and reflect light based on the time of year and atmospheric condition. Lighting would be incorporated on the bridge deck, cables, and bridge features. Given that the bridge is located in a highly developed area of Waikiki, light and glare from the proposed bridge during the nighttime and evening would be negligible in comparison to the lighting from surrounding vehicle traffic, residences, and businesses. Although the proposed bridge would create a new source of light, it would not be considered a significant source of light or glare in the project area given the current setting. Lighting and glare effects might be more noticeable on the mauka side of the canal since there are more residential and recreational uses in this area. The project would conform to HRS § 201-8.5, Night sky protection strategy, which establishes shielded lighting fixture requirements, thereby reducing the effects of nighttime light and glare from the bridge.

The analysis performed in the VIA (Appendix A) states that it is the position and shape of the proposed bridge that may contrast sharply with existing conditions. However, only some viewers—primarily those who inhabit the area as permanent neighbors (typically residents) or permanent travelers (typically commuters)—would notice the contrast. Transitory neighbors and travelers (typically tourists) would not be aware of that contrast. The artificial visual character of the canal defines it as a modern constructed visual resource. Constructing a bridge in the project area would result in the addition of another modern visual resource of similar height, scale, color, and materials to the existing high rise buildings in the area. Consequently, the proposed new bridge would not be in stark contrast with other structures visible in the vicinity of the canal. Nonetheless, effects on aesthetics and visual resources in the project area would be adverse, though not substantial.

Avoidance, Minimization, and/or Mitigation Measures

Since the project would result in adverse effects to visual resources, avoidance and minimization measures would be required to lessen the effects of the new bridge, makai ramp, and mauka landing.

The proposed avoidance and minimization measures incorporate design features and methods to avoid permanent adverse visual impacts and include the following.

- Architectural detailing and/or surface treatments consistent with the surrounding community would be incorporated into new bridge design.
- Landscape planting, where possible, would be implemented in an effort to help lessen the visual impacts caused by the new construction.
- Every effort would be made to avoid the removal of existing plant material.
- Areas impacted or disturbed by construction would be revegetated in the form of new landscape planting and irrigation systems. Landscape planting would consist of plant species adapted to the specific zone or region of the project area.
- Graded slopes would be maintained at 1:4 or flatter wherever possible to help in the revegetation process.
- Where feasible, slope contouring would be implemented in such a way as to match existing adjacent contours.
- Where feasible, the multiuse path slopes would not exceed 1:4 (Vertical: L Horizontal) in gradient.

Additionally, if determined to be feasible, the following avoidance and minimization measures would be implemented.

- Art may also be incorporated in the design of the makai ramp to break up the built environment and enhance the quality of the walking, bicycling and driving experience along Ala Wai Boulevard. Artistic design elements must be consistent with community goals.
- Every effort would be made to implement anti-graffiti products and introduce landscape designs to reduce and prevent graffiti on proposed project structures (e.g. possible design materials and textures, etc.).

3.2 Human Environment

3.2.1 Land Use

This section summarizes the existing conditions, potential project effects, and mitigation measures for land use. It discusses the project's conformance to the CCH LUO, the State Land Use Law (HRS, Chapter 205), Diamond Head Special District (ROH, Chapter 21-9.4), and Waikiki Special District (ROH, Section 21-9.8). This chapter also discusses conformance to relevant local plans and policies.

Affected Environment and Existing Conditions

There are multiple landowners in the project area. The Ala Wai Canal is owned by the State of Hawaii and operated by both the Board of Land and Natural Resources (BLNR) and DLNR. The State of Hawaii BLNR also owns the Ala Wai Neighborhood Park, while CCH Department of Parks and Recreation (CCH DPR) manages the park. CCH DPR also owns the Ala Wai Community Garden. The CCH Department of Facility Maintenance (CCH DFM) owns the Ala Wai Promenade. The Hawaii Department of Education owns the Ala Wai Elementary School.

The mauka side of the canal is part of the Diamond Head Special District. The makai side of the canal is part of the Waikiki Special District. The makai side of the project area is under CCH jurisdiction. While the mauka side of the project area is under the State's jurisdiction, but it is maintained by CCH DPR. The Ala Wai Canal area has a variety of land uses: residential, parks, and schools. The makai side of the canal primarily consists of condos and apartments, while the mauka side consists of recreational facilities. Pursuant to HRS, Chapter 205, all lands in the State of Hawaii must be classified as one of four land use districts: urban, rural, agricultural, and conservation districts. Ala Wai Canal and the surrounding land are classified as "urban." The state's urban land use designation power is given to the respective counties to determine activities and/or uses.

On the mauka side, the canal is within the Diamond Head Special District. ROH Section 21-9.4 states that Diamond Head is a state and national monument. The Special District ensures the preservation of the public view of Diamond Head and protects the "park like character" of Diamond Head. In ROH Section 21-9.4, the objectives of Special District are to "preserve existing prominent public views and the natural appearance of Diamond Head by modifying construction projects that would diminish these resources" and to "preserve and enhance the park like character of the immediate slopes of the Diamond Head monument, which includes Kapiolani Park." ROH Section 21-9.4 also states that there are design controls such as landscaping requirements, height limitations, and architectural design review for Diamond Head. There are no zoning precincts, and there are only necessary design controls to be followed. There is preservation zoning that includes the park, schools, and golf course. However, a large area of the mauka side is labeled as low- to high-density residential uses.

On the makai side, the canal is within the Waikiki Special Design District. ROH Section 21-9.8 states that Waikiki needs to continue to be a premier resort and provide "a sense of place that makes Waikiki unique" and that the "recognized symbol of Hawaii and the allure of Waikiki continues, serving as the anchor for the state's tourist industry." Additionally, the Special District requires that Waikiki retain "its place as one of the

world's premier resorts" and that its unique stature is maintained. There are three main defined objectives for the Special District that are specifically intended for nonautomobile travel. They are meant to (1) "support efficient use of multimodal transportation in Waikiki, reflecting the needs of Waikiki workers, businesses, residents, and tourists. Encourage the use of public transit rather than the private automobile, and assist in the efficient flow of traffic (21-9.8-1e);" (2) "maintain, and improve where possible: mauka views from public viewing areas in Waikiki, especially from public streets; and a visual relationship with the ocean, as experienced from Kalakaua Avenue, Kalia Road and Ala Moana Boulevard. In addition, improve pedestrian access, both perpendicular and lateral, to the beach and the Ala Wai Canal (21-9.8-1j);" and (3) "emphasize a pedestrian-orientation in Waikiki. Acknowledge, enhance and promote the pedestrian experience to benefit both commercial establishments and the community as a whole. Walkway system shall be complemented by adjacent landscaping, open spaces, entryways, inviting uses at the ground level, street furniture, and human-scaled architectural details. Where appropriate, open spaces should be actively utilized to promote the pedestrian experience (21-9.8-1l)." The Special Districts are zoned as public precinct.

Potential Effects

No Action Alternative

Under the No Action Alternative, a bridge spanning the Ala Wai Canal at University Avenue and Kalaimoku Street would not be constructed and the existing conditions for existing and surrounding land use would remain unchanged.

Proposed Action Alternative

The Ala Wai Bridge would not have a significant effect on land use and ownership. The area around the makai side of the bridge is owned by the CCH and maintained by the CCH DFM. Agreements between CCH DTS and CCH DFM would be made for the temporary uses during construction and permanent uses for the makai ramp within the Ala Wai Promenade. Agreements between CCH DTS, DLNR, and CCH DPR would be made for the temporary uses during construction and permanent uses for the mauka landing within the Ala Wai Neighborhood Park. The new bridge would follow Special District requirements under the Diamond Head and Waikiki Special Districts. A height exception for the mauka tower is anticipated within the Diamond Head Special District. State land use district states that bridges are "urban infrastructure" and can allow for more opportunities for views of Diamond Head while also improving walkability in the area. The bridge would require an easement from DLNR to cross the canal.

Coordination between CCH DTS, BLNR, DLNR, and CCH DPR would also occur prior to construction.

Avoidance, Minimization, and/or Mitigation Measures

The proposed project would not result in an adverse effect on land uses in the project area. As a result, no mitigation would be required.

3.2.2 Air Quality

This section summarizes the existing conditions, potential project effects, and mitigation measures for air quality. It discusses the project's conformance to the Federal Clean Air Act (CAA) and National Ambient Air Quality Standards (NAAQS) CCH LUO, the State Land Use Law (HRS, Chapter 205), Diamond Head Special District (ROH, Chapter 21-9.4), and Waikiki Special District (ROH, Section 21-9.8). This chapter also discusses conformance to relevant local plans and policies.

Affected Environment and Existing Conditions

The State of Hawaii currently meets the NAAQS established by the EPA to protect human health and welfare. In addition, the State of Hawaii complies with its own set of ambient air quality standards (AAQS), which are more stringent than are applied by the EPA. The standards are summarized in Table 3-2. Air quality is generally excellent in the project area. Air pollution is mainly derived from volcanic emissions produced on the Big Island of Hawaii consisting of sulfur dioxide which converts into particulate sulfate and produces a volcanic haze (i.e., vog) that occasionally blankets parts of the island. Prevailing northeasterly trade winds keep the project area relatively free of fog for most of the year.

Climate Conditions

In Honolulu, the summers are hot, oppressive, and dry; the winters are comfortable and humid; and it is windy and mostly clear year-round. Over the course of the year, the temperature typically varies from 68 degrees Fahrenheit (°F) to 87°F and is rarely below 63°F or above 89°F. The average maximum daily temperature is 84.0°F, with an average minimum of 70.4°F. Mean annual rainfall at the project location is approximately 20.2 inches. Rainfall is typically highest in October through March and lowest in June (Western Regional Climate Center 2020).

Existing Air Quality Conditions

The Department of Health has been monitoring ambient air quality in the State of Hawaii since 1957. The primary purpose of the statewide monitoring network is to measure ambient air concentrations of six criteria pollutants that the EPA has promulgated as the NAAQS. As reported in the State of Hawaii Department of Health's *Annual Summary 2016 Air Quality Data* (December 2016), there have been no exceedances of the federal or state air quality standards at any of the monitoring stations in the Honolulu area. The criteria pollutant emissions of interest for EPA and the Department of Health are described below.

Table 3-2. State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	Hawaii State Standard	Federal Standard ^a	Federal Secondary Standard ^b	Principle Health and Atmospheric Effects	Typical Sources
Carbon monoxide (CO)	1-hour 8-hour	9 ppm 4.4 ppm	35 ppm 9 ppm	None	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.
Nitrogen dioxide (NO ₂)	1-hour Annual	— 0.04 ppm	0.100 ppm 0.053 ppm	— 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain. Part of the “NO _x ” group of ozone precursors	Motor vehicles and other mobile sources; refineries; industrial operations.
Respirable particulate matter (PM ₁₀)	24-hour Annual ^c	150 µg/m ³ 50 µg/m ³	150 µg/m ³ —	— —	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many aerosol and solid compounds are part of PM ₁₀ .	Dust- and fume-producing industrial and agricultural operations; combustion smoke and vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.
Fine particulate matter (PM _{2.5})	24-hour Annual	— —	35 µg/m ³ 12 µg/m ³	35 µg/m ³ 15 µg/m ³	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter—a toxic air contaminant—is in the PM _{2.5} size range. Many toxic and other aerosol and solid compounds are part of PM _{2.5} .	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical (including photochemical) reactions involving other pollutants including nitrogen oxides (NO _x), sulfur oxides (SO _x), ammonia, and reactive organic gas (ROG).
Ozone (O ₃)	8-hour	0.08 ppm	0.070 ppm	0.070 ppm	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic volatile organic compounds (VOCs) may also contribute.	Low-altitude ozone is almost entirely formed from ROG or VOC and NO _x in the presence of sunlight and heat. Major sources include motor vehicles and other mobile sources, solvent evaporation, and industrial and other combustion processes.

Table 3-2. State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	Hawaii State Standard	Federal Standard ^a	Federal Secondary Standard ^b	Principle Health and Atmospheric Effects	Typical Sources
Sulfur dioxide (SO ₂)	1-hour 3-hour 24-hour Annual	— 0.5 ppm 0.14 ppm 0.03 ppm	0.075 ppm — — —	— 0.5 ppm — —	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources such as active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.
Lead (Pb)	Rolling 3-month average	1.5 µg/m ³	0.15 µg/m ³	0.15 µg/m ³	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from gasoline may exist in soils along major roads.
Hydrogen sulfide (H ₂ S)	1-hour	0.025 ppm	None	None	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea.	Industrial processes: refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources such as volcanic areas and hot springs.

Source: Hawaii Annual Summary – 2016 Air Quality Data

Notes: µg/m³ = micrograms per cubic meter, ppm = parts per million

^a Primary standards set limits to protect public health, including the health of “sensitive” populations such as asthmatics, children, and the elderly.

^b Secondary standards set limits to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

^c Because of a lack of evidence linking health problems to long-term exposure to coarse particle pollution, EPA revoked the annual PM₁₀ standard effective December 17, 2006. However, the state still has an annual standard.

Carbon monoxide

CO is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. CO is a nonreactive air pollutant that dissipates relatively quickly, so ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions, primarily wind speed, topography, and atmospheric stability.

Ozone

O₃ is a colorless gas that is formed in the atmosphere when ROG, which includes VOC, and NO_x react in the presence of ultraviolet sunlight. O₃ is not a primary pollutant; it is a secondary pollutant formed by complex interactions of two pollutants directly emitted into the atmosphere. The primary sources of ROG and NO_x, the components of O₃, are automobile exhaust and industrial sources. Meteorology and terrain play major roles in O₃ formation. Ideal conditions occur during summer and early autumn, on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies.

The greatest source of smog-producing gases is the automobile. Short-term exposure (lasting for a few hours) to O₃ can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes.

Nitrogen Dioxide

NO₂, like O₃, is not directly emitted into the atmosphere but is formed by an atmospheric chemical reaction between nitric oxide and atmospheric oxygen. Nitric oxide and NO₂ are collectively referred to as NO_x and are major contributors to O₃ formation. NO₂ also contributes to the formation of PM₁₀. High concentrations of NO₂ can result in a brownish-red cast to the atmosphere with reduced visibility and can cause breathing difficulties.

Oxides of Sulfur

SO₂ is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Main sources of SO₂ are coal and oil used in power plants and industries. Generally, the highest levels of SO₂ are found near large industrial complexes. In recent years, SO₂ concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO₂ and limits on the sulfur content of fuels. SO₂ is an irritant gas that attacks the throat and lungs. It can cause acute respiratory symptoms and diminished ventilator function in children.

Coarse Particulate Matter

Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter also forms when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. Inhalable particulate matter, or PM₁₀, is about 1/7 the thickness of a human hair. Major sources of PM₁₀ include crushing or grinding

operations; dust stirred up by vehicles traveling on roads; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. When inhaled, PM₁₀ particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. PM₁₀ can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections.

Fine Particulate Matter

Fine particulate matter, or PM_{2.5}, is roughly 1/28 the diameter of a human hair. PM_{2.5} results from fuel combustion (for example, motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, PM_{2.5} can be formed in the atmosphere from gases such as SO₂, NO_x, and VOC. Very small particles of substances, such as lead, sulfates, and nitrates, can cause lung damage directly. These substances can be absorbed into the bloodstream and cause damage elsewhere in the body. These substances can transport absorbed gases, such as chlorides or ammonium, into the lungs and cause injury. Whereas PM₁₀ tends to collect in the upper portion of the respiratory system, PM_{2.5} is so tiny that it can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility.

Volatile Organic Compounds or Reactive Organic Gases

VOCs are carbon-containing compounds that evaporate into the air. VOCs contribute to the formation of smog and/or may be toxic. VOCs often have an odor, and examples include gasoline, alcohol, and the solvents used in paints. There are no specific State or federal VOC thresholds because they are regulated by individual air districts as O₃ precursors.

Sensitive Receptors

Sensitive populations are more susceptible to the effects of air pollution than the general population. Sensitive populations (sensitive receptors) that are in proximity to localized sources of toxics, particulate matter, and CO are of particular concern. Land uses considered sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. Most of the sensitive receptors within or adjacent to the project area are residential uses, hotels, parks, and a school.

Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to GHG emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily

concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF₆), HFC-23 (fluoroform), HFC-134a (1,1,1,2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the United States, the main source of GHG emissions is electricity generation, followed by transportation. In Hawaii, energy sources (including emissions from stationary combustion, transportation, waste incineration, and oil and natural gas systems) make up the largest source of GHG-emitting sources. The dominant GHG emitted is CO₂, mostly from fossil fuel combustion.

Two terms are typically used when discussing the impacts of climate change: “greenhouse gas mitigation” and “adaptation.” GHG mitigation refers to reducing GHG emissions to reduce or mitigate the impacts of climate change. Adaptation refers to planning for and adapting to impacts resulting from climate change, such as adjusting transportation design standards to withstand more intense storms and higher sea levels.

There are four primary strategies for reducing GHG emissions from transportation sources: (1) improving the transportation system and operational efficiencies, (2) reducing travel, (3) transitioning to lower GHG-emitting fuels, and (4) improving vehicle technologies/efficiency. To be most effective, all four strategies should be pursued cooperatively.

GHGs vary considerably in terms of global warming potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time the gas remains in the atmosphere (“atmospheric lifetime”). The GWP of each gas is measured relative to CO₂, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO₂ over a specified time period. GHG emissions are typically measured in terms of pounds or tons of CO₂ equivalents (CO₂e).

Potential Effects

No Action Alternative

Because no construction activities would occur under the No Action Alternative, there would be no short-term effects on air quality or GHGs. Furthermore, because the bridge would not be built, there would be no long-term anticipated beneficial effects on air quality or GHGs as a result of providing a nonmotorized transportation crossing over the Ala Wai Canal. Existing air quality and GHG emissions would remain and potentially increase over time with the use of the existing transportation network. Therefore, no appreciable change in air pollutant emissions would result.

Proposed Action Alternative

CONSTRUCTION IMPACT

During construction, short-term degradation of air quality may occur because of the release of particulate emissions generated by excavation, grading, hauling, and other

activities. Emissions from construction equipment are also anticipated and would include CO, NO_x, SO₂, VOC, and directly-emitted particulate matter (PM_{2.5} and PM₁₀).

Site preparation and project construction would involve clearing, cut-and-fill activities, grading, and building activities. Construction-related effects on air quality from the proposed project would be greatest during the site preparation phase because most engine emissions are associated with the excavation, handling, and transport of soil on the site. Sources of fugitive dust would include disturbed soil at the construction site and trucks carrying uncovered loads of soil. Unless properly controlled, vehicles leaving the site could deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM₁₀ emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM₁₀ emissions would depend on soil moisture, silt content of the soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction sites.

Water or other soil stabilizers can be used to control dust, resulting in emission reductions of 50 percent or more. With the implementation of standard construction measures such as frequent watering (for example, two times per day at a minimum), fugitive dust emissions from construction activities would not result in adverse air quality effects.

In addition to dust-related PM₁₀ emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO₂, NO_x, VOCs, and some soot particulate (PM_{2.5} and PM₁₀) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction sites.

Because conditions in the project area attain air quality standards, vehicles used during construction activities would represent a minor increase in the number of vehicles traversing the area daily. Additionally, the prevailing trade winds rapidly carry pollutants offshore limiting the effect on nearby sensitive receptors. With implementation of dust control and other BMPs required for the various aspects of construction activities to minimize on-site emissions, construction of the proposed project would not be expected to significantly affect air quality.

LONG-TERM REGIONAL EMISSIONS IMPACT

The proposed project is a pedestrian and bicycle bridge. Once construction has been completed, regional per capita traffic volumes would decrease from the no action conditions. The proposed bridge could result in beneficial effects on congestion and associated emissions in the project area because a new canal crossing would make more places reachable in a 20-minute walk or bicycle ride from Waikiki. The proposed project would, therefore, allow more people to walk and bicycle for short trips, improving sustainable mobility in the project area and thereby potentially decreases daily emissions. As a result, the proposed project would have no adverse effect on long-term regional air quality emissions.

Avoidance, Minimization, and/or Mitigation Measures

In accordance with HAR Chapter 11-59 and 11-60, specifically Section 11-60.1-33 on Fugitive Dust, the proposed project would implement construction BMPs to minimize the effect on existing sensitive land uses from construction-related emissions and nuisance dust. BMPs to reduce construction effects would include the following.

- Use of water or suitable chemicals for control of fugitive dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land.
- Application of asphalt, water, or suitable chemicals on roads, material stockpiles, and other surfaces that may result in fugitive dust.
- Covering of all moving, open-bodied trucks transporting materials that may result in fugitive dust.
- Maintenance of roadways in a clean manner.
- Prompt removal of earth or other materials from paved streets that have been transported there by trucking, earth-moving equipment, erosion, or other means.

The proposed avoidance and minimization measures and compliance with HAR 11-59 and 11-60 would avoid temporary air quality effects during construction.

3.2.3 Noise

This section summarizes the existing conditions, potential project effects, and mitigation measures for noise. It also summarizes the noise sources and levels around the Ala Wai Canal and project area.

Affected Environment and Existing Conditions

The proposed project is located in Honolulu and, therefore, must conform to regulations set forth in HAR, Chapter 11-46, Community Noise Control. According to this chapter, noise is defined as "... any sound that may produce adverse physiological or psychological effects or interfere with individual or group activities; including but not limited to communication, work, rest, recreation, or sleep" (HAR, Section 11-46.2, Definitions).

Noise is measured using decibel units, given that this is how humans perceive changes in sound amplitude. While levels in sound can be measured, human responses to sound and how humans perceive the wide variability in sound amplitudes is subjective.

A-weighted decibels (dBA) are used to describe the sound and its effect on a human population and response of the human ear. An A-weighted decibel is a term established by the American National Standards Institute that refers to a filtering of the noise signal to emphasize frequencies in the middle audible spectrum, while deemphasizing low and high frequencies in a manner that is consistent with how humans perceive sound. A-weighted noise levels are often used as a measure of community noise.

The HDOH created noise zoning districts throughout Hawaii to establish the maximum permissible sound levels in dBA for various areas. The project area is a mix of Class A, B, and C zoning districts. Class A zoning districts include residential, conservation,

preservation, public space, open space, or similar types of land uses. Class B zoning districts include all areas zoned for multifamily dwellings, apartment, business, commercial, hotel, resort, or similar types of land uses. Class C zoning districts include areas zoned agriculture, country, industrial, or similar types of land uses (HAR, Section 11-46.3, Classification of zoning districts). The maximum permissible sound levels in these areas range from 45 to 70 dBA. This range accounts for excessive daytime and nighttime noise levels generated from stationary noise sources and equipment related to agricultural, construction, and industrial activities (HAR, Section 11-46.4, Maximum permissible sound levels in dBA). Ambient noise in the project area is generated by both human-made and natural sources common of many urban areas. Noise sources in the project area include vehicular, boating, and air traffic; recreational uses; and high-density apartment, commercial, and resort areas that make up Waikiki.

Potential Effects

No Action Alternative

Under the No Action Alternative, a bridge spanning the Ala Wai Canal at University Avenue and Kalaimoku Street would not be constructed and the existing conditions for noise would remain unchanged.

Proposed Action Alternative

The use of large construction equipment, such as excavators and drill shaft rigs, and construction vehicles during bridge construction would result in a short-term temporary increase in ambient noise levels in the project area. Construction of the secant piles would occur along Ala Wai Boulevard, resulting in noise effects on nearby sensitive receptors. Construction of the secant piles is expected to take place over approximately 6 to 10 weeks. Construction equipment typically generates noise levels between 55 and 90 dBA, depending on the type of construction method used (DNLR 2017). Table 3-3 lists typical noise levels from construction equipment. Construction equipment would be used intermittently on a temporary basis, primarily during daylight hours. Nighttime construction could involve operation of drill rigs, excavation of spoils, operation of haul trucks, support equipment, and delivery of concrete for secant piles and drilled shaft foundation construction. Nighttime construction would be short-term, lasting no more than 34 days, if required. Lane closures may be required during nighttime construction and would occur between the hours of 9:00 pm to 5:00 am.

Table 3-3. Typical Noise Levels from Construction Equipment

Construction Equipment	Noise Level (dBA, L _{eq} at 50 feet)
Truck	88
Air compressor	81
Grader	85
Scraper	89
Jackhammer	88
Dozer	85
Generator	81
Loader	85

Source: Federal Transit Administration (2006)

Note: L_{eq} = equivalent sound level

The nearest sensitive, permanent receptors on the makai side of the canal to the proposed project are located near Ala Wai Boulevard and Kalaimoku Street at the Hale Moani Condominiums and the Twin Tower Condominiums. The nearest sensitive, permanent receptors on the mauka side of the canal to the proposed project are located at the intersection of University Avenue and Hihiwai Street at the Ala Wai Plaza Condominiums. Additional sensitive, short-term receptors include the students and staff at the Ala Wai Elementary School, which is located adjacent to the Ala Wai Neighborhood Park. The sensitive receptors at the Ala Wai Elementary School are considered short-term receptors because they are only at the school site for a limited duration during the day and year.

The proposed project would not result in a substantial increase in ambient noise levels after construction is complete. While most construction noise would be generated during the day, it would be short-term and is not anticipated to be excessive over the duration of the construction period. Nighttime construction would also be short-term and would minimize traffic impacts during the day. Both daytime and nighttime construction activities would conform to permissible noise levels outlined in HAR, Section 11-46.4. Long-term, the proposed bridge is not intended for vehicular traffic and pedestrian and bicycle traffic would have a negligible effect on the noise levels in the surrounding communities. As a result, the project would have no long-term effects on the ambient noise environment and would have temporary adverse effects during construction but these effects would not be substantial.

Avoidance, Minimization, and/or Mitigation Measures

During construction, noise from construction activities would be attenuated to conform to regulatory requirements or required permits. Therefore, the proposed project would not result in an adverse effect from construction noise or long-term noise generation in the project area. As a result, no mitigation would be required.

3.2.4 Historic and Cultural Resources

Affected Environment and Existing Conditions

This section reviews the affected historic and cultural resources, including historic architectural resources (that is, buildings and structures), historic archaeological resources, and traditional and customary practices. Mason Architects Inc. (MASON) conducted a review of historic architectural resources within the area of potential effects (APE). Honua Consulting conducted an archaeological literature and field investigation within the APE and a cultural impact assessment (CIA).

A single APE was developed primarily based on potential effects on historic properties within the view plane of the proposed project. The proposed APE is approximately 91 acres.

Although the area for proposed construction activities constitutes only a fraction of the APE, it was determined that the entire 91-acre APE would undergo review for effects to historic properties.

Architectural Resources

Thirty architectural resources were identified within the APE. Of these, 12 were listed previously or found eligible for listing on the State and/or National Register of Historic Places (NRHP), and 18 were evaluated as not eligible. The 12 properties include the following.

- Ala Wai Canal
- Malia Koa Canoe
- Ala Wai Clubhouse
- McCully Street Bridge
- South Comfort Station at Ala Wai Neighborhood Park
- Ala Wai Plaza Condominium
- Ala Wai Elementary School
- Waikiki-Kapahulu Library
- 2153 Ala Wai Blvd. residential apartment
- Rosalei Apartments
- 2107 Ala Wai Blvd. single family residence
- 441-443 Kalaimoku St Duplex

Three properties were already listed on the Hawaii or NRHP.

- Ala Wai Canal – 1927 (Listed on the Hawaii Register of Historic Places in 1992, under Criterion A) Project Team recommends Criterion C as well
- Malia Canoe - 1933 (Listed on the Hawaii and National Registers of Historic Places in 1993, under Criteria A and C)

- Ala Wai Clubhouse - 1936 (Listed on the Hawaii Register of Historic Places in 1988 as part of the Art Deco Parks Thematic Nomination, under Criterion A)

The Ala Wai Canal was added to the Hawaii Register of Historic Places on July 17, 1992 (SIHP #50-80-14-9757), under Criterion A for its pivotal role in the development of the Waikiki district. The Ala Wai Neighborhood Park South Comfort Station was constructed in 1960 and was identified as eligible for listing in the Hawaii or NRHP for its architecturally distinctive design and materials, including its lava rock columns, wood shakes, and copper-clad decorative ridge beam. These resources are summarized in the Identification of Historic Properties (MASON 2020) report, located in Appendix B. Effects of the project on historic architectural resources are evaluated further below.

Archaeological Resources

A draft literature review and field inspection was completed and prepared by Honua Consulting. The Archaeological Literature Review and Field Inspection/Supplemental Archaeological Resources Identification Report (Honua 2020) is included in Appendix C.

The purpose of the literature review and field investigation was to determine the area's land use history and to identify any potential artifacts, surface architecture, or cultural deposits on the ground surface. Background research indicates that historically the surrounding area was used for agricultural activities. A number of historic or pre-contact sites have been documented in the current project area and are described below. The current literature review and field investigation included a pedestrian survey covering 100 percent of the project area.

While this report is not an archaeological inventory survey (as none has been requested by State Historic Preservation Division [SHPD]), the current literature review and field investigation was written in accordance with requirements of HAR 13-276 for archaeological inventory surveys. Fieldwork for this project was performed under archaeological permit number 20-15 issued to Honua Consulting by the SHPD in accordance with HAR 13-282.

In pre-contact (pre-1778) times, the project area and vicinity were used for fish/duck ponds and pond field systems for growing taro and various other crops. The project area is situated within the northern portion of a complex of fishponds that extend along the former Alanaio Stream to the large Kalia Fishpond Complex in the area now known as Fort DeRussy. Archaeological investigations at the Kalia Fishponds and in other pond systems in Waikiki indicate that many of the ponds were constructed around the fifteenth century. The project area is located within a former pond, likely a duck pond, depicted on an 1881 map of the area and entirely within Land Commission Award (LCA) 8559 Ap. 29 to Lunalilo. Late 1880s and early 1900s maps show the project area being under rice cultivation, and the pre-Ala Wai maps and aerial photos show that the project area was likely also used for banana cultivation, like much of the surrounding area, just prior to construction of the Ala Wai Canal between 1921 and 1928.

Two historic properties are present in the project area: the Ala Wai Canal (State Inventory of Historic Places [SIHP] #50-80-14-9757) and the buried original Waikiki wetland surface (SIHP #50-80-14-5796). SIHP #5796 is a large site that has been documented in several studies to the south of the project area and includes natural and modified portions of the buried original Waikiki wetland surface. The types of features

documented in association with the site include pond sediments, isolated pre-contact and historic artifacts, and aqua-cultural features including berms, auwai (ditches), and pond field walls. SIHP #-5796 was documented in Ala Wai Boulevard just south of the project area during a 2016 archaeological inventory survey for the Ala Wai 46kV Underground Cable Relocation Project that included the entirety of the current project area. The site consists of a buried black organically enriched sandy clay loam O-Horizon soil, approximately 1.8 feet thick (55 centimeters) and documented beneath 2.6 feet of various modern and historic fill materials with the bottom fills from land reclamation activities associated with construction of the Ala Wai Canal. However, the deposit was natural, likely pond sediments, and nothing of archaeological note was encountered.

Based on the background research and previous archaeological studies, it is likely that SIHP #-5796 will be encountered during excavations for the project at a depth of approximately 2.5 feet beneath the ground surface, at least on the south landing of the bridge. However, it is likely that the site extends to the north landing as well. Although nothing of archaeological interest was documented within the portion of SIHP #-5796 closest to the project area, there is always the possibility to encounter features, human remains, and isolated artifacts because they have been found within similar deposits encountered in Waikiki. No burials have been documented in the vicinity, and they have mostly been concentrated along the coast seaward of Kalakaua Avenue and clustered around the easternmost end of the Ala Wai Canal. Because of this, human remains and/or human burials are not anticipated to be encountered during construction. Given the location of the project in Waikiki and the documentation of the Ala Wai Canal (SIHP #-9757) and the original buried Waikiki wetland surface (SIHP #-5796) within the project area it is recommended that subsurface excavations associated with the project be monitored by a qualified archaeologist and guided by an archaeological monitoring plan.

Cultural Impact Assessment

Articles IX and XII of the State Constitution, other state laws, and the courts of the state require government agencies to protect and preserve cultural beliefs, practices, and resources of Native Hawaiians and other ethnic groups. To assist decision makers in the protection of cultural resources, HRS Chapter 343 and HAR § 11-200.1 rules for the environmental impact assessment process require project proponents to assess proposed actions for their potential effects on cultural properties, practices, and beliefs.

This process was clarified by Act 50 of the Session Laws of Hawaii 2000. Act 50 recognized the importance of protecting Native Hawaiian cultural resources and required that environmental assessments include the disclosure of the effects of a proposed action on the cultural practices of the community and state, and the Native Hawaiian community in particular. Specifically, the Environmental Council suggested the CIAs should include information relating to practices and beliefs of a particular cultural or ethnic group or groups. Such information may be obtained through public scoping, community meetings, ethnographic interviews, and oral histories.

It is important to note that while similar in their areas of studies, archaeological surveys and CIAs are concerned with distinct and different foci. Archaeological studies are primarily concerned with historic properties and tangible heritage, whereas CIAs look at cultural practices and beliefs, which can be associated with a specific location, but also are often intangible in nature.

The State and its agencies have an affirmative obligation to preserve and protect Native Hawaiians' customarily and traditionally exercised rights to the extent feasible (Article XII, Section 7 of the Hawaii State Constitution; *Ka Pa'akai O Ka 'Āina v. Land Use Commission*, 94 Haw. 31 [2000] [*Ka Paakai*]; Act 50 of the Session Laws of Hawaii 2000). State law further recognizes that the cultural landscapes provide living and valuable cultural resources where Native Hawaiians have and continue to exercise traditional and customary practices, including hunting, fishing, gathering, and religious practices. In *Ka Paakai*, the Hawaii Supreme Court provided government agencies an analytical framework to ensure the protection and preservation of traditional and customary Native Hawaiian rights while reasonably accommodating competing private development interests. This is accomplished through:

- the identification of valued cultural, historical, or natural resources in the project area, including the extent to which traditional and customary Native Hawaiian rights are exercised in the project area;
- the extent to which those resources—including traditional and customary Native Hawaiian rights—will be affected or impaired by the proposed action; and
- the feasible action, if any, to be taken to reasonably protect Native Hawaiian rights if they are found to exist.

The CIA was prepared under HRS Chapter 343 and Act 50 of the Session Laws of Hawaii 2000. The appropriate information concerning the ahupuaa of Waikiki has been collected, focusing on areas near or adjacent to the project area. A thorough analysis of this project and potential effects on cultural resources, historical resources, and archaeological sites is included in the assessment.

Waikiki was once a place heavily inhabited by alii and people of royal lineages. After Mailikukahi became Moi (King) of Oahu in the mid to late 1400s, he moved his royal court from Waialua to Waikiki and became the first alii (chief) to rule out of the Kona moku. This trend was kept by Oahu alii and continued into the Kamehameha monarchy. According to Native Hawaiian historian and kahu alii (royal guardian in the family of a high chief), John Papa Ii, Kamehameha I formerly dwelt part-time at Helumoa in Puaaliili in Waikiki in a house named Kuihelani where he helped to maintain the large gardens kept there. Kamehameha was known to be an active farmer throughout the Kona moku and had several homes kept near large farming projects. The Hawaiian monarchy ruled out of the Kona district, namely Waikiki and throughout Honolulu, up to the overthrow of Queen Liliuokalani in 1893. Queen Liliuokalani had an estate and two homes in Waikiki, Paoakalani and Kealohilani.

The present analyses of archival documents, oral traditions (chants, mele [songs], and/or hula), and Hawaiian language sources (including books, manuscripts, and newspaper articles) are focused on identifying recorded cultural and archaeological resources present on the landscape, including Hawaiian and non-Hawaiian place names, landscape features (ridges, gulches, cinder cones), archaeological features (kuleana parcel walls, house platforms, shrines, heiau [places of worship], etc.), culturally significant areas (viewsheds, unmodified areas where gathering practices and/or rituals were performed), and significant biocultural resources. The information gathered through research helped to focus interview questions on specific features and elements within the project area.

Interviews with lineal and cultural descendants are instrumental in procuring information about the project area's transformation through time and changing uses. Interviews were conducted with recognized cultural experts, and summaries of those interviews are included in the CIA (Appendix D).

The CIA thoroughly researched the cultural history of the project area and the Waikiki ahupuaa as a whole. This effort identified extensive paddling activities in the project area. As documented in the CIA, canoe paddling is a traditional and customary practice. It has long existed in the Hawaiian Islands and has taken place in the Waikiki area for centuries. Paddling on the Ala Wai has taken place since the first building of the canal nearly a century ago. Associated with these paddling practices are ceremonial activities, specifically the blessing of waa (canoes) and using the historic Malia canoe for ceremonial purposes. The Malia has been used to scatter the ashes of beloved kupuna in the waters off Waikiki. This death ritual is not exclusive to Hawaiians, as customary practices associated with canoes can be identified in indigenous communities around the world, particularly in seafaring groups. There is also traditional pedagogy that occurs in the area. The practice of building and activities associated with caring for canoes, many of which primarily occur at the project area. The craft of caring for canoes is passed on through generations, allowing for the custom to perpetuate for canoes are regularly passed on to younger members of the community.

Section 106 Consultation with Consulting Parties and Native Hawaiian Organizations

Initiation of the project NHPA Section 106 Consultation and HRS 6E APE Review occurred on March 23, 2020. SHPD approved the project APE on July 7, 2020. Consulting parties were solicited under Section 106 between June-July 2020. Responses from the following organizations requesting to be a consulting party were received from Historic Hawaii Foundation, Waikiki Surf Club, Royal Hawaiian Center, Kamehameha Schools, Waikiki Beach Special Improvement District Association, and Waikiki Neighborhood Board. Several stakeholder and outreach meetings were held between June-November 2020 with consulting parties, other agencies, and adjacent properties. A Section 106 Meeting for all consulting parties was held on October 19, 2020. CCH DTS responded to comments received as part of the project Section 106 consultation in November and December 2020. See Chapters 5 and 7 for additional information related to compliance with NHPA Section 106 and Chapter HRS 6E-8. Appendix D includes correspondence related to the CIA. Appendix J includes correspondence related to the project NHPA Section 106 consultation.

Potential Effects

No Action Alternative

The No Action Alternative would continue the current conditions and would not involve ground disturbance or disturbance of current historic, cultural, architectural, or archaeological resources. No effect would occur.

Proposed Action Alternative

ARCHITECTURAL RESOURCES

Table 3-4 shows the evaluation of potential effects of the Proposed Action on the 12 identified historic resources in the APE. Architectural resource effects for three historic properties of most concern, the Ala Wai Canal, the Malia canoe, and the South Comfort Station, are evaluated further below.

Table 3-4. Potential Project Effects of the Proposed Action on Historic Resources

Historic Resource	Potential Project Effect (Yes/No)	Notes
Ala Wai Canal	Yes	The tall, visually striking cable-stayed bridge is visible from a great distance and introduces a visual element that diminishes the integrity of the property's setting and environment. Its design is not consistent with Secretary of Interior standard 9, since it is not compatible with the massing, size, scale, and architectural features of the canal. Integrity of setting, feeling would be diminished, and integrity of association would be minimally impaired by the new bridge over the canal.
McCully Street Bridge	No	Views of the new bridge in the distance will not detract from this property's integrity.
<i>Malia</i> Koa Canoe	Yes	Modifications in the immediate vicinity of the canoe's waterfront may detract from its integrity of setting and feeling. Access to the Ala Wai Canal for use in the historic cultural practice of canoe paddling would be maintained.
Ala Wai Clubhouse	No	Southeast views from portions of this property towards Diamond Head will include the new bridge but will not detract from its integrity.
South Comfort Station	No	Views of the new bridge nearby will not detract from this property's integrity. Modifications to the park/parking lot do not impair integrity since this setting has changed significantly since the comfort station was built.
Ala Wai Plaza Condominium	No	Views of the new bridge nearby will not detract from this property's integrity.
Ala Wai Elementary School	No	Views of the new bridge nearby will not detract from this property's integrity.
Waikiki-Kapahulu Library	No	While the new bridge will be visible at a distance from the library, it will not detract from the library's historic integrity.
2153 Ala Wai Blvd. residential apartment	No	While the new bridge may be visible from portions of this property, it will not detract from the apartment's historic integrity.
Rosalei Apartments	No	While the new bridge may be visible from portions of this property, it will not detract from the apartment's historic integrity.
2107 Ala Wai Blvd. single family residence	No	While the new bridge may be visible from portions of this property, it will not detract from the residence's historic integrity.
441-443 Kalaimoku St Duplex	No	While the new bridge may be visible from portions of this property, it will not detract from the duplex's historic integrity.

Based on evaluation, the proposed project may result in an effect to the Ala Wai Canal. The proposed bridge would not physically alter the canal's integrity of location, design, materials, or workmanship, which are critical aspects of integrity. However, the proposed bridge would extend directly over it and affect its integrity of feeling, association, and setting. The tall, visually striking cable-stayed bridge would be visible from a great distance, and it would introduce a visual element that diminishes the integrity of the property's setting and environment. Specifically, the design is not consistent with Secretary of Interior standard 9, since it is not compatible with the massing, size, scale, and architectural features of the canal. Nonetheless, while some aspects of integrity would be impaired, the canal's historic status would not be adversely affected and would still retain sufficient integrity for inclusion in the Hawaii Register of Historic Places. Further, the proposed project would not involve permanent modifications to the Ala Wai Canal walls. The makai ramp would be designed to cantilever out over the existing floodwall from a wall supported on secant piles. Similarly, on the mauka end of the bridge, the tower would straddle a cast-in-place deck that would cantilever over the existing canal wall. Temporary in-water work would occur in the Ala Wai Canal during construction of the bridge deck. No permanent features would be constructed in the canal. Upon completion of construction activities, all construction equipment in the canal (barges) and in the project area would be removed and the area would be restored.

The Malia, a Hawaiian racing canoe, was carved by James Takeo Yamasaki in 1933 out of a single koa log. She was listed on the Hawaii Register of Historic Places/NRHP in 1993 under Criteria A and C for her important contributions to the Hawaiian State Sport of canoe racing, and served as the prototype for an entire class of fiberglass racing canoes that have been in use since the early 1960s. The Malia is owned by the Waikiki Surf Club and stored with other canoes in the University Halau on the mauka bank of the Ala Wai, adjacent to the proposed bridge landing.

No direct, physical effects to the Malia canoe would occur as a result of the proposed project. The Malia canoe's integrity of location would not be compromised, since the proposed project does not require its removal or relocation. The canoe's integrity of design, materials, and workmanship are not affected, since the bridge project does not physically alter or modify the canoe. Further, the canoe's integrity of association would not be compromised by the bridge project, since it would retain its direct link to its importance to the Hawaiian State Sport of canoe racing.

The historic designation of the Malia canoe is not tied to the current setting and location of the canoe in the University Halau. Integrity of setting is maintained through access to the Ala Wai Canal for use in the historic cultural practice of canoe paddling, which the proposed project would accommodate. Despite ample public access, the site is a relative enclave, used most typically by select population groups that visit, such as paddlers, bike path users, nearby residents, and children/families of nearby schools.

The waterfront location of the Malia is important to retain its historic integrity. Per National Register Bulletin 20, *Nominating Historic Vessels and Shipwrecks to the National Register of Historic Places*, "in rare vessels, integrity of setting [is retained] if the craft is associated with the water by means of a waterfront location. This setting must not detract from appreciating the vessel as a waterborne craft or present her as a museum object." Accordingly, this location, or a similar location on the Ala Wai Canal where the canoe would be equally protected, or even another waterfront site away from

the Ala Wai Canal, could be historically appropriate especially since the canoe has been stored in different locations over time.

The functionality of the Malia's waterfront location is characterized by four floating docks directly in front of University Halau that paddlers use to put canoes, including the Malia, in the water. Because the proposed project would be built so close to the southernmost dock, this dock would be removed and relocated on the Ewa side. This relocation would potentially increase the distance from the halau that some canoes may need to be hauled for water entry/egress.

The waterfront setting of the canoe would be altered by the introduction of a large bridge structure roughly 50' from the halau, in an area currently characterized by a walkway, grassy open space, and trees. The bridge structure would change the character of the area by disrupting south-facing views of the continuous, uninterrupted open waterway towards Diamond Head. The presence of the bridge and its 180-foot tower would also introduce a highly visible vertical element that would notably contrast with, and disrupt, the relatively low-scale and open space feeling of the waterfront setting.

The proposed project would also modify circulation patterns in the area, slightly re-routing the bike path along the southeast side of the halau, and, more broadly, drawing pedestrians and cyclists to the area, intent on traversing the bridge to and from Waikiki. It is estimated that approximately 96,000 pedestrians and cyclists would utilize the new bridge to walk or bike to central Waikiki from where they on the mauka side of the canal within 20 minutes (DTS 2019). The indirect, or cumulative, effects of this growth in visitors to the area, and to the vicinity of the Malia's waterfront setting, cannot be precisely calculated. However, it is not unreasonable to assume that the general character and feeling of this quiet public space would change as the proposed bridge grows in popularity. Therefore, potential project effects on the Malia canoe could result from the proposed project and mitigation commitments would be required to offset such effects.

The south comfort station in the Ala Wai Neighborhood Park is evaluated as eligible for listing under the Hawaii or NRHP under Criterion C for its architecturally distinctive design and materials, including its wood shake roof and distinctive decorative ridge beam. Designed by Tom Litaker and Louis Pursel, the facility exhibits a distinctive design with rustic materials, including lava rock columns, wood roof shakes, and a copper-clad decorative ridge beam. The layout includes a restroom and pavilion under a shared roof.

No direct, physical effects to the comfort station are associated with the proposed project. Namely, the comfort station's integrity of location would not be compromised, since the proposed project does not require its removal or relocation. The comfort station's integrity of design, materials, and workmanship are not affected, since the bridge project does not physically alter or modify the building. The comfort station's integrity of association would not be compromised by the bridge project, since it would retain its direct link to its distinctive design. The Ala Wai Neighborhood Park, in which the comfort station is located, is not a historic resource, and has changed over time, with continuously enlarged parking areas and modifications to play equipment and play areas. The comfort station is evaluated as a historic resource that retains all aspects of integrity except setting, because of the changes made to the park over time. The comfort station

currently retains its association since its (restroom/public pavilion) use has remained unchanged over time. Further, it currently retains its integrity of feeling because it still supports a recreational function of the park facilities (e.g., grassy playing fields, playground structures). The proposed project would not impair the setting and feeling of the south comfort station; the associated modifications (expansion of parking and removal and changes to play equipment) are not unlike other changes that have taken place in the park since the comfort station was built.

The proposed project would draw additional people to the area. However, because the comfort station was designed as a public restroom and pavilion, and has successfully functioned in this manner for 60 years, it is assumed that there would be no effects to this building related to a potential increase in use.

ARCHAEOLOGICAL RESOURCES

The proposed undertaking will construct a pedestrian and bicycle bridge across the historic Ala Wai Canal (SIHP #50-80-14-9757). Ground disturbances associated with the project will include excavations for bridge supports and landings that will extend to maximum depths ranging from 80 to 100 feet below the ground surface, excavations for sidewalks and landscaping that will extend to 1-2 feet (30-60 cm) below surface and trenching for utilities and lighting that will extend from 1-6 feet (30-182 cm) below surface.

Based on compiled background research and the results of the current field inspection, it is found that the Ala Wai Canal will be impacted by the proposed project and it is also likely that SIHP #50-80-14-5796, a culturally modified wetland surface present below early 20th century land reclamation fills, will be encountered during excavations associated with the project, primarily in the area of the makai landing. Additionally, human skeletal remains and pre-contact and historic-era artifacts are commonly encountered within fill materials throughout Waikiki. Mitigation would be required to avoid adverse effects.

HISTORIC AND CULTURAL RESOURCES

Paddling is a significant cultural practice with origins that extend back into Polynesian wayfinding traditions. As one of the Hawaiian culture's oldest and most significant cultural traditions, CCH has an obligation to ensure that the proposed project activities do not adversely impact this practice or the cultural resources associated with this practice. Based on the information gathered and the assessment of the resources conducted, the project may have a potential impact on canoe paddling activities that take place within or near the project area on the Ala Wai Canal. Extensive interviews were conducted with Native Hawaiian practitioners and individuals knowledgeable about the cultural resources and traditional practices. These practitioners expressed their opposition to the project and significant concerns about the potential impacts the project would have to their ongoing activities. Mitigation measures, conditions, and BMPs are recommended herein as feasible actions to be taken by CCH to reasonably protect Native Hawaiian rights, traditions, customs, and practices associated with canoe paddling on the Ala Wai. There are no additional impacts to other cultural resources, traditions, customs, or practices anticipated as a result of this project.

Avoidance, Minimization, and/or Mitigation Measures

It is anticipated that a Memorandum of Agreement (MOA) per 36 CFR 800.6(c) to resolve the project adverse effects under NHPA Section 106 would be developed with consulting parties. Mitigation would be included in the MOA. Mitigation options to offset potential adverse effects to architectural historic properties in consideration in the consultation process under NHPA Section 106 as well as HRS 6E-8 include:

- historical interpretive panels that tell the story of the Ala Wai Canal's history;
- cultural artwork on the makai ramp face;
- architectural recordation of the Ala Wai or adjacent properties in the form of Historic American Engineering Record/ Historic American Landscapes Survey recordation (with large-scale photography);
- new or updated National Register Nomination forms, or a historic context study;
- security measures to protect the University canoe Halau; and,
- re-grading and installing landscaping in the vicinity of the mauka bank to help restore the setting associated with traditional and customary paddling practices.

In order to minimize potential adverse effects to archaeological resources in the APE, such as subsurface wetland deposits, or any other potential historic resources, it is recommended that the proposed project proceed under an archaeological monitoring program conducted in accordance with HAR 13-279 (Rules Governing Standards for Archaeological Monitoring Studies and Reports) for all ground disturbances associated with the project.

With these minimization and mitigation measures, the proposed project would not have a significant adverse effect on historic and cultural resources in the APE.

3.2.5 Hazardous and Regulated Materials and Waste

This section summarizes the existing conditions, potential project effects, and mitigation measures for hazardous and regulated materials and wastes. It also summarizes the potential hazardous materials around the Ala Wai Canal and project area.

Affected Environment and Existing Conditions

Local departments responsible for responding to hazardous materials emergencies and for managing hazardous materials and wastes include the CCH Fire Department (HFD), Emergency Services, and Department of Environmental Services. At the State level, the HDOH, Hawaii Emergency Management Agency, State of Hawaii Department of Agriculture, and State of Hawaii Department of Labor and Industrial Relations manage and respond to hazardous materials and wastes and potential releases.

Asbestos-containing Material

Asbestos was used in many building materials prior to 1978 and may have been used up until the early 1980s. Asbestos-containing materials (ACMs) include fireproofing, acoustic ceiling material, transite pipe, roofing materials, thermal insulation, support piers, expansion joint material in bridges, asphalt, concrete, and other building materials.

It is of primary concern when it is friable (that is, material that can be easily crumbled). During demolition, if not properly identified and mitigated, asbestos fibers could become airborne.

Underground ducts made of transite and korduct pipes, which are ACMs, are located in the project area. These ducts extend from the manhole near the Ala Wai Canal, through Ala Wai Elementary School, the community gardens, and to the Hihiwai Street manhole. A concrete jacket surrounds the transite korducts, which is the industry standard for underground electric installations. Under the Ala Wai 46kV Underground Cable Relocation and Replacement Project proposed by HECO, the cables within the ducts will be removed and the ducts will either be left in place inside the concrete jacket, or removed by reaming with the use of a fluid to capture the material for disposal. Voids left in the concrete jacket will be filled with grout (HECO 2017).

Polychlorinated Biphenyls

Pole- and pad-mounted electrical transformers are located within the project area and may contain polychlorinated biphenyls.

Lead-based Paint

Regulatory actions restricted the amount of lead in paints and primers manufactured after January 1, 1978, and limited the uses of paints in areas where consumers would have direct access to painted surfaces in nonindustrial facilities. Prior to 1978, lead-based paint may have been used in construction or maintenance of building and road structures, including bridges. As such, the project area may contain lead-based paint.

Pesticides and Herbicides

The project area is primarily characterized by commercial and residential developments. However, historically the Ala Wai Canal had agricultural uses and acted as a drainage corridor for rice paddies. As a result, there is a potential for soils within the project area to be contaminated with pesticides and herbicides.

Creosote and Pentachlorophenol

Wooden utility poles, road signs, thrie beam barrier, piles, and railroad ties, as well as wood used to support metal beam guardrails, may contain preserving chemicals that protect against insects and fungal decay. These chemicals, which may be hazardous, include, but are not limited to, creosote and pentachlorophenol, as well as treatment compounds such as copper azole, alkaline copper quaternary, chromated copper arsenate, and other associated compounds. In addition, soil surrounding treated wood may also contain creosote and pentachlorophenol at elevated levels. Wooden utility poles are located within the project area and may contain creosote and pentachlorophenol.

Potential Effects

No Action Alternative

Under the No Action Alternative, a bridge spanning the Ala Wai Canal at University Avenue and Kalaimoku Street would not be constructed and the existing conditions for hazards and hazardous materials would remain unchanged.

Proposed Action Alternative

As discussed, the project area may contain such hazardous materials as creosote and pentachlorophenol, pesticides and herbicides, lead-based paint, polychlorinated biphenyls, and ACMs based on historical and current uses of the Ala Wai Canal and surrounding areas. However, the project area has been highly disturbed and developed over time and it is unlikely that these hazardous materials would result in substantial adverse effects. If hazardous materials are discovered during construction activities, appropriate construction best management practices and mitigation measures would be implemented, including proper characterization, transport and disposal in accordance with federal, state, and CCH laws and regulations.

Construction of the proposed project would require the use of hazardous materials and may generate hazardous waste. Use of hazardous materials and generation of hazardous waste are considered a short-term construction effect. Examples of hazardous materials likely to be used during construction of the proposed project include lubricants (both grease and oils), petroleum fuels, cleaning solvents, and paint. Hazardous wastes generated during construction of the proposed project would require disposal and could include used oil (not hazardous), wastewater, and sediment.

Adverse project effects resulting from the use of hazardous materials and generation of wastes would not be substantial during construction. Post-construction, the project would not use or generate hazardous materials or wastes and, therefore, no long-term effects would occur.

Avoidance, Minimization, and/or Mitigation Measures

Project effects from construction-related hazardous materials and wastes would be addressed through implementation of a SWPPP. The SWPPP would be developed in compliance with the NPDES general construction permit and would include BMPs to address project effects related to the use and potential discharge of construction-related hazardous materials and wastes. In addition, in the unlikely event that hazardous materials are found during excavation and construction, the contractor would be required to implement construction BMPs and measures to appropriately characterize, handle, and dispose of the material at a permitted site in compliance with federal, state, and CCH laws and regulations. Therefore, the proposed project would not result in an adverse effect related to the use of hazardous materials or generation of hazardous wastes in the project area. As a result, no mitigation would be required.

3.2.6 Socio-Economic and Environmental Justice

This section summarizes the existing conditions, potential effects, and proposed mitigation for the socio-economic and environmental justice factors around the project area at the Ala Wai Canal.

Affected Environment and Existing Conditions

Population, Housing and Community Character

The Ala Wai Bridge would span the Ala Wai Canal and connect two distinct areas in Honolulu, Waikiki and the McCully, Moiliili, and Ala Moana neighborhoods.

According to the American Community Survey (ACS) 2016 5-year estimates, over 70,000 people reside in the Ala Wai Canal area (see Table 3-5). More people live on the mauka side of the canal; this could be attributable to the fact that more hotels and vacation resorts are on the makai side. The State of Hawaii Department of Business, Economic Development, and Tourism (DBEDT) forecasts a continuous increase of population through 2045.

Table 3-5. Population Forecasts

Population	City and County of Honolulu	Makai Side	Mauka Side
2016 ACS estimate	986,999	21,236	49,168
2025 DBEDT projection	1,023,105	22,013	50,967
2035 DBEDT projection	1,054,216	22,682	52,516
2045 DBEDT projection	1,064,805	22,910	53,044

Sources: ACS 2016 5-year estimates; DBEDT Population and Economic Projections to 2045

The purpose of the proposed project is to provide additional access for people traveling by foot or bicycle. DBEDT annual growth forecasts from 2016 through 2045 show an 8 percent population increase (~5,550 new residents). Honolulu has seen a continuous increase in resident population from 1980 to 2016. Tourism plays an important role in the State of Hawaii, in particular in Honolulu. Because of this, de facto population is often measured to include visitors who stayed in the area and subtract permanent residents who had left for vacation on an average basis. The de facto population in Honolulu was 12.1 percent higher than its resident population. De facto population in 2016 was recorded to be 1,048,965, according to projections from DBEDT.

By 2045, it is projected that the de facto population will be approximately 1,139,400. The de facto population is projected to grow faster than the resident population because of tourism's important role in Hawaii's economy and livelihood. More specifically, Waikiki is expected to see a consistent increase in population. By 2045, there are 22,910 people expected to be living in Waikiki (compared with 21,236 in 2016). The mauka side of the

canal, is expected to see a similar pattern as the makai side. By 2045, it is expected that 53,044 people will be living on the mauka side (compared with 49,168 in 2016).

According to DBEDT, the resident population for those ages 65 and over is projected to increase to 23.8 percent. In 2016, the resident population for ages 65 and over was at 17.1 percent. This population group is the only one that has seen a consistent increase over the years beginning in 1980. Additionally, the old age dependency ratio in Hawaii is 3.2 percent higher than the United States national average for 2016. The dependency ratio illustrates how much burden is presented on the working population (ages 18 to 64) that has someone 65 and over. Table 3-6 shows the population's age distribution. Table 3-7 shows information regarding housing in the area. Table 3-8 shows information regarding race and ethnicity for the area's population. Table 3-9 shows information regarding people with disabilities in the project area.

Table 3-6. Age Distribution

Population and Age	Makai Side	Mauka Side
Total Population	21,236	49,168
Population 19 and under	2,760 (13%)	9,833 (20%)
Population 65 and over	3,185 (15%)	6,391 (13%)
Source: ACS 2016 5-year estimates		

Table 3-7. Housing Statistics

Housing	City and County of Honolulu	Makai Side	Mauka Side
Average household size	3.1	1.7	2.2
Median household income	\$77,161	\$64,380	\$55,072
Total families	218,344	4,600	11,241
Percentage of families below poverty level	6.1%	5.7%	8.8%
Total housing units	342,982	20,462	26,590
Source: ACS 2016 5-year estimates			

Table 3-8. Race and Ethnicity

Race	City and County of Honolulu	Makai Side	Mauka Side
White	21%	46%	19%
Black or African American	2%	2%	1%
American Indian and Alaska Native	0%	0%	0%
Asian	43%	36%	56%
Native Hawaiian or Other Pacific Islander	9%	4%	8%
Other Race	1%	2%	1%
Two or More Races	23%	10%	15%
Total	986,999	21,236	49,168

Source: ACS 2016 5-year estimates

Table 3-9. Disabilities

Disability Status	City and County of Honolulu	Makai Side	Mauka Side
Total civilian population	939,337	20,826	48,874
Percentage disabled	11%	10.5%	10%

Source: ACS 2016 5-year estimates

Both the makai and mauka side of the canal have an average of 10.5 and 10 percent of the civilian population as disabled, respectively. The new canal crossing would allow better access for the disabled to reach services and facilities. Additionally, it would provide another evacuation route.

Employment and Income Patterns

According to ACS 2016 5-year estimates, 41,715 people are in the labor force. Unemployment near the canal is lower than for the City and County of Honolulu (Table 3-10). It is important to note that the percentages of families that are below the poverty level are lower on both sides near the canal than the city and county's percentage.

During the 2020 COVID-19 pandemic, the labor force and employment rate in the County decreased substantially. According to the U.S. Bureau of Labor Statistics, the labor force decreased to 417,414 people during the peak pandemic period but has gradually increased back to 447,861 people as of December 2020. Unemployment in the County increased to 86,678, or 20.8%, during the peak pandemic period but has gradually decreased to 35,997 people, or 8%, as of December 2020. Employment in the County decreased to 332,459 people during the peak pandemic period but has gradually

increased to 411,864 people as of December 2020. Table 3-10 below does not reflect employment data during the pandemic but presents a five-year estimate.

Table 3-10. Employment and Income

Employment Status	City and County of Honolulu	Makai Side	Mauka Side
Workforce	526,530	12,663	29,052
Percentage unemployed	5.1%	4.1%	3.5%

Source: ACS 2016 5-year estimates

Potential Effects

No Action Alternative

Under the No Action Alternative, a bridge spanning the Ala Wai Canal at University Avenue and Kalaimoku Street would not be constructed and the existing conditions for socio-economic factors would remain unchanged.

Proposed Action Alternative

The proposed project could result in an increase in people around the canal area, more specifically at public facilities. While more people would be able to use services and facilities nearby, this could cause an increase in commercial activity, which could increase noise and other nuisances. The proposed bridge would provide a dedicated, safe route for pedestrians and bicyclists since the bridge would not be accessible by vehicles. Public facilities, such as the Ala Wai Neighborhood Park would like to see an increase in usage. Because of the increase in mobility to get from the makai and mauka sides, there could be positive economic effect in the regional area. The bridge would improve access for those living close to the canal and those without vehicular access. Those who did not have a vehicle to get around could use the bridge to get to the other side of the canal, which could lead to higher employment rates and income opportunities. Additionally, there would be easier access to both recreational and cultural facilities for those near the canal area. As shown in Table 3-11, according to travel mode shares reported by OahuMPO, 19% of residents in the Ala Wai Canal area travel by walking or bicycling, which is 8% higher than that of Honolulu. Therefore, it is anticipated the proposed project could result in beneficial effects in the project area by providing a nonmotorized transportation option for an area that currently relies more on other means of transportation than automobiles.

Table 3-11. Travel Mode Share

Mode	City and County of Honolulu	Makai Side	Mauka Side
Auto	77%	69%	69%
Transit	11%	13%	12%
Walk or Bicycle	11%	13%	19%

Note: Data reflects all trip types in the Waikiki and Ala Moana and Moiliili Census Tracts
Source: OahuMPO Travel Demand Model (2015)

The proposed project would not involve the removal of housing or facilities intended for disadvantaged communities. The alignment was not specifically selected because of the economic class of the area and would serve all populations equally. The bridge alignment was selected in part for connectivity reasons because it would provide a greater ease of access for both the McCully/Moiliili and Waikiki residents, workers, and visitors to public facilities, such as the Ala Wai Neighborhood and Community Parks and the Ala Wai Elementary School. Construction activities would adhere to all existing zoning regulations to retain the area's residential nature, community values, and housing affordability. The general public would be made aware of the construction schedule and temporary multiuse path detour, park area closures, park parking lot closures, and road closures through public notices. CCH DTS would continue to coordinate the proposed project with CCH DPR and Ala Wai Elementary School. The construction of the proposed project has equal opportunity and equal impact on the entire population around the project area. Any short-term construction impacts would affect the entire population in the project area and would not disproportionately affect any neighborhoods.

Long-term the project is not expected to result in disproportionately high and adverse effects on minority and low-income populations. The project would not result in the displacement of any residences, businesses, or community resources. The long-term beneficial effects of the project would be distributed evenly among all populations, and any construction-related impacts would be short-term and minimized with mitigation measures and BMPs, as described in this EA. Additionally, all construction impacts would be offset by the long-term benefits associated with the project improvements, such as improving conditions for pedestrians and bicyclists and maintaining a safe transportation system. Therefore, based on the above discussion and analysis, the Proposed Action Alternative would not cause disproportionately high and adverse effects on any minority and low-income population in accordance with the provisions of Executive Order 12898 and FHWA Order 6640.23A. No further socio-economic or environmental justice analysis is required.

Avoidance, Minimization, and/or Mitigation Measures

The proposed project would not result in an adverse effect to socio-economic factors and environmental justice populations in the project area. As a result, no mitigation would be required.

3.2.7 Infrastructure and Utilities

This section summarizes the existing conditions, potential effects, and proposed mitigation for the infrastructure and utilities around the project area at the Ala Wai Canal.

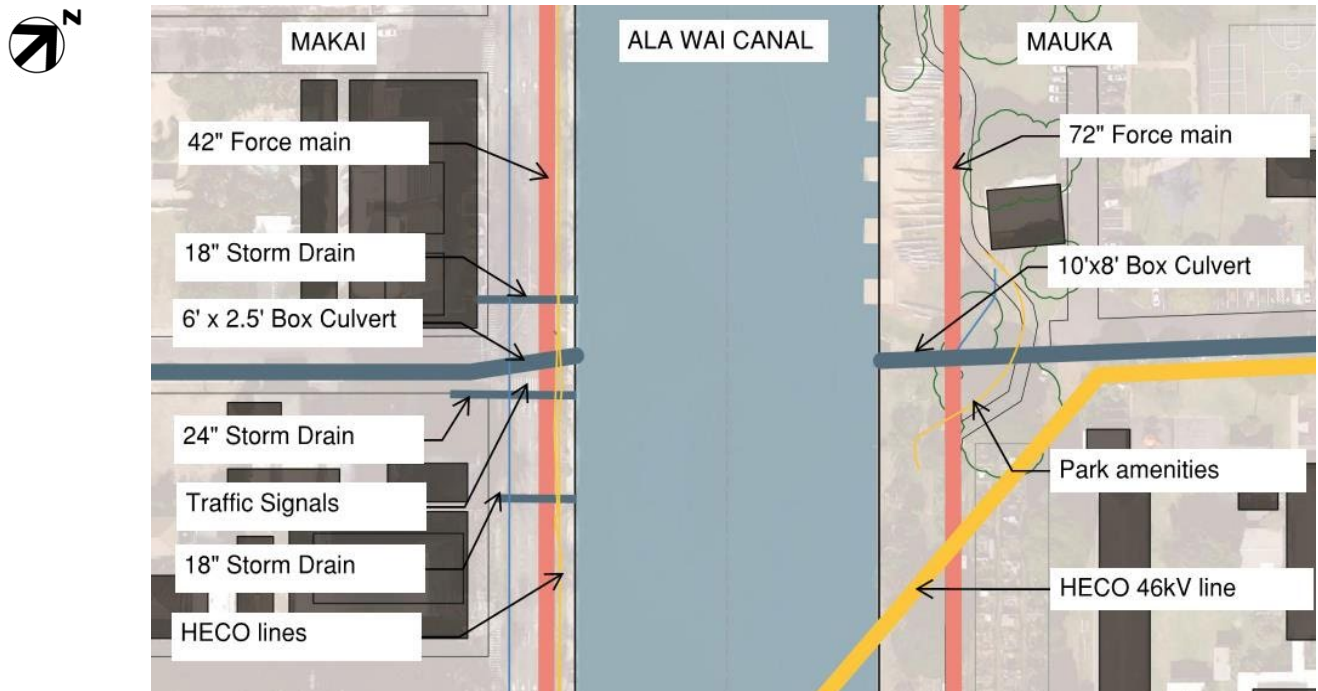
Affected Environment and Existing Conditions

Existing utilities at the University Avenue alignment include the following.

- 42-inch force main parallel to Ala Wai Boulevard (makai)
- Stormwater culvert aligned with Kalamaimoku intersection (makai)
- Traffic signals and transformer at the Kalaimoku intersection (makai)
- HECO duct lines parallel to Ala Wai Boulevard (makai)
- 72-inch force main parallel to Ala Wai Community Park (mauka)
- Park lights and transformer near Ala Wai Community Park bicycle path (mauka)
- Stormwater culvert aligned with University Avenue (mauka)

A diagram of utilities surrounding University Avenue is included in Figure 3-2.

Figure 3-2. Utilities in the Proposed Project Area



The following sections provide a more detailed description of utilities in the project area.

Potable and Nonpotable Water

The Board of Water Supply provides water service for Oahu. Service mains on the Waikiki side of the Ala Wai Canal typically run parallel to all streets including Ala Wai

Boulevard, Kalaimoku Street, and Launiu Street. A 12-inch line and a 12-inch abandoned line are located along Ala Wai Boulevard, a 12-inch line is located along Kalaimoku Street, and the main lines along Launiu Street vary between 8 inches and 12 inches. Water mains located along Olohana Street are assumed to run in a similar direction and be a similar size. Streets other than Ala Wai Boulevard likely feature service laterals that branch off in a perpendicular direction to provide service to condominium residences on both sides of the streets. Service mains on the McCully/Moiliili side of the Ala Wai Canal run southwest along University Avenue from Kapiolani Avenue to Hihiwai Street. Mains connect from this point and turn southeast to continue along Hihiwai Street. According to the Board of Water Supply, there are water transmission lines along the existing bridges that cross the Ala Wai Canal.

Wastewater

Sewer mains in the area are owned by the CCH and managed by the CCH Department of Environmental Services (ENV) and are located in the public roadway ROW. An existing 42-inch diameter sewer force main is located under Ala Wai Boulevard on the Waikiki side of the canal, and an existing 72-inch diameter sewer force main is located parallel to the northeast bank of the Ala Wai Canal on the McCully/Moiliili side of the canal. The Beachwalk Buffer Zone is centered on the 42-inch main located under Ala Wai Boulevard. This main previously failed. As a result, Honolulu Wastewater Systems requires that, for any project within this zone, it must receive plans from the CCH Department of Design and Construction (DDC) for review. The results of this review must indicate that the proposed project would not cause undue vibration or disruption to the force main.).

Sewer service on the Waikiki side of the Ala Wai Canal extends from Kuhio Avenue to the southwest edge of the northernmost development on each street perpendicular to Ala Wai Boulevard, including Kalaimoku Street and Launiu Street. Both Kalaimoku and Launiu Streets consist of mains that are 10 inches in diameter. A 10-inch main also branches off from the 10-inch main on Kalaimoku Street and extends northwest perpendicular to the street, approximately 300 feet southwest of the edge of the Kalaimoku Street and Ala Wai Boulevard intersection. On the McCully/Moiliili side of the Ala Wai Canal, wastewater service appears to run from Kapiolani Boulevard southwest along University Avenue and Lauki Street before these streets intersect with Hihiwai Street.

Drainage

The Ala Wai Watershed is located on the southeastern side of Oahu and encompasses 19 square miles. The watershed extends from the ridge of the Koolau Mountains to the nearshore waters of the Mamala Bay and includes the Makiki, Manoa, and Palolo streams. Each of these streams flow to the Ala Wai Canal, which is a human-made waterway constructed in the 1920s for the purpose of draining extensive coastal wetlands. The Ala Wai Canal is two (2) miles in length (DLNR 2017).

The CCH DFM is responsible for maintaining drainage facilities, including pipes, culverts, and intake structures within the ROW in the project area and between the terminus of University Avenue and the Ala Wai Canal. A 6-foot by 2.5-foot box culvert and 24-inch drain line are located on the Waikiki side of the Ala Wai Canal. These drainage features

run parallel to and on the southeast side of the Kalaimoku Street ROW and extend across Ala Wai Boulevard before discharging into the Ala Wai Canal. Various service laterals from adjacent condominium structures located on both sides of the street connect to the box culvert located along the Kalaimoku Street right-of-way, including one that is approximately 40 feet southwest of the Kalaimoku Street and Ala Wai Boulevard intersection. Two drain lines cross Ala Wai Boulevard and discharge into the Ala Wai Canal. One of these drain lines is located 15 feet northwest and the other is located 80 feet southeast of the respective edges of the Kalaimoku Street and Ala Wai Boulevard intersection. Drainage improvements in the Launiu Street ROW include an 18-inch drainage line that starts approximately 370 feet away from the edge of the Launiu Street and Ala Wai Boulevard intersection. A 10-foot by 8-foot box culvert, located on the McCully/Moiliili side of the Ala Wai Canal, runs in a southwest direction from Kapiolani Boulevard along and through the terminus of University Avenue before discharging into the Ala Wai Canal.

Solid Waste

The CCH Department of Environmental Services provides solid waste services for the island of Oahu. Services include drop-off facilities, curbside collection, and recycling. Most residential and general commercial trash is disposed of at H-POWER, which is the City's waste-to-energy plant located at Campbell Industrial Park. Over 600,000 tons of waste are processed at H-Power annually, which accounts for approximately 10 percent of Oahu's electricity. Waimanalo Gulch Sanitary Landfill and PVT Landfill are the two landfills located on Oahu. They are located on the Waianae Coast, approximately 30 miles from the Ala Wai Canal. PVT Landfill in Nanakuli is the primary landfill accepting noncombustible construction and debris. The PVT Landfill also accepts wastes regulated under its existing Stormwater Management Plan, including approved contaminated soil for disposal or use in solidification of liquid wastes and sludge material for processing or disposal. The HDOH Solid and Hazardous Waste Branch, Office of Solid Waste Management manages sediments for upland soil disposal. Inert fill is not considered a solid waste and is regulated under CCH grading ordinances (DLNR 2017).

Electrical and Telecommunications Systems

Subsurface duct banks for electrical power, telephone, cable TV, and Internet communications, owned by HECO, Hawaiian Telecom, and Oceanic Time Warner Cable are located within the public roadway ROW in the project area.

HECO is the primary energy provider for Oahu. On Oahu, 22 percent of energy is generated from renewable sources (10 percent customer-sited solar, 6 percent waste to energy, 3 percent wind, 2 percent grid-scale solar, and 1 percent biofuels). The remaining 78 percent of power is generated from oil, diesel, and coal sources from firms and non-firms (HECO 2019). HECO recently relocated a 46kV cable under the Ala Wai Canal. The 46kV cable runs parallel to and in the same corridor as the proposed bridge. On the Waikiki side of the Ala Wai Canal, HECO also owns duct lines that run parallel to Ala Wai Boulevard, Kalaimoku Street, and Launiu Street. In addition, HECO owns two duct lines that run perpendicular across Kalaimoku Street, approximately 100 feet and 320 feet southwest of the southwest corner of the Kalaimoku Street and Ala Wai Boulevard intersection. On the McCully/Moiliili side of the Ala Wai Canal, HECO

improved the 46kV cable and the existing electrical cables in the Hihiwai Street ROW (HECO 2019).

Telecommunication services in the project area are provided by Hawaiian Telecom. On the Waikiki side of the Ala Wai Canal, service lines extend from Kuhio Avenue to the southwest edge of the northeasternmost development on each street perpendicular to Ala Wai Boulevard. Service lines on Kalaimoku Street extend from Kuhio Avenue to about 95 feet southwest of the edge of the Kalaimoku Street and Ala Wai Boulevard intersection.

Potential Effects

No Action Alternative

Under the No Action Alternative, a bridge spanning the Ala Wai Canal at University Avenue and Kalaimoku Street would not be constructed and the existing conditions for infrastructure and utilities would remain unchanged.

Proposed Action Alternative

The proposed project is not anticipated to have any long- or short-term effects on the existing utility infrastructure in the project area. Construction of the bridge would avoid all HECO lines and the water main located on Ala Wai Boulevard. Given the location of the existing telecommunication improvements, it is not anticipated that the proposed bridge would affect existing Hawaii Telecom improvements. Further, the proposed bridge would be designed to have a straight alignment with University Avenue and Kalaimoku Street, straddling the existing stormwater culverts located at University Avenue and Kalaimoku Street. Lift-off access panels would be incorporated into the mauka landing to allow for daylight access of the stormwater culvert for maintenance or repair. Additionally, the design would include lift-off panels to access a portion of the 46kV HECO line on the mauka side. Once construction is complete, the bridge deck itself would allow stormwater runoff to drain directly into the canal. Coordination with CCH ENV is ongoing to ensure that maintenance access to the existing force mains is accommodated within both the mauka and makai landing designs. The makai landing would maintain a 3 foot clearance from the 42 inches force main for maintenance and repair access. The mauka landing would span the 72-inch force main between the tower base and backstay anchors. The drilled shafts at the mauka landing would maintain a 10 foot+ clearance from the force main.

Avoidance, Minimization, and/or Mitigation Measures

A SWPPP would be implemented prior to proposed construction activities to provide for proper stormwater management in the project area. The project would conform to state and local water quality regulations and would obtain proper permitting to account for the additional runoff source.

HECO would be made aware of any electrical requirements for the project. The crossing would also abide by all design guidelines and permits from HECO, CCH, and the State of Hawaii. Honolulu Wastewater Systems, CCH DDC, the CCH Board of Water Supply (BWS), CCH, Hawaii Gas, Hawaiian Telecom, and all other relevant agencies would be

engaged during the construction process. As a result, there would be no adverse effects on utility infrastructure in the project area and no mitigation would be required.

3.2.8 Transportation

This section summarizes the existing conditions, potential project effects, and mitigation measures for transportation facilities and infrastructure. It also summarizes the transportation activities around the Ala Wai Canal and project area.

Affected Environment and Existing Conditions

Local Roads

CCH owns and manages most of the roadways in the project area. CCH DTS is responsible for local road planning and configuration, while day-to-day operational and maintenance responsibilities are handled by CCH DFM.

Major roadways in the project area and vicinity that would be used for construction access include, but are not limited to, Ala Moana Boulevard, H-1 Freeway, Piikoi Street, University Avenue, Kapiolani Boulevard, Ala Wai Boulevard, Kapahulu Avenue, Kalaimoku Street, Kaiolu Street, and Hihiwai Street. Roadways in the immediate project area are described below.

- Ala Wai Boulevard – A major one-way arterial located on the makai side of the canal for traffic traveling in the Ewa direction.
- University Avenue – A four-lane road, with two lanes northbound and two lanes southbound. University Avenue consists of bicycle lanes, turning lanes, and sidewalks on both sides of the street.
- Kalaimoku Street – A northbound, one-way, two-lane collector street for neighborhood traffic. The street has on-street parking and sidewalks on both sides.
- Launiu Street - A southbound, one-way, two-lane collector street for neighborhood traffic. The street has on-street parking and sidewalks on both sides.
- Kaiolu Street – A northbound, one-way, two-lane collector street for neighborhood traffic. The street has on-street parking and sidewalks on both sides.
- Hihiwai Street – A two-lane roadway with sidewalks on both sides. There is on-street parking on the north side of the road and pick-up and drop-off lanes on the south side. Hihiwai Street is adjacent to Ala Wai Elementary on the mauka side of the canal.

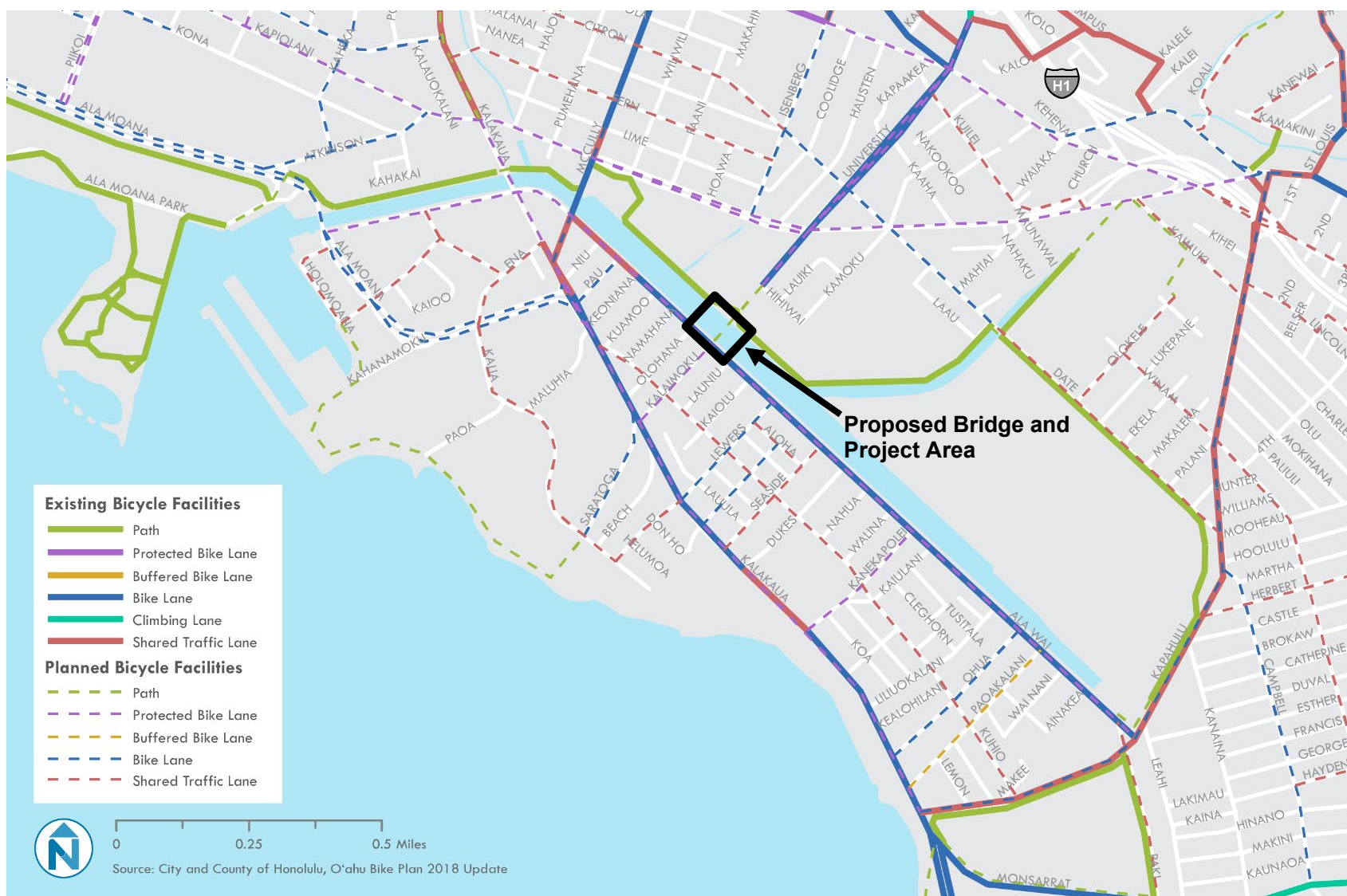
Ala Wai Elementary School, with an estimated enrollment of approximately 426 students, is a key source of traffic in the project area, particularly along Hihiwai Street. In addition to Ala Wai Elementary School, the exit for Iolani School's lower campus (grades K to 6) is located at the southeastern end of Hihiwai Street at Laau Place. Iolani School has approximately 540 students. Drop-off and pick-up for the Iolani School upper campus students (grades 7 to 12) is located on the Kamoku Street side of campus in the parking lot in front of upper campus. Figure 3-3 shows the local roads in the project area and the existing bicycle paths.

Pedestrian and Bicycle Facilities

No pedestrian connections between the mauka and makai sides of the canal exist for the approximately 1.5 miles between the McCully Street Bridge and Kapahulu Avenue. There are three existing bridges along the approximately 2-mile Ala Wai Canal. These are located at Ala Moana Boulevard, Kalakaua Avenue, and McCully Street. Each of these bridges has sidewalks on both sides and connect the Moiliili and Ala Moana neighborhoods to Waikiki. These three canal crossings are all located within 0.6 miles of the canal outlet.

In the Moiliili neighborhood, there are striped bicycle lanes along McCully Street and University Avenue, and in Waikiki there are bicycle lanes along Ala Wai Boulevard and Kalakaua Avenue. A dedicated bike lane on Ala Wai Boulevard is continuous for most of the length of Ala Wai Boulevard, but ends at Keoniana Street (two blocks before the McCully Street intersection), where Ala Wai Boulevard widens to four general purpose traffic lanes with shared lane markings for bicycle traffic. (CCH 2019a). The McCully Street Bridge has bicycle lanes traveling in both directions and is currently the only bridge along the canal with bicycle lanes. The Iolani School Trail, Ala Wai Park Trail, Ala Wai Golf Course trail, and the Ala Wai Promenade provide a semi-connected path along the canal.

Figure 3-3. Local Roadways and Bicycle Facilities in the Proposed Project Area



Source: Source: CCH 2018

Bike Share Hawaii launched the biki bikeshare program in Honolulu in 2017. The program provides 1,300 bicycles at 130 bicycle stations located in various neighborhoods of Honolulu, including Downtown Honolulu, Kakaako/Ala Moana, and Waikiki. Stations closest to the proposed project include Station 459 McCully/Moiliili, mauka of the Ala Wai Canal on University Avenue, and Station 313 Waikiki-Kalaimoku, located just makai of the canal near the proposed alignment along University Avenue (Biki 2020).

Transit

Public transportation on Oahu is the responsibility of the CCH DTS. The service is known as TheBus for fixed route operations and TheHandi-Van for demand-responsive curb-to-curb service for ADA paratransit-eligible individuals. Within CCH DTS, the Transportation Mobility Division (TMD) is the division responsible for overall management of the City bus and paratransit operations. Oahu Transit Services is a non-profit corporation that operates and maintains TheBus and TheHandi-Van services. There are approximately 14 routes serving Waikiki. The 2015 Travel Demand Model analyzed by the Oahu Metropolitan Planning Organization calculated that 31 percent of Ala Wai Canal area residents travel by transit, bicycle, or walk. In comparison, 23 percent of Honolulu residents overall use transit, bicycle, or walk. Over 260,000 trips are made across the canal on an average day, in which 14,000 of those trips are made by either walking or bicycling (LEHD LODES 2015; OahuMPO 2015).

Parking

A Draft Parking Study was prepared for the project in 2020 and is included in Appendix E. Mauka of the canal there are approximately 261 spaces available for on-street parking on nearby streets. The Ala Wai Community Park and Neighborhood Park system provides 283 marked parking spaces within three parking lots. Ala Wai Neighborhood Park has 95 marked spaces for park use only in three distinct sections. The upper lot closest to the Ala Wai Neighborhood Park entrance has 18 marked spaces which are frequently full, the middle section has 46 spaces, and the section by the canoe halau has 31 spaces. Ala Wai Community Park has 95 marked spaces for park use only in three interconnected areas, which include four (4) spaces in the front, 49 spaces in the Ewa lot, and 42 spaces in the Diamond Head lot. The Ala Wai Neighborhood Park Annex has 93 marked spaces available exclusively during school hours and special events to Iolani School, but available for Park use after school hours and on the weekends. Makai of the canal there are approximately 263 parking spaces on the streets that were surveyed in the draft parking study. Ala Wai Boulevard has unmarked stalls so the number of spaces can change depending upon parking capabilities. Overall, on both the makai and mauka sides of the canal, parking supply is not being managed to be responsive to demand.

Potential Effects

No Action Alternative

Under the No Action Alternative, a bridge spanning the Ala Wai Canal at University Avenue and Kalaimoku Street would not be constructed and the existing conditions for transportation and roadways would remain unchanged.

Proposed Action Alternative

LOCAL ROADS, PEDESTRIAN AND BICYCLE FACILITIES

The proposed design of the makai landing would require the construction of secant piles using a slurry drill mix to help support the weight of the bridge deck. The secant pile walls would also act as an underground barrier to prevent water from seeping under the existing floodwall into Waikiki and have been coordinated with the USACE and the USACE's flood control policies along the Ala Wai Canal. During installation of the secant piles, the travel lanes on Ala Wai Boulevard would be interrupted. At a minimum, the mauka lane would need to be closed temporarily to provide sufficient area for construction activities. The temporary closure is anticipated to be one month. Traffic control would also be required on the makai side for utility relocations and would consist of intermittently closing one lane of Ala Wai Boulevard. It is anticipated that the travel lane would only need to be closed during construction hours and not on a full-time basis since the electrical utilities to be relocated are not located directly beneath the street. Traffic control would not be required on the mauka side since none of the utilities to be relocated are adjacent to or within the street. Relocation of the water and electrical lines would be completed within three months of gaining access to the site, for both the mauka and makai sides.

Transport of construction equipment and materials could temporarily affect traffic and circulation. To the extent possible, construction vehicles and equipment would be staged in the stockpiling areas while not in use to minimize effects on traffic and congestion. It is anticipated that the contractor would use a designated space in the Ala Wai Neighborhood Park for stockpiling for all work occurring on the mauka side of the canal.

As described in Chapter 2, the multiuse path along the mauka side of the canal would be temporarily detoured for the duration of the construction period. Once construction of the mauka landing is complete the multiuse path would tie into the mauka bridge landing. Along the Ala Wai Boulevard Promenade on the makai side of the canal, a detour would be established temporarily to safely route pedestrian and bicycle traffic during construction of the makai landing and ramp. Once the makai ramp and landing are completed and the detour would be removed.

After construction, the proposed project is expected to result in beneficial effects on local roads, pedestrian, and bicycle facilities in the project area. The proposed bridge would connect Waikiki and Ala Moana with the McCully and Moiliili neighborhoods, providing greater connectivity for emergency evacuations as well as for daily use of sustainable and active modes of transportation. The Ala Wai Bridge would enhance the safety of people walking and bicycling by providing a vehicle-free alternative to the existing Waikiki access points. Based on forecasts prepared as part of the Alternatives Analysis for the proposed project, the proposed bridge could attract between 1,300 and 4,300 people

walking and biking daily, between 100 and 1,500 of that total would be new users. In addition, as shown in Table 3-11 in Section 3.2.6, 19% of residents in the Ala Wai Canal area travel by foot or bicycle, which is 8% higher than that of Honolulu as a whole. Therefore, it is anticipated the proposed project would result in beneficial effects in the project area by providing a new nonmotorized transportation option for an area that currently relies on alternative means of transportation.

PARKING

The addition of the Ala Wai Bridge is not expected to have a major impact on on-street parking demand mauka of the canal. University Avenue and Hiihawai Street rarely have an open space for parking. Streets mauka of Kapiolani Boulevard are further away from the project area and have few open spaces. On-street parking is at capacity, and some streets exceed capacity. Appendix E indicates that on-street parking is mostly occupied by adjacent residents. Even with projected trips shifting from driving to walking or cycling, the seemingly residential vehicles on the mauka side of the bridge would remain parked along these streets. Therefore, parking impacts on these streets are not expected as a result of the proposed project.

The proposed project includes a modest increase in parking spaces within the park after completion of the bridge construction and the connection to University Avenue. Appendix E shows that the Ala Wai Neighborhood Park has substantial parking capacity even during sporting and canoe events. The highest recorded use of the Ala Wai Neighborhood Park parking lot was 68 percent during afternoon student pick-up from Ala Wai Elementary School. Appendix E also observed that people use the Ala Wai Community Park parking lot to park their vehicles for extended periods of time and walk into Waikiki or adjacent business areas. Given that the Ala Wai Community Park parking lot is adjacent to McCully Bridge with direct pedestrian access into Waikiki, the observations were used to forecast parking impacts to the Ala Wai Neighborhood Park as a result of the proposed project. Appendix E found that at most five vehicles were parked for seven or more hours at the Ala Wai Community Park parking lot. It is therefore expected that the addition of the Ala Wai Bridge is unlikely to impact parking availability within the Ala Wai Neighborhood Park.

Parking availability at the park during construction of the Ala Wai Bridge would be impacted. Portions of the Ala Wai Neighborhood Park parking lot would be closed off for construction and would be unavailable during phases of project construction as described in Chapter 2. Therefore, the proposed project construction would have a temporary adverse effect on parking and access to the Ala Wai Neighborhood Park parking lot. After construction is complete, the Ala Wai Neighborhood Park parking lot would be fully restored and reopened.

Makai of the Ala Wai Canal, approximately 6 to 8 currently unmetered parking spaces would be permanently lost between Kalaimoku and Launiu Streets on Ala Wai Boulevard. This loss in parking is considered minor since it is expected that 100 to 1,500 new pedestrian and bicycle trips would be shifted from current driving trips. As described above, during construction of the proposed project portions of Ala Wai Boulevard would be closed, and therefore, parking along Ala Wai Boulevard would be temporarily unavailable. Once construction of the makai ramp is complete parking along Ala Wai Boulevard would be restored.

Avoidance, Minimization, and/or Mitigation Measures

Access to facilities, including schools and recreational areas, would be maintained during construction. Access routes to the Community Garden and canoe hale would also be maintained during construction. The boat launch area immediately adjacent to the proposed mauka landing would be relocated on the Ewa side of the existing boat launch pads (see Figure 2-9).

The proposed project would implement a Construction Transportation Management Plan as well as the measures presented in Chapter 2 to minimize traffic effects. CCH DTS would also coordinate with the Ala Wai Elementary School prior to construction. Within the Ala Wai Neighborhood Park, a flagger would be present to monitor park use and provide a safe passageway through the construction areas as applicable. The flagger would also be present at student drop off and pick up times to safely monitor the construction access areas.

Prior to proposed construction activities, signs would be installed to warn the public of impending construction and detours. Pedestrian and vehicle traffic controls would be placed on both the makai and mauka ends of the proposed bridge site. Additionally, detours would be established for the existing multiuse path that runs along the makai bank Ala Wai Promenade and the mauka bank and through Ala Wai Neighborhood Park, past Ala Wai Elementary School and the Ala Wai Community Garden, to prevent interruptions to bicycle and pedestrian traffic along this path during construction. Implementation of the Construction Traffic Control Plan, traffic control measures, detours, and signage would reduce construction effects on traffic and circulation. As a result, the temporary construction effects on local roadways, pedestrian, and bicycle facilities within the project area or immediate vicinity would not be substantial.

3.2.9 Public Services

This section summarizes the existing conditions, potential project effects, and mitigation measures for public services in the project area.

Affected Environment and Existing Conditions

Educational and Community Centers

Ala Wai Elementary School, a public school serving kindergarten through 5th grade students, is located adjacent to the project area on the mauka side of the canal, approximately 100 feet away. Additionally, Iolani School, a private school serving kindergarten through 12th grade, is located adjacent to the project area on the mauka side, along the Manoa/Palolo Stream.

The Waikiki Community Center is located near the intersection of Ala Wai Boulevard and Paoakalani Avenue. It provides services to Waikiki residents such as human services, social support, educational support, and wellness. The center has provided programs to senior citizens on financial and basic needs as well as legal and medical assistance. Children that come from low-income families are provided educational assistance and support. These families are also provided with programs to help further future education. Additionally, the center has provided food pantry programs as well as areas for community groups and activities.

The Moiliili Community Center is located near the intersection of South King Street and Kapaakea Lane, close to University Avenue. The center offers programs and services to the youth, seniors, and families in the area. Similar to the Waikiki Community Center, it offers its areas for community groups and activities.

Police, Fire, and Emergency Services

Police protection services on Oahu are provided by the Honolulu Police Department (HPD). There are eight patrol districts in Oahu. The project area is in Districts 6 and 7. The main police station in the vicinity of the proposed project area is the Waikiki Substation, located at 2425 Kalakaua Avenue, Honolulu, Hawaii.

The HFD provides firefighting services for Oahu. The HFD responds to emergencies, including but not limited to fires, emergency medical calls, hazardous materials incidents, motor vehicle crashes, natural disasters, and technical rescues. Oahu is divided into five battalions containing 45 fire stations. The HFD is located at Station 29 (intersection of University Avenue and Date Street) and provides fire protection service to those near the project area. Station 2 (west of Kalakaua Avenue) and Station 7 (east on Kapahulu Street) are also in the vicinity of the project area.

Emergency medical services are provided by the State of Hawaii, CCH, and private emergency services vendors. The nearest hospital with an emergency room to the project site is Straub Medical Center, located at 888 S. King Street, Honolulu, Hawaii. Emergency transport (ambulance) services are provided by CCH's Department of Emergency Services.

Potential Effects

No Action Alternative

Under the No Action Alternative, a bridge spanning the Ala Wai Canal at University Avenue and Kalaimoku Street would not be constructed and the existing conditions for public services would remain unchanged.

Proposed Action Alternative

EDUCATIONAL AND COMMUNITY CENTERS

Effects on the Ala Wai Elementary school and Iolani School include nuisances such as construction noise, air emissions, and traffic from construction activities. Traffic congestion is a possibility during construction, as well as traffic rerouting and alternative parking areas in the Ala Wai Neighborhood Park parking lot. However, these effects would be temporary and short-term. After construction is complete, the project would not diminish the educational services that the schools provide to the community. In fact, the new bridge would provide the public with better access to the schools and public services such as the Moiliili and Waikiki Community Centers. Further, the new bridge would provide a safer, more direct route for Ala Wai Elementary school students that live in Waikiki and walk or bike to school.

Access to schools along Hihikai Street would be maintained during the construction period. As part of the construction traffic control plan, access into the schools for student drop-off in the morning and pick-up at the end of the day would be implemented.

POLICE, FIRE, AND EMERGENCY SERVICES

There are no anticipated effects on the Queen's Medical Center's operation and facilities. Since the medical center is outside the affected area, project construction would not have an adverse effect. Additionally, the proposed project would provide the public with better access to public services and medical centers. Those who were unable to access and use these medical services because of transportation restrictions would have a new access point as a result of the proposed project.

All emergency services would benefit from the proposed project. The bridge would provide a reliable, additional direct evacuation route out of Waikiki, which would improve the ability for pedestrians to get to shelter and away from an emergency event, such as a tsunami. The bridge would not be used for emergency vehicles; however, it would provide the police with direct access across the Ala Wai Canal when on foot or bike. The project would not place an additional demand on police, fire, and emergency medical response services and would not result in a decrease in response times. No adverse effects on police, fire and emergency services would occur as a result of the proposed project.

Avoidance, Minimization, and/or Mitigation Measures

As described in Section 3.2.8, prior to initiation of the proposed project construction activities, signs along the multiuse path on either side of the canal would be installed to warn the public of impending construction. A Construction Traffic Control Plan would be implemented and pedestrian and vehicle traffic controls would be placed on both the makai and mauka sides of the proposed bridge site. Schools in the project area would also be consulted prior to construction activities. As a result, no adverse effects would occur and no mitigation is required.

3.2.10 Recreation

This section summarizes the existing conditions, potential project effects, and mitigation measures for recreation in the project area.

Affected Environment and Existing Conditions

Tourism and recreation make a substantial contribution to the local economy. The views, shoreline, and beaches of Waikiki are what bring many visitors to Oahu and the Honolulu area. The Ala Wai Canal is the most heavily used inland waterway in Hawaii for recreational activities and is used daily by locals and tourists. The canal is an important resource for recreational activities such as canoeing, walking, jogging, biking, sightseeing, and fishing.

The Ala Wai Canal and adjacent public recreation areas are home to regular meetings, annual events, and school activities/sporting events. Local canoeing/kayaking clubs, including the Interscholastic League of Honolulu teams, and nearby schools use the canal throughout the year as a practice and event venue. The flat water of the canal is ideal for training and provides an outlet to the Pacific Ocean, which allows for long-distance training. Table 3-12 outlines some of the annually recurring activities conducted in the canal.

Table 3-12. Annually Recurring Recreational Activities in the Ala Wai Canal

Recreational Use	Time Frame	Area Used
<i>Special events</i>		
Great Hawaiian Rubber Duckie Race	Third or Fourth Saturday in March	McCully Street Bridge to Hawaii Convention Center
<i>Sailing</i>		
Regular races	Fridays, 4 p.m.	Ala Wai Boat Harbor to Honolulu Harbor
<i>Outrigger canoes</i>		
High school season	November to February	Kapahulu-Waikiki Library to McCully Street Bridge
Preseason races	March to May	Kapahulu-Waikiki Library to McCully Street Bridge
Practices	Weekdays, early morning and late afternoon, May to August (highest intensity)	Kapahulu-Waikiki Library to McCully Street Bridge
Short course regatta season	April to August (ends with State championship in August)	Whole canal for practice races in Pacific Ocean
Long course regatta season	August to second Sunday in October (ends with the Molakai to Oahu race)	Launch and land in canal for open ocean practices and races
<i>Kayaks</i>		
Ocean racing (surf ski) racing	January to May	Open ocean (launch in canal) and canal for practice
Hawaii Canoe Kayak Team	November to June	Ala Wai Neighborhood Park and length of canal.
Source: DLNR 2017		

In addition to the canal, the following parks and recreational facilities are located in the vicinity of the project area:

Mauka side (Moiliili)

- *Ala Wai Neighborhood Park* is a 24-acre, state-owned, city-managed park that offers boat launches, paddling, bicycling, playgrounds, picnicking, walking/jogging paths, baseball/softball fields, basketball, volleyball, a playground, restrooms, showers, and parking. The park is located just east of the project area along University Avenue.
 - *Ala Wai Community Garden* contains 180 individual 150-square-foot gardening plots that are maintained by locals who rent plots from the CCH Department of Parks and Recreation. The garden is located at the end of University Avenue next to Ala Wai Elementary School and adjacent to Ala Wai Community Park.

- *Ala Wai Dog Park* is a 0.8-acre park located east of the project area where the Ala Wai Channel meets the Ala Wai Canal.
- *Ala Wai Community Park*, which borders Ala Wai Neighborhood Park, is a 14-acre park that includes a parking lot, canoe launch, baseball field, soccer field, and recreation building with restrooms. The recreation building includes a ceramics room, meeting rooms, and a multipurpose room; these rooms are used by a variety of community members and groups.
- *Ala Wai Park Trail* starts at McCully Street and travels southeast along the Ala Wai Canal until just past University Avenue. It is approximately 0.7 miles long and provides access to Ala Wai Community Park, Ala Wai Neighborhood Park, Ala Wai Community Garden, and Ala Wai Dog Park as it is part of the Lei of Parks.
- *Ala Wai Golf Course* is a 150-acre facility and is one of six public municipal golf courses managed by the CCH Department of Enterprise Services, Golf Courses Division. Located along the mauka side of the Ala Wai Canal, just Diamond Head of the Manoa/Palolo Stream, the facility includes an 18-hole golf course, club house, pro shop, restaurant, bar, and driving range. The course features picturesque views of Diamond Head, the Koolau mountain range, and the Waikiki skyline.

Makai side (Waikiki)

- *Ala Wai Promenade* runs along the canal and Ala Wai Boulevard and is lined with coconut trees and popular for walking and jogging. The Ala Wai Promenade is part of the Lei of Parks and provides a connection to the Ala Wai Park Trail through the McCully Street Bridge.
- *Fort DeRussy Armed Forces Recreation Center (Fort DeRussy Park)* is the only federal park facility within the Ala Wai Watershed and is approximately 0.5 miles south of Ala Wai Boulevard on the shore of Waikiki. The 71-acre public park includes amenities such as two restrooms/showers, a children's playground, barbecue grills, picnic tables, pickleball courts, racquetball courts, beach volleyball courts, and a United States Army museum. Beach rentals are also offered.
- *Waikiki Beach* is a county-managed beach that offers activities such as shore fishing, swimming, bodyboarding, surfing, and picnicking. The beach also has restrooms, concessions, and educational displays.

Potential Effects

No Action Alternative

Under the No Action Alternative, a bridge spanning the Ala Wai Canal at University Avenue and Kalaimoku Street would not be constructed and the existing conditions for recreation and properties protected under Section 4(f) of the Department of Transportation Act of 1966 would remain unchanged.

Proposed Action Alternative

Short-term, moderate, adverse effects on recreational facilities in the vicinity of the project area would be expected from bridge construction and could result from temporary

closures of park facilities, trail detours, parking relocations, and short-term closure of portions of the canal. The proposed project would require approximately 3.2 acres of temporary use within Ala Wai Neighborhood Park (see Appendix F - Exhibit 2). Conflicts between construction and the events listed in Table 3-11, as well as other planned construction projects, may occur and some activities may need to be relocated or rescheduled.

The construction of the bridge deck would result in the need to temporarily occupy and close a portion of the Ala Wai Canal for safety reasons. Closure of the Ala Wai Canal in the construction area would occur incrementally. The size and duration of each temporary closure increment would depend on whether the contractor constructs the bridge using precast deck planks or casts the deck in place. Chapter 2 provides a description of the two construction methods that are proposed for the bridge deck construction. Figure 2-10 provides an illustration of the closure requirements for the precast construction method, and Figure 2-11 provides an illustration of the closure requirements for the cast-in-place method. Temporary closure of the portion of the Ala Wai Canal would be done via a buoy and notification system. The buoys would be positioned to clearly define the areas beneath the bridge that are closed to recreational vessels, much like the lane markers in a swimming pool during race events. The closure area limits would be defined during construction in coordination with the contractor and the paddling groups. The bridge deck would be constructed in a mauka-to-makai sequence and direction.

Under the precast construction method, the bridge deck would be constructed in three phases. The first phase involves the erection of the first four segments of the bridge deck, beginning at the mauka end and would take approximately four (4) weeks to install. During this 4-week period, recreational activities would be allowed in the open, approximately 150-foot wide area of the canal that is not in the active construction area and temporarily closed.

The second phase of bridge deck construction involves the erection of the next five segments. This phase would require an area approximately 60-foot wide by 30-foot long, directly beneath the bridge deck within the canal, to be temporarily closed for each 20 foot segment to be installed and would take approximately five (5) weeks to install. During this 5-week period, recreational activities would be allowed in the open, approximately 95-foot wide area of the canal on either side that is not in the active construction area and temporarily closed.

The third and final phase of the bridge deck construction involves the erection of the last four segments to complete the bridge deck connection to the makai abutment. This phase would require an area approximately 100-foot wide by 30-foot long, directly beneath the bridge deck within the canal, to be temporarily closed and would take approximately four (4) weeks to install. During this 4-week period recreational activities would be allowed in the open, approximately 150-foot wide area of the canal that is not in the active construction area and not temporarily closed.

The canal would also be briefly closed for the movement of each bridge deck segment from the staging and stockpiling area on the mauka shore to the proposed bridge alignment construction area. Each segment would be transported via a flexifloat pontoon barge and would take approximately one (1) hour for transport. Therefore, at the

beginning of each week of bridge deck segment construction, there would be a brief closure of a larger area of the Ala Wai Canal for this movement. The exact brief closure area of the canal for the barge transport would be determined by the contractor. As the bridge deck construction progresses from mauka to makai the barge transport would have to traverse a larger area of the canal and thus a larger area would be briefly closed during this time for safety purposes. In total the incremental, temporary closure of the canal for the precast construction method would take approximately three (3) months.

The CIP construction method would not require using barges. Instead of sequentially placing precast segments into position across the canal, the CIP method would utilize what is called “traveling formwork” for casting the deck in 20-foot sections in the mauka-makai direction. For safety reasons, an area of approximately 50-foot wide by 30-foot long, directly beneath the bridge construction within the canal, would be closed for recreational activities under the CIP construction method. At the end of each 10-day curing period, the 50-foot wide by 30-foot long temporary, closure area would shift in the makai direction. If the CIP method of construction is used, the Ala Wai canal would have temporary partial closures for a length of 4.5 months.

The existing boat launch located furthest Diamond Head and adjacent to the proposed mauka bridge landing would be removed and relocated (see Appendix F - Exhibit 2). The other three existing boat launches would remain in place and in use for the majority of the construction duration to accommodate canoes and kayaks. This would briefly interrupt recreational activities on the Ala Wai Canal that may launch from the canoe halau and existing boat launches.

The proposed construction activities would temporarily reduce the available space within the canal for certain activities, but these activities would not likely be displaced altogether. Construction activities would be planned to accommodate anticipated recreational events. To ensure minimal interruptions in annual events, construction times and locations would be coordinated with or communicated to local paddling associations and event organizers.

Staging areas for bridge construction would be located in the existing parking lot for the Ala Wai Neighborhood Park and in the open areas adjacent to the bridge touchdown on the mauka side of the canal. The Construction Traffic Control Plan described in Section 3.2.8 Transportation, includes measures for the temporary park parking lot closures and construction access through the park parking lot would be implemented to minimize construction traffic effects to recreational areas. A detour for the Ala Wai Park Trail would be constructed to maintain connectivity between recreational facilities on the mauka side of the canal, including the Ala Wai Community Park and Ala Wai Dog Park. Parking for the Ala Wai Neighborhood Park and Ala Wai Community Garden would be relocated in advance of bridge construction activities. A detour for the Ala Wai Promenade on the makai side would also be established in advance of the makai ramp and landing construction activities. Recreational facilities affected by bridge construction, including the Ala Wai Neighborhood Park, Ala Wai Community Garden, and Ala Wai Promenade would be restored to preconstruction conditions upon completion of the bridge.

Long-term, minor, potential effects on recreational facilities, namely the Ala Wai Neighborhood Park, could occur because of permanent changes to the features and

amenities within the area. The project is expected to permanently use approximately 2.3 acres of the 24 acre Ala Wai Neighborhood Park (see Appendix F – Exhibit 3). The tower, which would be located at the mauka side bridge touchdown, would be a permanent addition to the Ala Wai Neighborhood Park. Further changes would involve removal of some existing parking stalls and conversion of park areas to new parking. The Construction Traffic Control Plan includes measures to reduce impacts to parking during construction (see Section 3.2.8 Transportation).

Long-term, minor, beneficial effects on recreation within the Waikiki area would result from a new pedestrian and bicycle bridge over the Ala Wai Canal. The crossing would attract more recreational users to the area and provide increased connectivity between the recreational opportunities in Waikiki and Moiliili, listed above. Pedestrians and bicyclists traveling between the mauka and makai sides of the canal would no longer need to travel to the McCully Street Bridge to do so. Fort DeRussy Park and Waikiki Beach would become more accessible to residents who live along University Avenue on the mauka side of the canal. Ala Wai Community Park, Ala Wai Neighborhood Park, Ala Wai Community Garden, Ala Wai Dog Park, Ala Wai Golf Course, and the Ala Wai Park Trail would become more accessible to tourists and residents who reside on the makai side of the canal. The planned construction of additional pedestrian and bicycle facilities, which would connect the proposed bridge with pedestrian and bicycle facilities along University Avenue, would further improve connectivity between recreational facilities in Waikiki and Moiliili.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance and minimization measures would be implemented into the project plans to maintain access to the Ala Wai Canal and the recreational facilities within Ala Wai Neighborhood Park such as the tennis court, basketball court, baseball field, trail, and restrooms, the Ala Wai Community Garden, and the Ala Wai Promenade. Therefore, effects from construction and operation of the new bridge would be less than significant. Avoidance and minimization measures that could be implemented to reduce the effects on recreation identified for this project include the following.

- Coordination with schools and paddling teams, community event organizers, and other agencies with jurisdiction over affected parks regarding possible temporary closures or changed access to recreational facilities.
- Coordination with agencies overseeing other projects in the vicinity of the proposed bridge construction to minimize effects on parks and recreational facilities by preventing the simultaneous occurrence of multiple projects in one area.
- Public notification of any recreational facility closures, detours, or relocations through public notices, bulletins, signs, and memoranda.

4 Alternatives Considered

4.1 Introduction

CCH DTS in cooperation with OahuMPO performed the Ala Wai Alternatives Analysis in 2019 as part of the planning phase of the project. The preliminary alternatives considered during this early analysis included the No Action Alternative, enhancement of existing crossings at three separate locations, the creation of a new crossing in two different alignments, and three non-bridge solutions, as summarized below. Some of these preliminary alternatives that were considered during the project planning process were subsequently eliminated from further consideration based on their lack of feasibility, practicability of implementation, or lack of alignment with the project purpose and need. The alternatives that were considered feasible and practicable and met the project purpose and need were carried forward for further evaluation during the design phase of the project. The alternatives carried forward for additional review during the design phase include three different bridge types; these alternatives have been evaluated using specific criteria as outlined further below.

4.2 Planning Phase Preliminary Alternatives

The preliminary alternatives evaluated in the 2019 Ala Wai Alternatives Analysis are described below.

4.2.1 Enhance Existing Crossings

Three alternatives were considered at existing crossings spanning the Ala Wai Canal located on Ala Moana Boulevard, Kalakaua Avenue, and McCully Street. Solutions ranged from reconfiguration of the existing bridge travel lanes to structural solutions to create more space for people walking and bicycling.

4.2.2 Create a New Crossing

New canal bridge crossings with bicycle and pedestrian access only were considered in the vicinity of University Avenue and in the vicinity of the Ala Wai Golf Course.

4.2.3 Non-Bridge Solutions

Three non-bridge solutions were considered near Kamoku Street.

- Aerial Tram: Construct an aerial tram to transport people across the Ala Wai Canal.
- Aqua Bus: Establish a network of dock locations and a fleet of vessels to transport people along with bicycles, strollers, and wheelchairs across the Ala Wai Canal.
- Tunnel: Construct a tunnel under the Ala Wai Canal for people walking and bicycling.

4.2.4 Results of the Preliminary Alternatives Analysis

Based on CCH DTS's evaluation system for the preliminary alternatives analysis and public outreach, a new crossing in the vicinity of University Avenue was identified as the

preferred alternative. The new crossing in the vicinity of University was identified as the superior alternative over the other preliminary alternatives for the following reasons.

- *Complete Streets Connectivity* – A new bridge in the vicinity of University Avenue expands pedestrian and bicycle access to Waikiki for 3,000 more commuters. There is currently a gap in the walking and bicycling network between the mauka and makai sides of the canal. A crossing at Seaside – Ala Wai Golf Course – Ala Wai Park was evaluated to have similar benefits as the University Avenue location with the potential challenge of increased nuisance travel as commuting bicyclists and pedestrians seek connections to main thoroughfares.
- *Land/Ownership Impact* – A new bridge at this location would not directly affect private properties. Minimal impacts to the park would not affect the recreational use of Ala Wai Community Park. A new crossing at the Seaside – Ala Wai Golf Course – Ala Wai Park location was evaluated to have similar Land/Ownership requirements as a bridge at the University Ave. location. Additional coordination would be required with Ala Wai Golf Course at the Seaside – Ala Wai Golf Course – Ala Wai Park location.
- *Implementation* – A new bridge requires significant upfront capital cost with low future maintenance costs, while enhancements to existing bridges and non-bridge solutions require more long-term operations and maintenance costs. A new crossing at the Seaside – Ala Wai Golf Course – Ala Wai Park location would potentially require the construction of two bridges to cross both the Ala Wai Canal and Manoa-Palolo Stream.
- *Traffic Safety* – A new bridge provides a low-crash link and connection for people walking and bicycling through areas with fewer collisions. A new crossing at the Seaside – Ala Wai Golf Course – Ala Wai Park location was evaluated to have more potential safety hazards for pedestrians and bicyclists than the University Avenue location with regard to play on nearby holes of the Ala Wai Golf Course and fewer eyes on the street due to indirect route.
- *Travel Time and Convenience* – A new bridge at the University Avenue location reduces travel distances by as much as one mile of out-of-direction travel for people walking and bicycling between Waikiki and McCully-Moiliili.
- *Sustainable Mobility and Public Health* – A new bridge makes more places reachable in a 20-minute walk or bike ride from Waikiki, allowing more people to walk and bicycle for short trips.
- *Affordable Access* – A new bridge would reduce travel time and expand access for additional commuters. The additional residents and employees that could reach Waikiki or primary transportation corridors by walking or biking with a new crossing include many kupuna, youth, and low-income individuals.
- *Improved Nonmotorized Emergency Evacuation and Public Safety* – A new bridge creates a direct route to the Tsunami Evacuation Safe Zone, improving public safety. A new crossing at University Avenue was evaluated to decrease travel time for approximately 18,300 residents and employers in Waikiki by approximately 15 minutes compared to existing pedestrian evacuation routes. A new crossing at the Seaside – Ala Wai Golf Course – Ala Wai Park location was evaluated to decrease

travel time for approximately 9,100 residents and employers in Waikiki by approximately five minutes compared to existing pedestrian evacuation routes.

- *Vibrant Canal* – New bridges are an opportunity to enhance the vibrancy of the canal with active, safe, destination-quality public space.

With the identified preferred alignment in the vicinity of University Avenue, the preliminary alternatives analysis then evaluated five new bridge types at this location. The five bridge types included a concrete beam, steel arch – network, concrete cable-stayed, concrete arch-bifurcated, and steel lenticular truss. Using a matrix format, the five different bridge types were evaluated based on the following criteria: project schedule and budget, feedback received during and following public meetings, operations and maintenance costs, constructability, construction impacts to local area, ability to manage access and delineate people by mode, and ease of implementation. Results of the Alternatives Analysis matrix evaluation identified the steel lenticular truss, concrete cable-stayed, and concrete arch-bifurcated as the preferred options to be carried forward for further evaluation.

- Steel arch-network bridge: The transparent and open design of the steel arch-network bridge would align with the community's preferred bridge experience; however, steel presents considerable maintenance cost over the life of the bridge in the Hawaiian marine environment.
- Bifurcated arch bridge: A bifurcated arch bridge would be easy to maintain, and would provide a sense of openness, while maintaining a clear span and structural delineation that separates bicycling and walking. Conversely, a bifurcated arch bridge would have a potential impact on view corridors, a potential temporary trestle would be needed across the canal during construction, and steel tension rods would require specialized maintenance.
- Concrete cable stayed bridge: The concrete cable stayed bridge proved to maintain a sense of openness while creating a visual landmark and natural delineation between people walking and bicycling.
- Steel lenticular truss bridge: The steel lenticular truss would create a visually interesting, sheltered bridge experience. However, less desirable outcomes of constructing this bridge include a sense of enclosure, impact to views from the bridge, high maintenance cost of steel in the Hawaiian marine environment, and delineation between people walking and bicycling that could only be achieved through curb and pavement markings.
- Beam bridge: While the beam bridge type achieved a community desire for a low-profile bridge that would not impede views, it proved to be infeasible for implementation due to the need for piers in the water that may obstruct drainage and flood flows, and it did not meet the full purpose and need of the proposed action. The concrete cable-stayed, concrete arch-bifurcated, and steel lenticular truss were then considered further during the design phase.

4.3 Alternatives Assessed In Early Design Phase

As a result of the preliminary alternatives analysis, the three preferred bridge types were further evaluated along with study of the bridge alignment within the University corridor to determine which bridge type would best meet the needs of the surrounding community and purpose and need of the proposed action. To assess the preferred bridge types, the project team proposed criteria that would apply to the selection of a bridge type. Criteria was vetted by CCH DTS and of the proposed criteria the following were agreed upon: Aesthetics, User Experience, Constructability, Maintenance, Environmental Stewardship, Construction Impacts, Ease of Implementation, User Safety, and Structural Performance. The criteria were then weighted by category using a pairwise comparison, which is a method of comparing items in pairs to quantify preference. The weighted values were then used to evaluate the alternatives.

Bridge Type Evaluation Criteria:

- User Safety/Crime Prevention Through Environmental Design (CPTED) – 29% weight: This criterion refers to CPTED principles including visibility at bridge access points, natural access control, and traffic calming measures.
- User Experience – 16% weight: This criterion refers to appropriateness of bridge width for cyclist and pedestrian use, connectivity to existing pedestrian and bicycle routes, appropriate clearance for paddlers and kayakers, and minimization of impacts to existing community garden, canoe halau, launch ramps, and Ewa – Diamond Head circulation.
- Maintenance – 11% weight: This criterion refers to durability of materials, ease of repair and replacements, local availability of materials, consideration of scour, type and frequency of bridge inspection.
- Structural Performance – 10% weight: This criterion refers to the complexity of bridge foundations, mitigation of loads on the existing canal walls, resilience under seismic stresses, and extent of wind and vibration analysis.
- Environmental Stewardship – 10% weight: This criterion refers to minimizing impacts on resources such as the Ala Wai Waterbody and related hydrology, biological resources, and reduction of carbon emissions.
- Aesthetics – 10% weight: This criterion refers to the potential to enhance the existing sense of place, integrate into the existing setting, and represent the community.
- Constructability – 6% weight: This criterion refers to the construction complexity of the structural system, opportunity to prefabricate elements, need for specialized equipment, and need for temporary works.
- Construction Impacts – 4% weight: This criterion refers to temporary construction impacts to park users and other nearby stakeholders.
- Ease of Implementation – 4% weight: This criterion refers to speed and ease of negotiation of agreements, land acquisition, permitting, environmental analysis, and implementation.

In addition to the bridge types recommended by the Alternatives Analysis, design studies considered the beam bridge and variations on the cable stayed bridge. The design studies were done to evaluate the bridge types against the site-specific challenges at the University Avenue alignment. Based on the asymmetry of the available space and requirement to maintain unobstructed clearance above the projected 100-year flood elevation, the cable stayed option was evaluated to be the most appropriate bridge type. Variations on the exact alignment of the bridge were also considered in the design studies. Following discussions with utilities stakeholders regarding access requirements, Alternative 4c, the Cable Stayed Bridge on Alignment Alternative was evaluated to be the preferred alternative. Alternatives and options that were developed and evaluated during the early design phase are listed below. The alternatives are also described further in Table 4-1.

4.3.1 Alternative 1: Beam Bridge with Piers

This alternative is a precast beam bridge with piers in water and no overhead structure. While eliminated during the preliminary alternatives analysis, the beam bridge was evaluated again during the early design phase based on community input. A beam bridge with piers would require biennial bridge inspections. This alternative was eliminated because of its impact to drainage flows in the Ala Wai Canal, long-term maintenance costs, the need for additional flood clearance freeboard, potential to adversely affect the historic flood walls of Ala Wai Canal, and because of its inability to meet the purpose and need.

4.3.2 Alternative 2: Steel Truss Bridge

This alternative is a steel truss bridge with a clear span over the water. This alternative was eliminated because of adverse impacts on views from on and around the bridge, safety concerns based on structural impacts to lines of sight, and long-term maintenance costs.

4.3.3 Alternative 3: Concrete Arch Bridge

This alternative is a concrete arch bridge with a clear span over the water. This alternative was eliminated because of site limitations given the necessity for large concrete anchorages at both sides of the canal, the potential to affect the historic flood walls of the Ala Wai Canal, impacts to the Diamond Head viewshed; and the need for falsework within the canal during construction resulting in hydrology, water quality, and recreational impacts.

4.3.4 Alternative 4: Cable Stayed Bridge

Alternative 4a – Cable stayed bridge on alignment

This alternative is a cable stayed bridge aligned with the centerlines on University Avenue and Kalaimoku Street. The bridge would span the canal with a single mauka pylon. This alternative would require bi-annual inspections with a more extensive inspection of the cable components every five years. This alternative was eliminated because the alignment would adversely affect the storm drain culvert located at the

mauka canal wall; the tower would result in potential adverse impacts to the viewshed; use of barges during construction would impact recreational activities; and this alternative would result in significant geotechnical and structural considerations.

Alternative 4b – Cable stayed bridge skewed alignment

This alternative is a cable stayed bridge skewed to avoid conflicts with the existing stormwater culverts at University Avenue and Kalaimoku Street. This alternative would require bi-annual inspections with a more extensive inspection of the cable components every five years. The bridge would span the canal with a single mauka pylon. This alternative was eliminated because barges in the water during construction would require partial closure of the canal resulting in impacts to canoe traffic and paddling activities, and this alternative would result in significant geotechnical and structural considerations.

Alternative 4c – Cable stayed bridge on alignment alternative

This alternative was developed as a modification of Alternative 4a where the pylon is centered on University Avenue and foundations straddling existing infrastructure at both University Avenue and Kalaimoku Street. The bridge spans the canal with a single mauka pylon. Alternative 4c is the proposed action alternative.

4.3.5 Alternative 5: Cable-stayed Ring Girder Bridge

Alternative 5a – Ring girder bridge on alignment

This alternative is a ring girder bridge aligned with centerlines on University Avenue and Kalaimoku Street. It would use a leaning pylon and radiating stays connecting one side of the deck. This alternative requires bi-annual inspection with a more extensive inspection of the cable components every 5 years. This alternative was eliminated because it would require extensive false work in the water, which could result in hydrology, water quality, and recreational impacts. Falsework would also require its own foundations design to support the weight of the eccentric loading of the tower in poor soil. This alternative was ultimately eliminated because it would result in adverse impacts to the viewshed, would require extensive biennial inspections, and would adversely affect the storm drain culvert located at the mauka canal wall.

Alternative 5b – Ring girder bridge skewed alignment

This alternative is a ring girder bridge skewed to avoid conflicts with existing stormwater culverts at University Avenue and Kalaimoku Street. It would use a leaning pylon and radiating stays connecting one side of the deck. This alternative would require bi-annual inspection. This alternative was eliminated because it would require extensive false work in the water, which could result in hydrology, water quality, and recreational impacts. Falsework would also require its own foundations design to support the weight of the eccentric loading of the tower in poor soil. This alternative was ultimately eliminated because it would result in adverse impacts to the viewshed and would require extensive biennial inspections.

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Table 4-1. Alternatives Comparison to No Action Alternative

Alternative Name and Bridge Type	Alternative Features	Construction Methods	Annual Operations & Maintenance Activities	Ability to Meet the Project Purpose and Need (Y or N; if no, why)	Key Potential Adverse Environmental Effects compared to the No Action Alternative
Alternative 1 – On Alignment - symmetrical Beam with Piers	<p>Precast beam bridge with piers in water. No overhead structure.</p> <p>On alignment with University Avenue / Kalaimoku Street</p>	<p>The bridge would consist of concrete piers and superstructure. It is anticipated that there would be two piers that would need to be constructed within the Ala Wai Canal. The pier foundations would be constructed of deep foundations, consisting of drilled shafts. Each shaft would extend above mean sea level by approximately 10 feet, and would support a concrete pile cap. Precast tee beams or planks would span between the pile caps and comprise the bridge deck.</p> <p>The method of constructing the deep foundations, pile caps, and beams would include the use of modular barges. The shafts would be drilled with an excavator mounted on the barge. The erection of the formwork, placement of the reinforcing steel, and pouring of concrete would be conducted from the barges that will be used as work platforms.</p> <p>The construction of the makai and mauka abutments will also include deep foundations. The drilling equipment can be located on dry land when constructing the shafts and abutment structures. No barges will be necessary for the construction of the two abutments.</p>	<p>Per FHWA guidelines, all vehicular and pedestrian bridges are required to be inspected every two years. The inspections would consist of a hands-on assessment of all concrete and steel surfaces. Because the bridge will not be painted, no maintenance of a coating would be necessary.</p> <p>The biennial bridge inspections will identify any deterioration to the concrete surfaces, such as cracking or spalling. If either of these occur then typical spall and crack repairs can be conducted.</p>	No – potential obstruction to drainage and flows in the Ala Wai Canal	<ul style="list-style-type: none">- Potential greater adverse change in drainage and flows compared to the No Action Alternative.- Potential greater adverse effect to historic property due to modifications required to the Ala Wai Canal (piers in canal and modifications to the canal walls) compared to other bridge type alternatives and the No Action Alternative.- A concrete bridge could result in greater impacts from the potential for cracks compared to other bridge type alternatives and the No Action Alternative.- Low profile bridge may result in a less substantial change to the viewshed than other bridge type alternatives, but greater impacts to the viewshed compared to the No Action Alternative.- Low profile bridge may result in less of an adverse effect to the setting and feeling of the Ala Wai Canal historic property than other bridge type alternatives, but greater impacts on setting and feeling of the Ala Wai historic property compared to the No Action Alternative
Alternative 2 - On Alignment - Symmetrical Truss	<p>Steel truss bridge with clear span over the water.</p> <p>On alignment with University Avenue / Kalaimoku Street</p>	<p>Concrete abutments would be constructed at each end of the bridge. The construction of the abutments would not require any in-water equipment.</p> <p>Because the one-span bridge will not include any piers in the water, the steel truss will need to be designed to be very substantial. The weight of each of the two trusses would be too heavy to lift with a crane and placed into position on the abutments. Therefore, the trusses would need to be fabricated in manageable lengths, shipped to the site and supported on falsework that would be temporarily positioned in the water along the length of the bridge. Wind bracing would then be connected between the two lower truss chords. The bridge deck would then be constructed between the two trusses. Once all of the truss assemblies were in place and connected together, the falsework could be removed.</p>	<p>Ideally, the steel trusses would be hot dip galvanized and coated with a 3-part marine paint system. This dual protection system will provide corrosion resistance of up to 75 years. However, periodic maintenance painting would be required at typical problem areas on a steel truss bridge; namely at joints with bolted and welded connections.</p>	Yes	<ul style="list-style-type: none">- Potential greater hydrology, water quality and environmental impacts due to falsework within the water of the canal during construction compared to the No Action Alternative.- A steel bridge could result in greater impacts from the potential for cracks compared to other bridge type alternatives and the No Action Alternative- A steel bridge would result in potential greater long-term maintenance and socio-economic costs compared to other bridge type alternatives, and potentially greater environmental impacts from cleaning and maintenance. Whereas the No Action Alternative would not involve maintenance and associated costs.- Symmetrical Truss bridge would result in greater changes to the viewshed compared to the No Action Alternative.- Potential greater effect on viewshed and sense of place due to freeboard and structural requirements compared to the No Action Alternative.- Potential full closure of canal during construction would result in greater impacts to recreational use compared to the No Action Alternative.

Alternative Name and Bridge Type	Alternative Features	Construction Methods	Annual Operations & Maintenance Activities	Ability to Meet the Project Purpose and Need (Y or N; if no, why)	Key Potential Adverse Environmental Effects compared to the No Action Alternative
Alternative 3 - On Alignment - Symmetrical Concrete Arch	Concrete arch bridge with a clear span over the water.	<p>Concrete abutments would be constructed at each end of the bridge. Because typical arch bridges result in a significant horizontal thrust being exerted on the foundations, the abutments would need to be designed with large, concrete anchorages that are heavy enough to counteract the thrust forces. The anchorages would be as much as 30 feet deep.</p> <p>The arch rib would be CIP concrete on falsework setup within the water. The falsework would extend across the entire width of the canal and would significantly block canoe traffic within the canal.</p> <p>The bridge deck would also be CIP concrete or precast concrete segments placed on falsework. The deck would be post-tensioned to create a tied-arch simple span crossing of the canal as a low-maintenance structure. The post-tensioning eliminates tension and most shrinkage cracks in the deck. The post-tensioning would also serve to support the thrust forces, which up to this point in the construction has been resisted by the large anchorage structures. The hangers would utilize stay cable technology with HDPE protective pipe or stainless steel with forked ends.</p>	Bi-annual inspection of the hanger cables and concrete deck and arches. The inspections will identify any cracking or spalling that may occur. If either of these occur then typical spall and crack repairs can be conducted.	Yes	<p>- Greater potential hydrology, water quality and environmental impacts due to falsework within the water of the canal during construction compared to the No Action Alternative.</p> <p>- Greater potential geotechnical and structural engineering considerations given site limitations at makai bank and the necessity for large concrete anchorages, deep in the ground compared to other bridge type Alternatives and the No Action Alternative.</p> <p>- Concrete could make it difficult for pedestrians to see views. Potential greater visual impacts on the viewshed and sense of place compared to the No Action Alternative.</p> <p>- Potential full closure of canal during construction would result in greater impacts to recreational use compared to the No Action Alternative</p>
Alternative 4A - On Alignment - Symmetrical Cable Stayed	Cable-stayed bridge, aligned with centerlines of University and Kalaimoku Avenues.	<p>Concrete foundations would be constructed at each end of the bridge. The bridge spans the entire width of the Ala Wai canal with a single tower located at the mauka end of the bridge.</p> <p>The bridge deck would be constructed of either precast planks that are constructed in a segmental bridge construction method, or casting the bridge deck in place using a system of traveling forms.</p> <p>For the precast method, each precast segment would be transported to beneath the bridge on a barge and jacked up into position. The barges will require partial closure of the canal during working hours. At the end of each day, the barges will be moved back to the canal wall and the canal opened back up for canoe paddling activities. After jacking a precast deck segment into position, the segment would then be supported by a pair of forestay cables that extend back to the tower. The precast deck segments would be post-tensioned together as each segment was erected into position. This method of segmental construction would continue across the width of the canal until all deck segments are in place.</p> <p>For the CIP method of construction, no barges will be required. The bridge deck would be poured in 20 foot</p>	<p>The stay cables require bi-annual inspection with a more extensive inspection of the cable components every 5 years such that all cables are inspected within a 20-yr period.</p> <p>The biennial bridge inspections will identify any deterioration to the concrete surfaces, such as cracking or spalling. If either of these occur then typical spall and crack repairs can be conducted.</p>	Yes	<p>- Similar to the No Action Alternative, this alternative would not impact a historic property due to modifications required to the Ala Wai Canal (no piers in canal or modifications to the canal walls).</p> <p>- Potential greater impact to storm drain culverts located at the historic canal walls compared to the No Action Alternative.</p> <p>- Cable-stayed design would have reduced potential for cracking compared to concrete and steel bridge types, but greater impacts compared to the No Action Alternative.</p> <p>- Potential greater visual impacts to the viewshed compared to the No Action Alternative.</p> <p>- Greater impact to Ala Wai Neighborhood Park compared to the No Action Alternative.</p>

Alternative Name and Bridge Type	Alternative Features	Construction Methods	Annual Operations & Maintenance Activities	Ability to Meet the Project Purpose and Need (Y or N; if no, why)	Key Potential Adverse Environmental Effects compared to the No Action Alternative
		increments. Formwork would extend beyond the end of the latest deck section and would be supported by temporary cables that extend back to the tower. This method of construction would allow the contractor to work within the formwork while placing rebar and pouring the concrete. Once one section of deck has been poured and cured for approximately one week, the formwork would be moved outward to the next position. This procedure would continue until the entire bridge deck has been poured.			
Alternative 4B - Skewed Alignment - Symmetrical Cable Stayed	Cable-stayed bridge that is not aligned with the centerlines of University and Kalaimoku Avenues. Instead, the bridge centerline would be oriented at a skew of approximately 10 degrees.	The construction methods used for Alternative 4A are identical to how Alternative 4B would be constructed. However, a skewed alignment of the bridge would not conflict with the existing storm drain culvert.	<p>The stay cables require bi-annual inspection with a more extensive inspection of the cable components every 5 years such that all cables are inspected within a 20-yr period.</p> <p>The biennial bridge inspections will identify any deterioration to the concrete surfaces, such as cracking or spalling. If either of these occur then typical spall and crack repairs can be conducted.</p>	Yes	<ul style="list-style-type: none">- Similar to the No Action Alternative, this alternative would not impact a historic property due to modifications required to the Ala Wai Canal (no piers in canal or modifications to the canal walls).- Cable-stayed design would have reduced potential for cracking compared to concrete and steel bridge types, but greater impacts compared to the No Action Alternative.- Greater potential visual impacts to the viewshed compared to the No Action Alternative.- Greater impact to Ala Wai Neighborhood Park compared to the No Action Alternative.- Potential reduced effect on nearby utilities compared to other bridge type alternatives but greater impacts on utilities compared to the No Action Alternative.
Alternative 4C - Cable Stayed Bridge On Alignment Alternative (Proposed Action Alternative)	Cable-stayed bridge. Pylon is centered on University Avenue and foundations straddle existing infrastructure at both University Avenue and Kalaimoku Street. The bridge spans the canal with a single mauka pylon.	See Section 2.2, <i>Description of the Proposed Action</i> , for construction methods.	<p>The stay cables require bi-annual inspection with a more extensive inspection of the cable components every 5 years such that all cables are inspected within a 20-yr period.</p> <p>The biennial bridge inspections will identify any deterioration to the concrete surfaces, such as cracking or spalling. If either of these occur then typical spall and crack repairs can be conducted.</p>	Yes	<ul style="list-style-type: none">-Fewer hydrology, water quality and environmental impacts due to no falsework within the water of the canal during construction compared to other bridge type alternatives. Slightly greater potential for hydrology, water quality and environmental impacts compared to the No Action Alternative.- Similar to the No Action Alternative, this alternative would not impact a historic property due to modifications required to the Ala Wai Canal (no piers in canal or modifications to the canal walls).- Cable-stayed design would have reduced potential for cracking compared to concrete and steel bridge types, but greater impacts compared to the No Action Alternative.- Greater potential visual impacts to the viewshed compared to the No Action Alternative.-Greater impact to Ala Wai Neighborhood Park compared to the No Action Alternative.

Alternative Name and Bridge Type	Alternative Features	Construction Methods	Annual Operations & Maintenance Activities	Ability to Meet the Project Purpose and Need (Y or N; if no, why)	Key Potential Adverse Environmental Effects compared to the No Action Alternative
					- Potential reduced effect on nearby utilities compared to other bridge type alternatives. Greater impacts on utilities compared to the No Action Alternative.
Alternative 5A - On Alignment - Asymmetric Ring Girder	Ring Girder [aligned with centerlines on University and Kalaimoku Avenues] that uses a leaning tower and radiating stays connecting one side of the deck.	<p>The deck acts as a ring girder with compression forces developing in the bottom of the box girder and post-tensioning in the deck to form a couple that resolves the overturning effect of the single supported edge. This is a very dynamic expression, but requires careful support during construction that will require extensive falsework in the water to support the CIP box and deck slab. The falsework would be need to be in position for the entire period of superstructure construction. The falsework would have a significant impact on the use of the canal by canoe clubs for an extended period of time.</p> <p>The tower will also require customized formwork that might be able to be constructed using jump-forms. However, because the tower would be designed to lean outward in a makai direction, the formwork will need to be supported by falsework. The falsework would need to have its own foundations design to support the weight of the eccentric loading of the tower in poor soil.</p>	The stay cables require bi-annual inspection with a more extensive inspection of the cable components every 5 years such that all cables are inspected within a 20-yr period. The biennial bridge inspections will identify any deterioration to the concrete surfaces, such as cracking or spalling. If either of these occur then typical spall and crack repairs can be conducted.	Yes	<p>- Potential greater hydrology, water quality and environmental impacts due to falsework within the water of the canal during construction compared to the No Action Alternative.</p> <p>- Greater potential visual impacts to the viewshed compared to the No Action Alternative.</p> <p>- Potential full closure of the canal and greater impacts to recreational use during construction compared to the No Action Alternative.</p> <p>-Greater impact to Ala Wai Neighborhood Park compared to the No Action Alternative.</p>
Alternative 5B – Skewed Alignment - Asymmetric Ring Girder	Ring Girder [not aligned with centerlines of University and Kalaimoku Avenues] that uses a leaning tower and radiating stays connecting one side of the deck. formwork that might be able to be constructed using jump-forms.	The construction methods used for Alternative 5A are identical to how Alternative 5B would be constructed. However, a skewed alignment would not conflict with the storm drain culverts.	Bi-annual inspection of the stay cables. The biennial bridge inspections will identify any deterioration to the concrete surfaces, such as cracking or spalling. If either of these occur then typical spall and crack repairs can be conducted.	Yes	<p>- Potential greater hydrology, water quality and environmental impacts due to falsework within the water of the canal during construction compared to the No Action Alternative.</p> <p>- Greater potential visual impacts to the viewshed compared to the No Action Alternative.</p> <p>- Potential full closure of canal during construction would result in greater impacts to recreational use compared to the No Action Alternative.</p> <p>-Greater impact to Ala Wai Neighborhood Park compared to the No Action Alternative.</p> <p>- Potential reduced effect on nearby utilities compared to other bridge type alternatives but greater impacts on utilities compared to the No Action Alternative.</p>

4.4 Alternatives Comparison Results

The No Action Alternative would not result in effects to the environment since no change to the setting would occur and not construction would occur. Alternative 1 – low profile pier footing bridge, would result in less environmental effects however, it would not meet the project purpose and need. Alternative 4C would meet the project purpose and need and would potentially result in fewer environmental effects than the other bridge type alternatives. Table 4-2 provides a summary of which proposed project needs are met by the No Action Alternative, Alternative 1, and Alternative 4C (Proposed Action) in the EA.

Table 4-2. Alternative Comparisons to Meet Project Purpose and Need

Proposed Project Purpose and Need Yes (Y) or No (N) indicate whether the purpose and need of the Proposed Project would be met under the alternative described	No Action Alternative	Alternative 1	Alternative 4C (Proposed Action Alternative)
Safety from Traffic	N	Y	Y
Improved Nonmotorized Emergency Evacuation and Public Safety	N	N	Y
Complete Streets Connectivity	N	Y	Y
Travel Time and Convenience	N	Y	Y
Affordable Access	N	Y	Y

Note: Improved Nonmotorized Emergency Evacuation and Public Safety includes maintaining stormwater drainage and floodwater conveyance

4.5 Alternatives Carried Forward for Analysis

As a result of the alternatives analysis completed in the preliminary engineering phase and described above, the proposed action alternative and the no action alternative were carried forward in this EA for full analysis. The proposed action alternative is the only alternative that met the project purpose and need and resulted in less significant or adverse effects. Per the Council on Environmental Quality (CEQ) regulations (40 CFR Section 1502.14 (c) and (d)) the no action alternative must be evaluated. Therefore, Chapter 3 of this EA provides an equal-level analysis of the no action alternative and the proposed action alternative.

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5 Conformance with Existing Federal, State, and County Plans, Policies and Land Use Controls

Federal, State and County policies, plans and land use controls are established to guide development in order to enhance the environment and quality of life. These plans, policies and land use controls at each level of the government have been put into effect to help promote the long-term social, economic, environmental, and land use needs of the community and region. The proposed project's relationship to and conformance with land use policies, plans and controls for the region are summarized in this chapter.

5.1 Federal

The proposed project would include the use of Federal funds through FHWA. As a result, the proposed project must be consistent with various Federal statutory and regulatory requirements.

5.1.1 National Environmental Policy Act

The proposed project would be partially funded by FHWA; this Federal funding subjects the project to the environmental review requirements of NEPA, prescribed under 40 CFR Parts 1500 – 1508 (CEQ). FHWA serves as the lead Federal agency, or Administrator, responsible for the project's compliance with NEPA documentation and processing requirements, as provided in 23 CFR 771, Environmental Impact and Related Procedures.

The NEPA determination of impact significance is related to the type of document and process required to comply with NEPA for a proposed project. There are three types of environmental documents under NEPA: (1) Categorical Exclusion (CE), (2) EA, and (3) EIS. A CE is appropriate where there are no significant impacts on the environment, an EA when the significance of the effects are not clearly established, and an EIS when the action would have a significant impact on the environment.

Significance is defined in the CEQ regulations (40 CFR 1508.27). A "significant impact" is assessed in terms of an impact's "context" and "intensity." Context refers to the environment and the level of relative abundance of resources in the project area. Intensity refers to the specific impact, or how much of the resource(s) would be used or affected by the project.

This EA has been prepared in compliance with NEPA.

5.1.2 National Historic Preservation Act of 1966

The NHPA of 1966, as amended (PL 89-665, codified as 54 United States Code [U.S.C.] 470), recognizes the nation's historic heritage and establishes a national policy for the preservation of historic properties as well as the NHRP. Section 106 of the NHPA (16 U.S.C. 470f) requires that Federal agencies consider the effects of their projects on historic properties. Use of Federal funds sets forth the need for Section 106

consultation. The purpose of the Section 106 consultation process is to evaluate the potential for effects on existing historic sites, if any, resulting from the project. Findings relating to historic properties are discussed in Section 3.2.4 of this EA.

The Section 106 review process encompasses “good faith effort” in ascertaining the existence and location of historic properties near and within the project site, establishing an APE of the project, identifying whether a potential for “adverse effects” on historic properties by the project exists, and developing a reasonable and acceptable resolution in the monitoring and treatment of any historic sites that is agreed upon by the agency, the SHPO, and consulting government agencies, community associations, and Native Hawaiian organizations and families.

The identification of historic properties was also made in keeping with NHPA Section 106 and HRS 6E requirements, including HAR §13-275-5 Identification and inventory of historic properties and HAR §13-275-6 Evaluation of significance. A total of 30 resources were identified within the study area. Of these, 12 were already listed or found eligible for State and/or NRHP, and 18 were evaluated as not eligible. The Identification of Historic Properties (MASON 2020) is included in Appendix B and the Archaeological Literature Review and Field Inspection/ Supplemental Archaeological Resources Identification Report (Honua 2020) is included in Appendix C.

Consultation on the project will continue through project development and be completed before its project approval.

5.1.3 Section 4(f) of the Department of Transportation Act of 1966

Section 4(f) of the Department of Transportation Act of 1966 (49 U.S.C. 303 and 23 U.S.C. 138) permits the use of publicly-owned park land, recreational area, wildlife and waterfowl refuge, or land of an historic site of National, State, or local significance for a transportation project only if (1) there is no prudent and feasible alternative to using that land; and (2) the project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use. The purpose of Section 4(f) requirements is to preserve significant parkland recreation areas, refuges, and historic and archaeological sites by limiting the circumstances where such land can be used for transportation projects.

The proposed bridge would span the historic Ala Wai Canal, which was added to the Hawaii Register of Historic Places in 1992, and the bridge landing would be partially within the Ala Wai Neighborhood Park. Both the Ala Wai Canal and Ala Wai Neighborhood Park are eligible for protection under Section 4(f).

Ala Wai Canal

Incremental, temporary closures of the canal for the precast construction method or the CIP construction method would take approximately 3-4.5 months, which is a shorter duration than the overall project construction. Upon completion of each phase of bridge deck construction, the temporarily closed portion of the Ala Wai Canal would be reopened and no change of ownership would occur.

Temporary closure of the portion of the Ala Wai Canal would be done via a buoy and notification system. The buoys would be positioned to clearly define the areas beneath

the bridge that are closed to recreational vessels, much like the lane markers in a swimming pool during race events. The closure area limits would be defined during construction in coordination with the contractor and the paddling groups.

The partial canal closure would only occur during a portion of the time needed for overall project construction, would have a minor impact on canal users, and would not result in any physical impacts on the canal that would require restoration. Therefore, the temporary, partial closure of the Ala Wai Canal would result in a temporary occupancy under 23 CFR 774.13(d).

No permanent structures would be installed in the Ala Wai Canal. Construction of the makai and mauka landings would cantilever out over the existing Ala Wai Canal walls. No physical impacts or weight bearing on the canal walls would result from the project. Furthermore, as stated above the Ala Wai Canal was originally constructed to serve as a drainage canal. Currently, the Department of Land and Natural Resources manages and operates the canal to maintain its original purpose. The proposed clear span bridge design would help maintain the canal's drainage functions and purpose and would not interfere with the canal operations. Since the bridge would span the Ala Wai Canal and would not impact the canal walls or the protected features of the canal, the proposed project would not result in any direct impact on the canal or land acquisition. Therefore, there is no use of the Ala Wai Canal as a historic property under Section 4(f).

CCH DTS and FHWA will work with the State Historic Preservation Officer (SHPO)/SHPD and the Department of Land and Natural Resources (DLNR) as the physical owner of the Ala Wai Canal to document agreement on the project Section 4(f) finding. The temporary occupancy evaluation for the Ala Wai Canal is included in Appendix G.

Ala Wai Neighborhood Park

As discussed, the bridge landing would be partially located within the Ala Wai Neighborhood Park. Approximately 2.3 acres of the 24 acre Ala Wai Neighborhood Park would be required to construct the proposed bridge landing. In addition, portions of the Ala Wai Neighborhood Park parking lot would be temporarily closed during construction. The park facilities would remain open during construction, with the exception of the keiki play area, which would be relocated. Temporary gravel parking lots would be provided for park users. After construction of the bridge is completed, the parking lot would be reopened and improved through the addition of parking stalls and replacement of parking stops. The existing multiuse path on the mauka side would be temporarily closed and rerouted around the construction area. Upon completion of construction, the multiuse path would be tied into the mauka landing. The existing canoe hale would remain in place and in use during construction; however, access would be limited because of the immediate construction area and safety concerns. Upon completion of construction the portions of the Ala Wai Neighborhood Park and parking areas that were disturbed during construction would be restored and replanted.

The proposed project would result in a *de minimis* impact on the Ala Wai Neighborhood Park because the amount of land required for the proposed bridge is only approximately 10 percent of the total acreage, park facilities and access to those facilities would be maintained during construction, and pedestrian and bicycle improvements would be

made as part of construction. The *de minimis* evaluation for the Ala Wai Neighborhood Park is included in Appendix F.

5.1.4 Coastal Zone Management Act of 1972

In 1972, the U.S. Congress enacted the Federal Coastal Zone Management Act to ensure that each Federal agency undertaking an activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone will be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved State management programs. Hawaii's Coastal Zone Management Program (CZMP) was enacted to provide a common focus for State and County actions dealing with land and water uses and activities. Projects needing federal permits are required by the CZMA to be consistent with Hawaii's CZMP objectives and policies. The project will undergo review through a CZM Federal Consistency Determination by the Hawaii Office of Planning.

The State administers the enforcement of this Act under the Hawaii CZM Program (HRS Chapter 205A). The proposed project is located within the Coastal Zone as defined by the State of Hawaii. The CZM area encompasses the entire State and extends seaward to the limit of the State's police power and management authority, to include the territorial sea. The project will comply with CZMA requirements as outlined in Section 2.5, Anticipated Permits and Approvals.

5.1.5 Endangered Species Act of 1973

The ESA of 1973 (16 U.S.C. 1531-1544) establishes a process for identifying and listing threatened and endangered species. It requires Federal agencies to carry out programs for the conservation of Federally-listed endangered and threatened plants and wildlife and designated critical habitats for such species, and prohibits actions by Federal agencies that would likely jeopardize the continued existence of those species or result in the destruction or adverse modification of designated critical habitat. Section 7 of the ESA requires consultations with Federal wildlife management agencies, such as the USFWS and National Marine Fisheries Service (NMFS).

A letter was sent to USFWS on November 6, 2020, requesting a list of threatened or endangered species that could be associated with the habitats in the project area. USFWS responded on December 10, 2020. This correspondence is included in Appendix H. A not likely to adversely affect determination is anticipated for project effects to USFWS species. Coordination with USFWS will continue and additional correspondence will be captured in the Final EA.

A no effect determination is anticipated for project effects to NMFS species. A letter was sent to FHWA for their determination on project effects to NFMS species on February 1, 2021. Coordination with FHWA will continue and additional correspondence will be captured in the Final EA.

5.1.6 Magnuson-Stevens Fishery Conservation Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1855(b)), as amended, establishes provisions relative to Essential Fish Habitat (EFH), to

identify and protect important habitats for federally managed marine and anadromous fish species. EFH is defined as those waters and substrate necessary to fish for spawning, breeding, feeding, and/or growth to maturity. “Waters” include aquatic areas and their associated physical, chemical, and biological properties used by fish and may include areas historically used by fish where appropriate. “Substrate” includes sediment, hard bottom, and structures underlying the waters and associated biological communities. Federal agencies which fund, permit, or undertake activities that may adversely affect EFH (including actions outside EFH, such as upstream/upslope activities) are required to consult with NMFS regarding the potential effects of their actions on EFH, and respond to NMFS recommendations. An adverse effect is defined as any impact that reduces quality and/or quantity of EFH, including direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, species and their habitat, and other ecosystem components.

The project area does not contain any designated or proposed critical habitat for threatened or endangered aquatic species, nor does it contain EFH.

5.1.7 Clean Air Act of 1970

The Clean Air Act (CAA) and amendments (42 U.S.C. §7401 et seq.) is the comprehensive Federal law that regulates air emissions from area, stationary, and mobile sources. This law authorizes the EPA to establish NAAQS to protect public health and the environment. The six NAAQS for transportation-related criteria pollutants that have been linked to potential health concerns are: CO, NO₂, SO₂, Pb, O₃, and particulate matter, which is broken down for regulatory purposes into PM₁₀ and PM_{2.5}. The NAAQS and state standards are set at levels that protect public health with a margin of safety and are subject to periodic review and revision. Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under NEPA. In addition to this environmental analysis, a parallel “Conformity” requirement under the federal CAA also applies for “nonattainment” areas. However, excluding the exceedances attributable to the volcano on the island of Hawaii, in 2016 the State of Hawaii was in attainment of all NAAQS. Therefore, regional and project-level conformity requirements do not apply to the state.

Pursuant to the CAA and amendments, State-operated permit programs serve to control emissions. In Hawaii, the operating permit program is implemented by HDOH and emissions of regulated air pollutants within the state may be subject to permitting as required under HAR 11-60.1.

With implementation of the controls required for the various aspects of construction activities and consistent use of BMPs to minimize on-site emissions, construction of the proposed project would not be expected to significantly affect air quality. As the proposed project is a pedestrian bridge, once construction has been completed the regional traffic volumes would not change from the no action conditions.

5.1.8 Clean Water Act

The Federal Water Pollution Control Act (FWPCA) (33 U.S.C. §§1251 et seq.), is the Federal statute regulating the discharge of water pollution. Congress revised the FWPCA into the CWA in 1972. The goals of the CWA include: (1) “the discharge of

pollution into the navigable waters be eliminated by 1985,” (2) “the discharge of toxic pollutants in toxic amounts be prohibited,” and (3) an “interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and... recreation in and on the water...by July 1, 1983” (CWA §101a and 33 U.S.C. §1251a).

Section 404 of the CWA regulates discharge of dredge and fill material in the Waters of the U.S., including wetlands, and requires a Department of the Army permit from the USACE. Section 401 of the CWA directs States to establish water quality certification (WQC) programs; in Hawaii, the Section 401 WQC is administered by the HDOH CWB. CCH DTS in coordination with USACE has determined that the project does not require a CWA Section 404 permit since the project would not discharge any fill material into the Ala Wai Canal.

A CWA Section 401 Water Quality Certification from the HDOH may be required for the project.

Section 402 of the CWA requires an NPDES permit for point source discharges, including storm water discharges associated with construction activities. The permit is required for construction activities that disturb one (1) acre or more and discharge storm water from the project site to waters of the U.S. The project is expected to require an NPDES General Construction permit.

5.1.9 Safe Drinking Water Act

The SDWA of 1974 (42 U.S.C. 300f et. seq.) was established to protect the quality of drinking water in the U.S. This law focuses on all waters actually or potentially designed for drinking use, whether from above ground or underground sources. The Act authorizes EPA to establish minimum standards to protect tap water and requires all owners or operators of public water systems to comply with these primary (health-related) standards.

It is administered by the EPA and implemented by the HDOH Safe Drinking Water Branch. This branch is responsible for protecting the state’s drinking water resources, including both surface and groundwater sources, and ensures that public water systems meet federal and state health-related standards for drinking water. The HDOH Wastewater Branch is also responsible for protecting drinking water and public health by ensuring that the use and disposal of wastewater does not contaminate water sources. The project is located in the Southern Oahu Basal Aquifer, which was designated by the EPA Region 9 as a Sole Source Aquifer under the SDWA. Coordination with the EPA will occur for the project.

5.1.10 Rivers and Harbors Act of 1899

The River and Harbor Act of 1899 (33 U.S.C. 401 et. seq.) requires that the Secretary of the Army issue permits for various activities to protect navigable and tidally influenced waterways.

Section 9 of the Act requires authorization from USACE before construction of a bridge, dam, dike, or causeway over or in navigable waterways of the U.S. It requires that any agency planning to construct or modify a bridge apply for a Coast Guard bridge permit. The U.S. Coast Guard responded via letter on October 26, 2020 that the project would

not require a U.S. Coast Guard Bridge Permit under Section 9 of the Rivers and Harbors Act because the Ala Wai Canal is an Advanced Approval Waterway.

Section 10 of the Act requires authorization from USACE before construction of any structure over, excavation from, or disposal of materials into navigable waters. Structures or work outside the limits defined for navigable waters of the U.S. require a Section 10 permit if the structure or work affects the course, location, or condition of the water body. CCH DTS, in coordination with USACE, has determined that the project is exempt and does not require a Section 10 permit given that work in the canal would be temporary and that no permanent structures, excavations, or dredging in the water are proposed. This determination is consistent with the 1973 Memorandum of Understanding with the USACE and the Section 10 exemption will be confirmed by the USACE.

5.1.11 Floodplain Management Executive Orders 11988 and 12148

Executive Order 11988, Floodplain Management, dated May 24, 1977 requires Federal agencies to take action to reduce the risk of flood loss, restore the natural and beneficial values of floodplains, and minimize the impacts of floods on human safety, health, and welfare. Executive Order 12148, July 20, 1979, amended Executive Order 11988. The main feature of the amendment added that agencies with responsibilities for Federal real estate properties and facilities will, at a minimum, require the construction of Federal structures and facilities to be in accordance with the criteria of the National Flood Insurance Program.

In accordance with these Executive Orders, the proposed project would involve coordination with USACE to confirm that bridge structures cantilevered into the 100 year floodway are appropriately resilient. This process may require a waiver of approval from USACE. The project will obtain all necessary approvals and permits from appropriate agencies prior to construction.

5.1.12 Protection of Wetlands, Executive Order 11990

Executive Order 11990, Protection of Wetlands, dated 1977 requires Federal agencies to avoid, preserve, or mitigate effects of new construction projects on lands that have been designated wetlands.

There are no wetlands in the project area. Therefore, the Project is not subject to Executive Order 11990.

5.1.13 Invasive Species, Executive Order 13112

Executive Order 13112 (64 Federal Register 6183), issued in 1999, requires Federal agencies to implement policies to minimize the spread of invasive species. Federal agencies cannot authorize, fund, or carry out action(s) that are likely to cause or promote the introduction or spread of invasive species, unless it has been determined (1) that the benefits of the action outweigh the potential harm caused by invasive species, and (2) that all feasible and prudent measures to minimize risk of harm will be taken.

Tree removal and minor clearing of ground vegetation would be required on both sides of the canal. The majority of species in the project area are non-native, and an introduction of invasive species is not anticipated.

5.1.14 Title VI of the Civil Rights Act of 1964

Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d and 49 CFR 21) establishes that no person shall, on the grounds of race, color, or national origin be excluded from participation in, be denied the benefit of, or subjected to discrimination under any program or activity receiving Federal financial assistance.

The project complies with Title VI through coordination with, and outreach to, Native Hawaiian communities required under Section 106, HRS 343, and Act 50 on cultural practices.

5.1.15 Executive Order 12898, Environmental Justice

Executive Order 12898, Environmental Justice, was signed on February 11, 1994. The intent of Executive Order 12898 (full title: Federal Actions to Address Environmental Justice to Minority and Low Income Populations) is to avoid disproportionately high adverse human health or environmental effects of projects on minority and low-income populations. Executive Order 12898 also requires Federal agencies ensure that minority and low-income communities have adequate access to public information related to health and the environment.

The project is not expected to result in disproportionately high and adverse effects to minority or low-income populations, as discussed in Section 3.2.6.

5.2 State

5.2.1 Hawaii State Plan

The Hawaii State Plan, HRS Chapter 226, is the umbrella document in the statewide planning system. It serves as a written guide for the long-range development of the State by describing a desired future for the residents of Hawaii and providing a set of goals, objectives, and policies that are intended to shape the general direction of public and private development.

The proposed project supports and is consistent with the following State Plan objectives.

Facility Systems – Transportation

(a)(1) An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe, and convenient movement of people and goods.

(a)(2) A statewide transportation system that is consistent with and will accommodate planned growth objectives throughout the State.

(b)(2) Coordinate state, county, Federal, and private transportation activities and programs toward the achievement of statewide objectives.

(b)(3) Encourage a reasonable distribution of financial responsibilities for transportation among participating governmental and private parties.

(b)(6) Encourage transportation systems that serve to accommodate present and future development needs of communities.

(b)(10) Encourage the design and the development of transportation systems sensitive to the needs of affected communities and the quality of Hawaii's natural environment.

Facility systems – in general

(a) Planning for the State's facility systems in general shall be directed towards achievement of the objective of water, transportation, waste disposal, and energy and telecommunication systems that support statewide social, economic, and physical objectives.

(b)(1) Accommodate the needs of Hawaii's people through coordination of facility systems and capital improvement priorities in consonance with state and county plans.

The proposed Project would provide a safe, environmentally sustainable, and convenient mode of travel for all people traveling within Waikiki by providing bikeways and pedestrian walkways that would enable better and more efficient access to schools, places of work, parks, and other community facilities.

5.2.2 State Functional Plans

The State Plan directs appropriate State agencies to prepare functional plans for their respective program areas. There are 12 State Functional Plans that serve as the primary implementing vehicle for the goals, objectives, and policies of the State Plan.

State Transportation Functional Plan

The State Transportation Functional Plan identified the four most critical issues of transportation: congestion, economic development, funding, and education (HDOT 1991). Objectives, policies and implementing actions were identified for each issue. The following objectives and policies apply to the project.

Objective I.A. Expansion of the transportation system.

Policy I.A.1. Increase transportation capacity and modernize transportation infrastructure in accordance with existing master plans and laws requiring accessibility for people with disabilities.

Policy I.A.2. Improve regional mobility in areas of the State experiencing rapid urban growth and road congestion.

The proposed project would provide a safe, efficient, and accessible bridge for the public and would comply with Section 103-50, HRS (Disability and Communication Access Board Review). The new bridge would help improve congestion in Waikiki by making more areas reachable in a 20 minute walk or bike ride.

5.2.3 State Land Use Law

The State Land Use Commission, pursuant to HRS Chapter 205 and 205A and HAR Chapter 15-15 is empowered to classify all lands in the State into one of four land use districts: Urban, Rural, Agricultural, and Conservation. The lands surrounding the project limits are classified as urban. The proposed improvements are allowable uses within this land use districts. No change in land use classification will be needed. The new bridge would follow Special District requirements, as it will fall under the Diamond Head and Waikiki Special District.

5.2.4 Act 50, Cultural Practices

Hawaii Act 50 (2000) sought to “promote and protect cultural beliefs, practices, and resources of Native Hawaiians and other ethnic groups” and requires the proposing agency/applicant under Chapter 343 HRS to consider cultural practices in a CIA. A CIA is being completed for the project in compliance with this requirement.

Based on the information gathered and the assessment of the resources conducted, the project may have a potential effect on canoe paddling activities that take place within or near the project area on the Ala Wai Canal. Mitigation measures, conditions, and BMPs are recommended herein as feasible actions to be implemented to reasonably protect Native Hawaiian rights, traditions, customs, and practices associated with canoe paddling. There are no additional adverse impacts to other cultural resources, traditions, customs, or practices anticipated as a result of this project. Appendix D contains the full CIA.

5.2.5 Bike Plan Hawaii

Bike Plan Hawaii 2003 is HDOT’s tool to integrate bicycling into the state’s transportation system. The plan outlined how the state intends to accommodate and promote bicycling. It draws on a combination of existing and future bicycle facilities, policies, and programs to ensure a successful bicycle network. HDOT involved public participation in creating a plan that would improve bicycling facilities, better coordinate land use and planning, increase leverage in receiving funds for facilities, expand bikeways and bike trail mileage in the state, and achieve community consensus. Bike Plan Hawaii 2003 updates the previous plan, completed in 1994. The plan recommended the addition of approximately 1,722 miles of new bikeways to the statewide network (compared to 1,309 new miles in the 1994 plan). The proposed project is included in the Oahu Bike Plan 2018 Update, and indicates that a bicycle path is planned to cross the Ala Wai Canal and connect Kalaimoku Street and University Avenue. The proposed project would be consistent with the goals and objectives of the Bike Plan Hawaii 2003.

5.3 Local

5.3.1 Zoning

County zoning provides the most detailed set of regulations affecting land development before actual construction. The project site is located in a Waikiki Special District in a public precinct zoning. The proposed project will not require any zoning change.

5.3.2 Special District Permit

Portions of the Ala Wai Canal and adjacent land are within the Waikiki Special District and the Diamond Head Special District. Special Districts as codified in Article 9, ROH are a means to guide development to protect or enhance physical or visual appearance in designated areas that have been deemed in need of restoration, preservation or redevelopment. Special District standards are supplemental to zoning district standards. Special District Permits are required for “major” or “minor” developments, as described in Section 21-9.20-2. “Major” developments are those that may significantly change the intended character of the special district and are subject to review by the district’s design advisory committee as specified in 21-2.40-2. “Minor” developments are those which will have limited impact and are subject to review by the Planning Director. Exemptions to the Special District permit requirements are for development that have negligible or no impact, although emergency repairs can be exempt from permit requirements. Pre-consultation comments from the Department of Planning and Permitting indicate that a new bridge will be classified by the department as a major above-grade infrastructure improvement and requires a Special District Permit (Minor). The DPP pre-consultation response letter also notes the potential alignments within two Special Districts and one alignment in a view corridor. The new bridge would follow Special District requirements under the Diamond Head and Waikiki Special Districts. A height exception for the mauka tower is anticipated within the Diamond Head Special District.

5.3.3 City and County of Honolulu General Plan (amended 2002)

The City and County of Honolulu General Plan, published in 1992 and amended in 2002, sets forth the long-term objectives and policies for the general well-being of the public. Together with the regional development plans, the General Plan provides a direction and framework to guide the programs and activities of the City and County of Honolulu. Objective A of Chapter V. Transportation and Utilities, promotes a transportation system which, “enables people and goods to move safely, efficiently, and at a reasonable cost; serve all people, including the poor, elderly, and the physically handicapped; and offer a variety of convenient modes of travel.”

The following General Plan policies align with the proposed Project.

Policy 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;
- c. Bikeways-for recreational activities and trips to work, schools, shopping centers, and community facilities; and
- d. Pedestrian walkways- for getting around Downtown Waikiki, and for trips to schools, parks, and shopping centers.

Policy 5: Improve roads in existing communities to reduce congestion and eliminate unsafe conditions.

Policy 6: Consider both environmental impact as well as construction and operating costs as important factors in planning alternative nodes of transportation.

Policy 7: Promote the use of public transportation as a means of moving people quickly and efficiently, of conserving energy, and of guiding urban development.

Policy 8: Make available transportation services to people with limited mobility: the young, the elderly, the handicapped, and the poor.

Policy 9: Promote programs to reduce dependence on the use of automobiles.

Policy 10: Discourage the inefficient use of the private automobile, especially in congested corridors and during peak-hours.

Policy 11: Make public, and encourage private, improvements to major walkway systems.

The proposed Project would provide a safe, environmentally sustainable, and convenient mode of travel for all people traveling within Waikiki by providing bikeways and pedestrian walkways that would enable better and more efficient access to schools, places of work, parks and other community facilities.

5.3.4 Oahu Regional Transportation Plan 2040

The *Oahu Regional Transportation Plan 2040* (ORTP 2040) was approved by the OahuMPO Policy Committee in April 2016. The plan guides mobility investments in response to transportation needs identified for the island. The plan integrates planned growth patterns based on available financial resources. The ORTP 2040 includes visions and goals, identifies projects, and provides an implementation program for mid- and long-range investment of the available transportation funds across Oahu. The vision of the ORTP 2040 is that Oahu will be a place where transportation choices are efficient, well-maintained, safe, secure, convenient, appropriate, and economical choices in getting from place to place. ORTP 2040 proposed that the transportation system should move people and goods in a manner that supports the island's high quality of life, natural beauty, and economic vitality. The ORTP 2040 includes numerous transportation facility and service improvements from freeway widening, the provision of a fixed-guideway transit system between East Kapolei and Ala Moana that will help to relieve the H-1 corridor, implementation of the island's bikeway plan, and expansion of the bus system.

The proposed project would be consistent with the goals and objectives of the ORTP 2040.

5.3.5 Waikiki Transportation Plan

The CCH DTS prepared the Waikiki Transportation Plan in 1972. The plan suggested extending University Avenue across the Ala Wai Canal to Waikiki. Therefore, planning for an additional bridge across the Ala Wai Canal dates back to 1972. The proposed project would be consistent with the goals and objectives of the Waikiki Transportation Plan.

5.3.6 Waikiki Regional Circulator Study

The Waikiki Regional Circulator Study intended to define a transit service link between the future rail terminus at Ala Moana Shopping Center and Waikiki and address any resulting transit service impacts to McCully, Moiliili, Kapahulu, and the University of

Hawaii at Manoa. The study developed and identified ways to effectively integrate concepts of livable communities into the project recommendations. The proposed project would be consistent with the goals and objectives of the Waikiki Regional Circulator Study.

5.3.7 Honolulu Complete Streets Design Manual

The CCH Complete Streets Design Manual sets forth design standards specific to CCH and provides guidance to planners, designers, engineers, private developers, community groups, and others involved in the planning and design of CCH streets. The manual applies to all projects impacting the public ROW on the City and County streets, including the construction of new streets and improvements to existing streets. The manual recommends multi-modal design solutions to increase mobility, improve road safety, and create sustainable communities.

The proposed project would be consistent with the goals and objectives of the Honolulu Complete Streets Design Manual and would effectively tie into other Complete Streets Projects that are currently in development.

5.3.8 Oahu Bike Plan 2019 Update

The Oahu Bike Plan 2019 Update builds off the foundation provided in the 2012 Plan. This Plan identifies specific projects, policies, and programs that will expand bicycle ridership and provide a network of safe, comfortable bikeways attractive to users of all ages and abilities. The 2019 update is a significant part of the City's commitment to making Oahu's roadways safe and accessible for all users of all skill levels, ages, and abilities. The public has informed the update process through a variety of engagement efforts, and the result is a plan with a specific focus on improving safety and providing a network of low-stress bicycle facilities.

Oahu currently has 211 miles of on- and off-road bikeway facilities and this Plan calls for an additional 575 miles of bicycle facilities (including 325 miles of City facilities budgeted at about \$147 million). The project is identified as a Priority 1 Project in the Oahu Bike Plan and will be consistent with the 2019 Oahu Bike Plan.

5.3.9 Oahu Pedestrian Plan

The Oahu Pedestrian Plan is expected to be a long-term action plan to create vibrant, safe, and accessible streetscapes that serve as a model for the nation. The Plan will begin with an island-wide inventory of existing roadway pedestrian facilities to document their conditions and functionality for all pedestrians. The inventory will be followed by technical recommendations for pedestrian improvement projects and programs that are consistent with the CCHs Complete Streets Ordinance. Community engagement is important to ensure that the City has the best possible understanding of the issues roadway users face and to develop recommendations that reflect community needs and character. Opportunities for community input and review will be provided and regularly updated on the Complete Streets website's Oahu Pedestrian Plan page. The project is considered a Pedestrian Priority Network under the Oahu Pedestrian Plan and will be consistent with the Oahu Pedestrian Plan.

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6 Summary of Other Impacts

6.1 Cumulative and Secondary Impacts

Cumulative impacts refer to impacts on the environment that result from the incremental effect of an action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (county, state, or federal) or person undertakes such actions. Cumulative impacts can result from individually minor yet collectively significant actions taking place over a period of time. Land use in the project vicinity is urban. A summary of past, present, and reasonably foreseeable future actions is provided below in Table 6-1.

Table 6-1. Past, Present, and Reasonably Foreseeable Future Actions

Project	Estimated Completion	Description
Ainahau Vista II	2018 (not completed)	This project includes construction of a nine-story, 62-unit affordable senior rental in Waikiki (Pacific Business News 2020).
Lilia Waikiki	2021	This project involves construction of a 260-foot mixed-use tower with 450 market-rate and affordable rental apartments along with commercial space (Pacific Business News 2020)
Sheraton Princess Kaiulani redevelopment	Proposed	This project includes redevelopment of a 1,100-room hotel (Pacific Business News 2020).
King Kalakaua Plaza Renovation	2020 (still proposed)	This project includes the redevelopment of retail building that formerly housed Niketown, Banana Republic and All-Star Cafe for hotel and hotel-related retail uses. The building was sold in May 2019, but the new owners have not announced plans for the property (Pacific Business News 2020).
Park Kalia-Waikiki Condo-Hotel	2019 (still proposed)	This project involves construction and development of a 26-story, 350-foot high condo hotel with up to 170 units, restaurant, wedding chapel and parking structure with auto lift (Pacific Business News 2020)
Outrigger Reef Waikiki Beach Resort	2020 (still proposed)	This project includes redevelopment of a 635-room hotel includes new tower with 60 new rooms, a new 52,800-square-foot pool deck and recreation area, a 10,100-square-foot beachside lawn and 7,500 square feet of meeting space (Pacific Business News 2020).
Oahu Complete Streets Projects	In Progress	The purpose of the Oahu Complete Streets Project is to create a comprehensive, integrated network of streets that are safe and convenient for all people. It consists of a Pedestrian Plan and a Bike Plan. Additional information regarding the Complete Streets – University: Hihiwai Street to Mailie Way and Waikiki: Ala Wai Boulevard (Kapihulu to Ala Moana) Projects are provided below in the Transportation Section.
Ala Wai Canal Dredging and Improvements	In Progress	The DLNR is performing dredging maintenance throughout the Ala Wai Canal to remove accumulated silt and sediments and repairing two sections of walls along the canal (DLNR 2019).

USACE Ala Wai Flood Management Risk Project	In Progress	USACE has started a project to improve Honolulu's resiliency to major flood events. This project includes development and implementation of the following: Six debris/detention basins in upper reaches of Makiki, Manoa, and Palolo streams One in-stream debris catchment structure Three multi-purpose detention basins Flood Control Elements along the Ala Wai Canal Flood Warning System Fish and wildlife mitigation (USACE 2017)
Pau Street Family Dwelling	2024	West Waikiki Properties proposes to remove the existing single-family dwelling and provide a new 4-story multi-family dwelling (CCH 2018).
432 Kalaimoku	2024	Atlantic Group LLC proposes to construct a new 4-story, 6-unit multi-family dwelling. There will be an open parking garage on the ground floor (OEQC 2018).
436 Ena Road	Purchased 2018	DLM purchased the property in May 2018 to provide affordable rental units for individuals of low-income. The project only required minimal building repairs and locating a property management team (CCH 2019b).

There are two projects listed in Table 6-1 that are located within Ala Wai Canal and the immediate project area of the proposed project. These two projects are the DLNR Ala Wai Canal Dredging Project and the DLNR and USACE Ala Wai Canal Flood Risk Management Project. The proposed project has been developed in coordination with both DLNR and USACE as a result of these two projects in order to maintain compatibility.

The Ala Wai Canal Dredging Project includes maintenance dredging of the entire length of the Ala Wai Canal and Manoa-Palolo Drainage Canal, repair of the Ala Wai Canal walls, coordination with HECO for the removal of existing cables and concrete slabs from the Ala Wai Canal, and assessment of the stairs along the Ala Wai Canal. The Ala Wai Canal Dredging Project is being conducted currently. The Ala Wai Dredging Project staging area is located Ewa of the proposed bridge in the Ala Wai Neighborhood Park and is the same location as the proposed staging and stockpiling area for the proposed project. The Ala Wai Canal Dredging Project started in 2019 and is anticipated to be complete in 2021. As a result, the proposed project should not overlap with the Ala Wai Canal Dredging Project and therefore, should not result in cumulative effects during construction or for the long-term.

DLNR and the USACE conducted a feasibility study to address flood risk associated with the Ala Wai Canal and its contributing watershed. The Ala Wai watershed is the most densely populated watershed in Hawaii. It is estimated that the Canal has the capacity to contain about a 20- to 10-percent chance (5- to 10-year) flood before overtopping the banks; overtopping of the Canal has previously caused flooding in Waikiki multiple times. Upstream areas are also at risk of flooding. Flooding associated with a 1-percent annual chance exceedance (100-year) rainfall event would affect approximately 1,358 acres within the Ala Wai watershed, including over 3,000 properties with an estimated \$1.14 billion in structural damages. As a result, the DLNR and USACE are proposing to reduce riverine flood hazards to property and life safety in the Ala Wai watershed. The recommended plan presented in the USACE's Final Feasibility Study for the Ala Wai Canal Flood Risk Management Project includes several flood-reducing components within the watershed but specifically, additional detention basins adjacent to the Ala Wai Canal, floodwalls along the Ala Wai Canal. Given the scope and scale of the flood reduction measures being considered, the USACE anticipates that implementation of the recommended plan will result in unavoidable adverse impacts.

As such, the USACE prepared an EIS. The EIS describes the recommended plan and the range of reasonable alternatives, and addresses the potential for direct, indirect, and cumulative effects on the human, natural, and cultural environment and identifies mitigation measures that avoid or minimize the potential adverse effects of the USACE project.

The USACE EIS did not identify the proposed project as a cumulative project; however, the two projects will overlap and if constructed at or near the same time could result in potential cumulative effects during construction on both the makai and mauka sides of the canal. However, currently the USACE is in the process of reevaluating their project therefore, it is estimated that the construction periods of the two projects would not overlap.

Coordination with the USACE for the design criteria of the proposed project has occurred. Design considerations for the bridge deck and height have been instituted and are represented in the proposed project design. Structural design considerations for the makai and mauka ramps and landings have also been instituted and are represented in the proposed project design in order to meet the USACE's criteria for 100-year level flood protection along the Ala Wai Canal. Therefore, it is anticipated that the proposed project would accommodate the future USACE flood control project if it is built and no long-term effects would occur. Based on an analysis of the potential effects of the proposed project, the other past, present, and reasonably foreseeable future actions listed in Table 6-1 could cumulatively impact a variety of resources including land use, recreation and Section 4(f) properties, biological resources, air quality, noise, transportation, and cultural resources. Each of these areas is briefly described below.

Land Use: The proposed project in combination with other past, present, and reasonably foreseeable future actions would have long-term, minor, beneficial impacts on land use and planning. Because the proposed action and other past, present, and reasonably foreseeable future actions would be constructed in a highly developed and modern built environment, less than significant, negligible, adverse impacts on visual resources would be expected. The projects would not introduce any incompatible land uses and would be consistent with the urban landscape. Existing land uses would benefit from improved walkways and accessibility due to the proposed project, Complete Streets Projects, and Ala Wai Canal Dredging and Improvements.

Recreation and Section 4(f) properties: The proposed project in combination with other past, present, and reasonably foreseeable future actions would have less than significant, minor, beneficial impacts on recreation. As a result of the proposed project and the Complete Streets Projects, the green spaces on either side of the canal would be connected, improving the accessibility of the recreational areas. Additionally, canal improvements as a result of the Ala Wai Canal Dredging and Improvements Project would be beneficial for recreational paddling and kayaking in the canal. Any impacts to recreational areas and 4(f) resources, including impacts to aesthetics, would be mitigated through the restoring and replanting of disturbed areas with appropriate landscaping, relocating trees where feasible, utilizing shielding devices for lighting, connecting the multiuse path to the mauka landing and pedestrian and bicycle improvements through the Ala Wai Neighborhood Park and University Avenue, relocating the boat launch pad in the vicinity of the mauka bridge landing, and relocating any park features that would be removed as a result of the proposed project and the Complete Streets Projects.

The proposed project would draw additional people to the area, including the Ala Wai Neighborhood Park. For the purposes of this evaluation, since it is speculative to project the increased number of daily visitors at the Ala Wai Neighborhood Park that would use the park facilities, it is assumed that there would be no adverse cumulative effect to park facilities related to an increase in use. It is

possible that the CCH DPR may need to increase maintenance at the park to meet the increase in use.

Biological Resources: The proposed project in combination with other past, present, and reasonably foreseeable future actions would have long-term, negligible, beneficial and adverse impacts to biological resources, including sensitive species and habitats. Preconstruction surveys would be required for any construction activities involving tree removal as part of the proposed project, the Complete Streets Projects, or the Ala Wai Flood Risk Management Project, such that no impacts occur to the roosting habitat of the Hawaiian hoary bat. Long-term, negligible, adverse impacts would occur as a result of fish and wildlife mitigation as part of the USACE Ala Wai Flood Management Risk Project.

Air Quality: The proposed project in combination with other past, present, and reasonably foreseeable future actions would not significantly impact air quality. Emissions from construction related to the proposed project and past, present, and reasonably foreseeable future actions identified in Table 6-1 would be temporary, localized to the construction sites identified for the cumulative projects, and would not be expected to greatly exceed current thresholds. If construction of other projects identified above and the proposed project occurs at the same time, collectively they are not anticipated to exceed current emissions thresholds due to the need to implement BMPs and comply with HAR 11-59 and 11-60.

Noise: The proposed project in combination with other past, present, and reasonably foreseeable future actions would have no significant impacts on noise. Cumulatively, construction activities associated with the proposed project and other past, present, and reasonably foreseeable future actions identified in Table 6-1 would result in temporarily increased noise levels from building and demolition activities, increased presence of construction vehicles, and operation of heavy construction equipment. It is expected that these impacts would be minimized to the extent possible because construction activities would be conducted during standard daytime hours, construction crews would implement BMPs and appropriate measures to avoid and minimize effects of generated noise (e.g., use of equipment mufflers, and orientation of noisy equipment away from residential, park, or gathering areas). See Section 3.2.3, Noise, for a detailed listing of measures that would be implemented to reduce impacts from the proposed project.

Transportation: The proposed project in combination with other past, present, and reasonably foreseeable future actions would have short-term, minor, effects and long-term beneficial effects on transportation. Temporary, minor, cumulative effects may be expected as a result of construction related road or intersection closures from the proposed project in combination with other past, present, and reasonably foreseeable future actions identified in Table 6-1. However, detours would be established to minimize inconvenience and prevent excessively delayed traffic. Combined with the Complete Streets projects, the proposed project would provide transportation options, making walking and biking more attractive modes of transportation. The planned University Avenue Complete Streets improvements consist of enhanced pedestrian crossings, in-lane bus stops, and protected bike lanes from Hihiwai Street to Mailie Way. The Ala Wai Boulevard Complete Streets project is in early planning stages, with potential treatments including improved pedestrian crossings and two-way protected bike lane, as identified in the Oahu Bicycle Plan. The Ala Wai Boulevard Complete Streets project may require a reallocation of space from a travel lane or a parking lane, or a combination of the two. The Complete Streets projects do not have anticipated construction dates yet and therefore, are not anticipated to result in any cumulative effects during construction of the proposed project. The proposed bridge and pedestrian and bicycle improvements through the Ala Wai Neighborhood Park would directly connect these Complete Streets improvements, better linking

communities of Waikiki and McCully-Moiliili and helping to provide a comprehensive, integrated transportation network that is safe and convenient for all people whether traveling by foot, bicycle, transit, or automobile.

Cultural Resources: As stated in Section 3.2.4, The Ala Wai Canal is listed on the Hawaii Register of Historic Places. The proposed project would clear span the Ala Wai Canal; however, the bridge would disrupt the view plane and setting of the Ala Wai Canal, thereby resulting in a potential adverse effect. Avoidance, minimization, and mitigation measures are being identified and will be agreed upon through consultation with SHPO and consulting parties. These measures will be incorporated into the project to offset the adverse effect and these commitments will be defined in a MOA. Construction of the USACE Ala Wai Canal Flood Risk Management Project would result in additional adverse effects to the Ala Wai Canal. Similarly, the USACE project will implement mitigation measures, which will be defined in a Programmatic Agreement with SHPO. Therefore, with consideration of the USACE project and the other identified projects in Table 6-1, the proposed project is not anticipated to contribute to cumulative effects on cultural resources.

The proposed project would draw additional people to the area, including the Ala Wai Neighborhood Park. The South Comfort Station at the Ala Wai Neighborhood Park was designed as a public restroom and pavilion and has successfully functioned in this manner for 60 years. For the purposes of this evaluation, since it is speculative to project the increased number of daily visitors at the Ala Wai Neighborhood Park that would use the South Comfort Station, it is assumed that there would be no adverse cumulative effect to this building related to an increase in use. It is possible that the CCH DPR may need to increase maintenance of the building to meet the increase in use.

No significant impacts are expected as a result of the proposed project in combination with other past, present, and reasonably foreseeable future actions listed in the table above. Cumulative effects are anticipated to be temporary and minor during construction of the proposed project. Cumulative effects over the long term of the project are anticipated to be minor and/or beneficial.

6.2 Compatibility of the Proposed Action and Alternatives with the Objectives of Federal, Regional, State, and Local Land Use Plans, Policies, and Controls

Construction of the proposed project would be consistent with existing and foreseeable future uses of the Ala Wai Canal and Ala Wai Neighborhood Park. There would be no change to current land use practices in the area as a result of the proposed project.

6.3 Relationship between the Short-term Uses of the Environment and Long-term Productivity

Potential short-term, adverse impacts of the proposed project include noise generation, air emissions, temporary parking closures in the park, and temporary traffic detours. However, the proposed project would help meet long-term transportation and sustainability goals by filling a gap in the walking and biking network. The proposed project would enhance comfort and convenience of active travel modes, decrease GHG emissions and increasing public health, support more physical activity, and possibly mitigate chronic disease and obesity.

6.4 Irreversible and Irretrievable Commitments of Resources

An irreversible or irretrievable commitment of resources refers to impacts on or losses to resources that cannot be reversed or recovered, even after an activity has ended and facilities have been decommissioned. A commitment of resources is related to use or destruction of nonrenewable resources, and effects that such a loss will have on future generations. For example, if prime farmland is developed there would be a permanent loss of agricultural productivity. The proposed project would involve the irreversible and irretrievable commitment of material resources and energy, land resources, and human resources. The impacts on these resources would be permanent.

Material Resources. Material resources irretrievably used for the proposed project could include steel, concrete, and possibly other materials for construction. Such materials are not expected to be in short supply and would not be expected to limit other unrelated construction activities. The irretrievable use of material resources would not be considered significant.

Energy Resources. Energy resources used for the proposed project would be irretrievably lost. These would include petroleum-based products (e.g., gasoline and diesel) and electricity. During construction, gasoline and diesel fuel would be used for the operation of construction vehicles. Consumption of these energy resources would not place a significant demand on their availability in the region. Therefore, no significant impacts would be expected.

Human Resources. The use of human resources for construction is considered an irretrievable loss only in that it would preclude such personnel from engaging in other work activities.

7 Agencies, Organizations and Individuals Consulted

7.1 Project Development

A technical scoping meeting was held on site on September 7, 2017 and the following parties in Table 7-1 were invited to participate. Comments were received from HECO, neighborhood board members, CCH DPR, DTS, DPP, DDC, HDOT, and OahuMPO.

Table 7-1. Technical Scoping Meeting Invitees

Name	Agency
Susan Lebo	State Historic Preservation Division
Crystal Van Beelen	Department of Emergency Management
Keith Kalani	CCH DDC
Michael Wyatt	USACE
Kelly Akasaki/Mike Packard/Erron Redoble/Chris Sayers	CCH DTS
Jeanne Ishikawa	CCH DPR
Gayson Ching	DLNR
Tim Streitz Andrew Tang	CCH DPP
Ryan Tam	Honolulu Authority for Rapid Transportation
Amy Ford-Wagner Kiana Otsuka	OahuMPO
Meesa Otani	FHWA
Ross Hironaka	HDOT - DD
Kevin McMorrow	HDOT - ENV
Iris Oda	BWS
Jayson Shibata	HECO

7.2 Advanced Project Planning Report

In April 2018, DTS in cooperation with the OahuMPO prepared an Advanced Project Planning Report (APPR) for the potential improvements to Route No. 7710, Ala Wai Boulevard from the Waikiki, Ala Moana, and the McCully/Moiliili neighborhoods in

Honolulu. The APPR is a preliminary evaluation conducted within the study area to identify the potential benefits, impacts, and areas of concern to the human and natural environment for new transportation infrastructure, including a pedestrian-bicycle bridge. The purpose of the APPR was to satisfy the HDOT Concept Definition Report from the Project Development Manual and to document technical scoping in preparation for an Alternatives Analysis. The APPR states that the Alternatives Analysis will assess options for the pedestrian-bicycle bridge, over the Ala Wai Canal. Interagency meetings took place during the preparation of the Draft and Final APPR.

7.3 Chapter 343, HRS Pre-Assessment Consultation

As a part of the pre-consultation process, community meetings and presentations were conducted in order to involve the community in the planning and development of the Ala Wai Bridge Project.

Public kick-off meetings were held on September 22nd and 24th 2018. Over 200 people attended both meetings. Each meeting consisted of the same format, a presentation and then an open-house for discussions. A community report-back and next steps meeting was held on March 28, 2019 where the results of the alternatives analysis screening and the decision to pursue a new bridge crossing aligned with University Avenue in the preliminary engineering phase was announced. Approximately 80 people attended the community report-back and next steps meeting. In total over 300 people were reached over the course of the alternatives analysis process between September 2018 and March 2019.

Chapter 343, HRS pre-assessment consultation was used to gather initial agency feedback during the alternative analysis screening. In November 2018 pre-consultation letters were sent to 220 agencies, organizations, and elected officials, and 26 written responses were received. The agencies, organizations, and elected officials that were contacted as part of the pre-assessment consultation and that responded are listed in Table 7-2. The agencies, organizations, and elected officials received preliminary project information and were asked to provide comments relative to specific environmental compliance (such as NHPA Section 106 and ESA Section 7) or for general assistance in preparing the Draft EA. From those initial responses, CCH DTS was able to conduct follow up meetings or collect additional information that informed the alternatives analysis process. The community engagement report that was compiled after the Chapter 343 HRS pre-assessment consultation during the alternatives analysis phase is provided in Appendix I.

Consultation with Native Hawaiian Organizations regarding historic preservation is required as part of compliance with NHPA Section 106 and HRS Chapter 6E and is described further below. Consultation is also occurring with DLNR, State Historic Preservation Division as described in Chapter 5.

Table 7-2. Agencies, Organizations, and Individuals Contacted During the Pre-Consultation of the Draft EA

Respondents and Distribution	Pre-Consultation	Pre-Consultation Comments Received
	<i>Federal Agencies</i>	
U.S. Army Corps of Engineers	X	
Department of the Navy	X	
U.S. Fish and Wildlife Service	X	
National Marine Fisheries Service	X	
Federal Aviation Administration, Hawaii Airports District Office	X	
Federal Transit Administration	X	
Federal Highway Administration	X	
USDA - Natural Resources Conservation Service	X	
Department of the Interior Geological Survey - Pacific Islands Water Science Center	X	
U.S. Coast Guard	X	
Environmental Protection Agency	X	
Federal Emergency Management Agency	X	X
National Park Service	X	
	<i>State Agencies</i>	
Office of Environmental Quality Control	X	
Department of Accounting and General Services	X	X

Department of Accounting and General Services - Archives Division	X	
Department of Agriculture	X	
Department of the Attorney General	X	
Department of the Attorney General, Commerce and Economic Development Division	X	
Department of Business, Economic Development and Tourism	X	
DBEDT - Hawaii State Energy Office/ Strategic Industries Division	X	
DBEDT - Land Use Commission	X	
DBEDT - Office of Planning	X	X
DBEDT - Research Division Library	X	
Department of Defense	X	
Department of Defense - Engineering Office	X	
Department of Education	X	X
Department of Hawaiian Home Lands	X	X
Department of Health	X	
Department of Health - Clean Air Branch	X	
Department of Health - Clean Water Branch	X	
Department of Health - Wastewater Branch	X	

Department of Health, Environmental Health Administration	X	
Department of Human Services	X	
Department of Labor and Industrial Relations	X	
DLNR	X	X
DLNR - Historic Preservation Division	X	
DLNR - Land Division	X	X
DLNR Commission on Water Resource Management	X	X
DLNR Division of Aquatic Resources	X	X
DLNR Division of Boating and Ocean Recreation	X	
DLNR Department of Fish and Wildlife Na Ala Hele	X	
DLNR Engineering Division	X	X
DLNR Office of Conservation and Coastal Lands	X	
Department of Public Safety	X	
Department of Transportation	X	X
Department of Transportation - Highways	X	
Department of Transportation, Airports Division - Engineering Branch	X	
Department of Transportation, Highways Division, Planning Branch	X	
Department of Transportation, Statewide Transportation Planning Office	X	

Hawaii Housing Finance and Development Corporation	X	
Hawaii Public Housing Authority	X	
Hawaii Tourism Authority	X	
Hawaii Community Development Authority (HCDA)	X	
Judiciary - Office of the Administrative Director of Courts	X	
Office of Hawaiian Affairs	X	
Oahu Metropolitan Planning Organization	X	
	University of Hawaii (UH)	
UH Environmental Center	X	
UH Marine Program	X	
UH Office of Capital Improvement	X	
UH Office of Multicultural Student Services	X	
UH Water Resources Research Center	X	
UH Thomas H. Hamilton Library	X	
Kapiolani Community College	X	
UH Manoa Chancellor's Office	X	
	Libraries	
Legislative Reference Bureau Library	X	
City and County of Honolulu Department of Customer Services - Municipal Reference Center	X	
Hawaii State Library - Hawaii Documents Center	X	
Kaimuki Public Library	X	
Kaneohe Public Library	X	

Pearl City Public Library	X	
Hawaii Kai Public Library	X	
Hilo Public Library	X	
Kahului Public Library	X	
Lihue Public Library	X	
Wailuku Public Library	X	
Waikiki-Kapahulu Public Library	X	
	News Media	
Honolulu Star Advertiser	X	
Honolulu Civil Beat	X	
PBS Hawaii	X	
	Utilities	
Hawaiian Electric Company, Inc.	X	X
Maui Electric Company, Ltd	X	
Hawaii Electric Light Company	X	
Spectrum (Charter)	X	X
Hawaiian Telecom	X	
Kauai Island Utility Cooperative	X	
Hawaii Gas	X	
	County of Honolulu	
Ala Moana Satellite City Hall	X	
Department of Budget and Fiscal Services	X	
Department of Community Services	X	X
Department of Enterprise Services	X	
Department of Environmental Services	X	
Department of Emergency Services	X	
Department of Design and Construction	X	X

Department of Facility Maintenance	X	X
Department of Parks and Recreation	X	X
Department of Customer Services	X	
Board of Water Supply	X	X
Honolulu Fire Department	X	X
Department of Planning and Permitting	X	X
Honolulu Police Department	X	X
Department of Land Management	X	
Department of Transportation Services	X	X
Honolulu Authority for Rapid Transportation	X	
Mayor's Office on Culture and Arts	X	
	<i>Elected Officials</i>	
Governor David Ige	X	
U.S. Senator Brian Schatz	X	
U.S. Senator Mazie Hirono	X	
U.S. Representative Colleen Hanabusa	X	
U.S. Representative Tulsi Gabbard	X	
State Senator Karl Rhoads	X	
State Senator Donovan Dela Cruz	X	
State Senator Will Espero	X	
State Senator Mike Gabbard	X	
State Senator Brickwood Galuteria	X	
State Senator Breene Harimoto	X	
State Senator Les Ihara, Jr.	X	
State Senator Michelle Kidani	X	

State Senator Donna Mercado Kim	X	
State Senator Clarence Nishihara	X	
State Senator Gil Riviere	X	
State Senator Maile Shimabukuro	X	
State Senator Stanley Chang	X	
State Senator Brian Taniguchi	X	
State Senator Laura Thielen	X	
State Senator Jill Tokuda	X	
State Senator Glenn Wakai	X	
State Representative Della Au Belatti	X	
State Representative (Chair, House Committee on Housing) Tom Brower	X	
State Representative Romy Cachola	X	
State Representative Isaac Choy	X	
State Representative Ty J.K. Cullen	X	
State Representative Beth Fukumoto	X	
State Representative Cedric Asuega Gates	X	
State Representative Sharon Har	X	
State Representative Mark Hashem	X	
State Representative Daniel Holt	X	
State Representative Linda Ichiyama	X	
State Representative Ken Ito	X	
State Representative Aaron Ling Johanson	X	
State Representative Jarrett Keohokalole	X	

State Representative Bertrand Kobayashi	X	
State Representative Sam Satoru Kong	X	
State Representative Chris Lee	X	
State Representative Matthew LoPresti	X	
State Representative John Mizuno	X	
State Representative Scott Nishimoto	X	
State Representative Takashi Ohno	X	
State Representative Marcus Oshiro	X	
State Representative Sean Quinlan	X	
State Representative Scott Saiki	X	
State Representative Calvin Say	X	
State Representative Gregg Takayama	X	
State Representative Roy Takumi	X	
State Representative Cynthia Thielen	X	
State Representative Andria Tupola	X	
State Representative Gene Ward	X	
State Representative Ryan Yamane	X	
Council Member Kymberly Marcos Pine	X	
Council Member Ernest Martin	X	
Council Member Ikaika Anderson	X	
Council Member Trevor Ozawa	X	
Council Member Ann Kobayashi	X	

Council Member Carol Fukunaga	X	
Council Member Joey Manahan	X	
Council Member Brandon Elefante	X	
Council Member Ron Menor	X	
Neighborhood Board Representative George West	X	
Neighborhood Board Representative Dale Kobayashi	X	
Neighborhood Board Representative Timothy Streitz	X	
Neighborhood Board Representative Robert Finley	X	X
Neighborhood Board Representative John Steelquist	X	
Neighborhood Board Representative Ryan Tam	X	
	Schools	
Ala Wai Elementary	X	
Iolani	X	X
Washington Middle	X	
Jefferson Elementary	X	
Hawaii School for the Deaf and Blind	X	
Waikiki Elementary	X	
King William C. Lunalilo Elementary School	X	
	Community Healthcare Organizations	
Waikiki Health Center	X	
	Citizen Groups/Individuals, Consulted Parties	
Queen Lilioukalani Trust	X	
AARP Hawaii	X	

Pacific Gateway Center	X	
Sierra Club of Hawaii	X	
The Outdoor Circle	X	
United Public Workers	X	
Unite Here Local 5	X	
Blue Zones (Manoa, Makiki, McCully, Moiliili)	X	
Hawaii Bicycling League	X	
Waikiki Transportation Stakeholder Oversight Committee (WTSOC)	X	
Waikiki Transportation Management Association (WTMA)	X	
Better Block Hawaii	X	
	<i>Businesses</i>	
Oahu Transit Services, Inc.	X	
Waikiki Business Improvement District Association	X	
HMSA Blue Zones Hawaii	X	X
HMSA Blue Zones Project - Kapolei, Ewa	X	
HMSA Blue Zones Project - Wahiawa	X	
HMSA Blue Zones Project - Koolaupoko	X	
HMSA Blue Zones Project - Manoa, Makiki, McCully, Moiliili	X	
Kamehameha Schools	X	
Historic Hawaii Foundation	X	X
Hawaii's Thousand Friends (DH)	X	
UH DURP	X	
National Disaster Preparedness Training Center	X	
Ulupono Initiative	X	

Sustainable Transportation Coalition of Hawaii (STCH)	X	
Blue Planet Foundation	X	

7.4 Additional Stakeholder Outreach

Additional Stakeholder Outreach has been conducted to support the development of the Draft EA. Information was solicited and input was obtained from key agencies, community groups, and associations on relevant issues or concerns that have been considered in the preparation of this EA. Table 7-3 shows the additional stakeholder outreach that has occurred after the project scoping, during the pre-consultation and alternatives analysis screening, and during preparation of the Draft EA.

Table 7-3. Additional Stakeholder Outreach

Stakeholders	Date
McCully Moiliili Neighborhood Board	October 5, 2017
Waikiki Neighborhood Board	November 14, 2017
Waikiki Transportation Management Association and Waikiki Transportation Stakeholders Oversight Committee	December 13, 2017
Ala Wai Alternatives Analysis Technical Advisory Committee	August 16, 2018
Waikiki Improvement Association	January 2019
Ala Wai Alternatives Analysis Technical Advisory Committee	February 1, 2019
Manoa Neighborhood Board	March 7, 2019
Ala Moana/Kakaako Neighborhood Board	March 7, 2019
McCully/Moiliili Neighborhood Board	March 12, 2019
Waikiki Neighborhood Board	March 14, 2019
Diamond Head Kapahulu Neighborhood Board	March 21, 2019
Makiki/Punchbowl/Tantalus Neighborhood Board	March 27, 2019
CCH Department Parks and Recreation, Division of Urban Forestry (DUF)	August 15, 2019

Ala Wai Community Garden Association	October 3, 2019
DPR – Ala Wai Neighborhood Park	October 14, 2019
Waikiki Transportation Management Association and Waikiki Transportation Stakeholder Oversight Committee	November 20, 2019
Council Member Ann Kobayashi	January 3, 2020
Council Member Kymberly Marcos Pine	January 6, 2020
Council Member Joey Manahan	January 6, 2020
Council Member Brandon Elefante	January 6, 2020
Council Member Tommy Waters	January 6, 2020
Oahu Metropolitan Planning Organization (MPO) Technical Advisory Committee	January 7, 2020
Oahu MPO Citizen Advisory Committee	January 15, 2020
Oahu MPO Policy Board	January 28, 2020
Waikiki Transportation Management Association and Waikiki Transportation Stakeholder Oversight Committee	March 11, 2020
McCully/ Moiliili Neighborhood Board	July 2, 2020
Canoe Clubs - Waikiki Surf Club University Halau Canoe Clubs	July 8, 2020
Waikiki Neighborhood Board	July 14, 2020
Historic Hawaii Foundation (HHF)	August 5, 2020
Ala Moana-Kakaako Neighborhood Board	August 20, 2020
Neighboring Residents	August 26, 2020
Waikiki Transportation Management Association and Waikiki Transportation Stakeholder Oversight Committee	September 9, 2020
Oahu Hawaiian Canoe Racing Association	September 14, 2020
Waikiki Surf Club	September 30, 2020
Diamond Head – Kapahulu Neighborhood Board	October 8, 2020
Iolani School	October 26, 2020

Ala Wai Elementary	November 12, 2020
Ala Wai Elementary	January 8, 2021

7.5 National Historic Preservation Act, Section 106 Consultation

CCH DTS sent Section 106 initiation letters to 28 potential consulting parties. A public notice was also published in a daily newspaper, the Honolulu Advertiser, on June 3, 2020. Six organizations, Historic Hawaii Foundation, Kamehameha Schools, Royal Hawaiian Center, Waikiki Neighborhood Board, Waikiki Surf Club, and Office of Hawaiian Affairs, all expressed interest in participating as consulting parties. Historic Hawaii Foundation, Kamehameha Schools, Royal Hawaiian Center, Waikiki Neighborhood Board, and Waikiki Surf Club were invited to participate in an initial (virtual) consultation meeting on Monday, October 19, 2020. All five organizations had representation. Office of Hawaiian Affairs asked to be a consulting party on December 23, 2020 and therefore, was not included in the October 19, 2020 meeting. A copy of the consulting party request letter, responses from organizations to the request letter, October 19, 2020 presentation, and responses to consulting party comments received to date are included in Appendix J.

Consultation with all participating organizations remains ongoing. Additional consultation meetings will occur in 2021 and additional correspondence will be captured in the Final EA.

7.6 HRS Chapter 343, Cultural Impact Assessment Consultation

A CIA has been completed for the project in compliance with this requirement. The CIA thoroughly researched the cultural history of the project area and the Waikiki ahupuaa as a whole. This effort identified extensive paddling activities in the project area. Numerous interviews were conducted with recognized cultural experts, lineal and cultural descendants, and members of the Waikiki Surf Club as part of the ethnographic component of the CIA. Summaries of those interviews are included in the full CIA included in Appendix D.

Interviews with individuals are instrumental in procuring information about the project area's transformation through time and changing uses. All the individuals identified in the CIA were contacted by Honua Consulting. Those who consented to interviews were interviewed and a summary of each interview was completed and provided to the individual interviewed for review. Upon approval from the interviewee, the interview summary was included in the CIA report. Additionally, all the board members from the Waikiki Surf Club were offered opportunity to be interviewed or provide information. The result of these efforts were eleven interviews with knowledgeable area users and practitioners. See Section 3.2.4 and Appendix D for more information regarding the CIA.

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8 Anticipated Determination and Findings

This EA finds that the potential effects associated with the proposed project will not be significant or adverse, or will be avoided, minimized or mitigated sufficiently to reduce potential significant or adverse effects. Potential project effects are generally temporary, occurring during construction, and would not be expected to adversely impact the long-term environmental quality of the project area. This section summarizes the significance criteria used to determine whether the proposed project would have a significant impact on the environment.

8.1 Significance Criteria

The potential effects of the proposed project were evaluated based on the Significance Criteria specified in HAR Section 11-200.1-13 (revised in 2019). Discussion of the project's conformance to the HAR criteria is presented as follows.

Involves an irrevocable commitment to, loss or destruction of any natural or cultural resources. The proposed project would not cause significant adverse impacts to biological resources, air quality, cultural resources, soils and geology, or water resources. As such, the project would not involve irrevocable commitment to, loss or destruction of any natural or cultural resources. The project would involve implementation of avoidance, minimization, and mitigation measures to avoid or minimize potential adverse impacts, loss or destruction of natural and cultural resources.

Curtails the range of beneficial uses of the environment. The proposed project would involve the construction of a pedestrian and bicycle bridge. Temporary impacts to the environment would occur during construction and would be restored to pre-construction conditions once the project is complete. Therefore, the project would not curtail beneficial uses of the environment.

Conflicts with the State's long-term environmental policies or goals and guidelines, as expressed in HRS Chapter 344 and any revisions thereof and amendments thereto, court decisions, or executive orders. The proposed project is consistent with the environmental policies, goals, and guidelines defined in HRS Chapter 344. In particular, the proposed bridge would enhance the quality of life for those in Waikiki and McCully-Moiliili neighborhoods by providing an efficient transportation connection that was designed to be in harmony with the natural environment. As discussed in Chapters 3 and 4, the potential impacts related to the proposed project are associated with short-term construction related activities that can be minimized through implementation of mitigation measures described in this EA.

Substantially affects the economic or social welfare of the community or state. The proposed project would not result in a significant socio-economic impact on the community or state. While the proposed project could result in an increase in people around the canal area, it would not cause an increase in population or change the demographic characteristics of the local area. The proposed project would create short-term employment opportunities consisting primarily of construction related jobs generated by the proposed project. The proposed project would also have a positive

impact on the economic and social welfare of the community by creating connectivity and making more areas in Waikiki reachable in a 20 minute walk or bike ride.

Substantially affects public health. The project would not result in long-term permanent impacts to public health. The project would result in potential improvements to public health through reduced GHG emissions and increased physical activity. Short-term construction related impacts to ambient air and noise would occur. However, mitigation measures incorporated during the construction period would minimize these temporary impacts to surrounding receptors.

Involves substantial secondary impacts, such as population changes or effects on public facilities. The proposed project involves the construction of a new pedestrian bridge and would not result in adverse secondary impacts such as population growth, adverse impacts to public services, or the need to expand public facilities.

Involves a substantial degradation of environmental quality. The proposed project would not result in any impacts that would substantially degrade environmental quality. Apart from the permanent use of 2.3 acres of the 24-acre Ala Wai Neighborhood Park, construction activities associated with the proposed project would result in temporary impacts and would not be substantial. Mitigation measures would be implemented to minimize temporary adverse impacts to the environment. Permanent and long-term impacts to environmental quality would not occur, as described in Chapter 3 of this EA.

Is individually limited, but cumulatively has considerable effect on the environment, or involves a commitment for larger actions. The proposed project is a self-contained action and is not a part of additional and/or related actions. No other past, present, or future actions associated with these land uses have been identified that would contribute to significant cumulative impacts for any of the resources considered in this EA.

Substantially affects rare, threatened, or endangered species or its habitat. No federal or state listed threatened, endangered, or candidate species have been identified in previous surveys; however, trees in and adjacent to the project area may provide breeding habitat for both the Hawaiian hoary bat and white tern, two threatened species. Tree removal will occur as part of the proposed project. In addition, native shorebirds may fly over or forage near the project area. The proposed project would involve implementation of BMPs and mitigation measures such as shieling of lighting; fencing; biological surveys; and tree removal restrictions, such as tree removal outside of nesting season. As a result, the proposed project would not substantially affect rare, threatened, or endangered species or its habitat.

Detrimentially affects air or water quality or ambient noise levels. Only minor, short-term, and temporary impacts on air quality and noise levels are anticipated during the operation of construction equipment. BMPs would be implemented to prevent adverse impacts to water quality and the project would adhere to permitting requirements to protect water quality. No long-term, direct or indirect, adverse impacts to these resources are anticipated from implementation of the proposed project.

Affects or is likely to suffer damage by being located in an environmentally sensitive area, such as a floodplain, tsunami zone, beach, erosion prone area, geologically hazardous land, estuary, freshwater, or coastal waters. The project is located within an environmentally sensitive area. However, the proposed project would

be designed in accordance with standards appropriate to the geologic, hydrologic, and seismic setting. The proposed project's design would consider natural hazards with regard to both the resiliency of the bridge and its use as an evacuation route out of Waikiki. Coordination with USACE would be required to confirm that the structure cantilevered into the 100-year flood way is appropriately resilient. No adverse impacts to the floodplain would occur.

Substantially affect scenic vistas and view planes identified in county or state plans or studies. Views from surrounding schools, parks, playing fields and buildings may be slightly altered or obstructed with the construction of the proposed bridge. However, the proposed bridge is not anticipated to disrupt the entire viewshed and may result in beneficial impacts through new opportunities for views of Diamond Head monument. Therefore, impacts to the scenic vista would not be substantial.

Requires substantial energy consumption. Construction of the proposed project would not require substantial energy consumption. Fuel would be consumed by construction vehicles and equipment on a short-term and intermittent basis. However, this use would be comparable to other construction projects.

8.2 Conclusion

Through bridge design, impact avoidance and minimization actions, and proposed BMPs and mitigation measures, the analysis contained in this EA has determined that project-related impacts would be mitigated to less than significant levels, such that the proposed project would not result in significant adverse impacts.

8.3 Chapter 343, HRS Anticipated Determination and Findings

Based on the information presented and examined in this document, the proposed project is not expected to produce significant adverse social, economic, cultural, or environmental impacts. Therefore, a finding of no significant impact (FONSI) is anticipated, pursuant to HRS Chapter 343 and the provisions of HAR Subchapter 7 of Chapter 200.1, Title 11.

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Appendix A – Visual Impact Assessment

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Appendix A: Visual Impact Assessment

Ala Wai Bridge Project

Honolulu, Hawaii

March 2020

Introduction to the Visual Impact Assessment

The following Visual Impact Assessment (VIA) of the proposed Ala Wai Canal Pedestrian Bridge was conducted using the process established in 2015 by the Federal Highway Administration (FHWA). The FHWA VIA process consists of four phases. The process begins with an *Establishment Phase* which outlines the general visual character of the proposed project; identifies the visual preferences of the community (usually as part of the project's legal context); and defines the geographic scope of the study area (the Area of Visual Effect). The Establishment Phase is followed by an *Inventory Phase* which identifies the visual resources found in the project area and the viewers—travelers and neighbors—and their sensitivity to visual changes. The Inventory Phase concludes by defining existing visual quality as what viewers like or dislike about the existing scene. The next phase is the *Analysis Phase*, it documents the compatibility of the visual character of the proposed project with that of the existing landscape. It also identifies the sensitivity viewers would have to those changes, concluding by defining the value viewers place on those changes as being considered beneficial

or adverse. The fourth and final phase of the VIA process is the *Design Phase*. The primary purpose of the Design Phase is to maintain or even benefit existing visual quality or, at a minimum, to mitigate any adverse impacts that would be caused by constructing the proposed project. A diagram of the process is illustrated in *Figure 1: Diagram of FHWA's Visual Impact Assessment Process*.

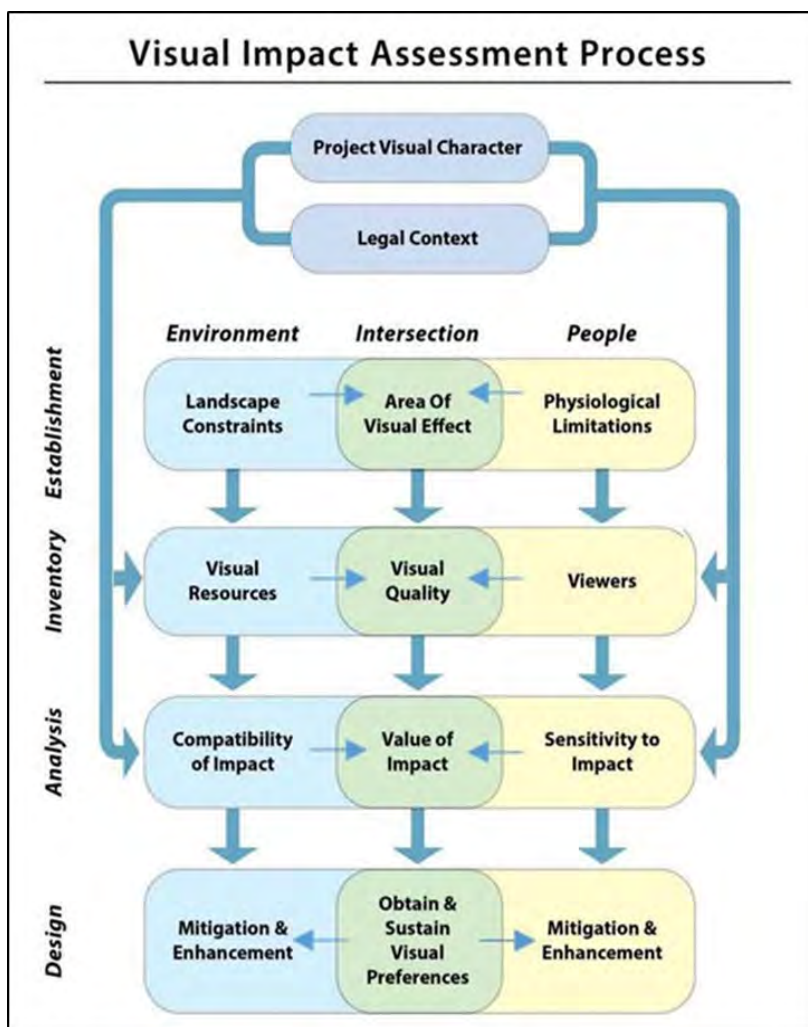


Figure 1: Diagram of FHWA's Visual Impact Assessment Process.
Source: FHWA 2015

Establishment Phase

The Establishment Phase outlines the general visual character of the proposed project; identifies the community's visual preferences; and defines the geographic scope of the study.

Project Visual Character

The proposed project would construct a pedestrian and bicycle bridge across the Ala Wai Canal connecting the mainland of Oahu with Waikiki

Beach. As proposed, the bridge would be a 180-foot tall cable-stayed structure. It would extend pedestrian and bicycle travel between University Avenue on the mauka side and Kalaimoku Street in Waikiki. A splayed 180-foot tower would be constructed on the mauka bank of the Ala Wai Canal from which cables would descend to support the deck. It is proposed that the tower be formed as two wings sweeping upward from the sides of deck and, leaning into each other, converge overhead to form beneath their inward tilt, a triangular opening through which the deck would pass (see *Figure 2: Architectural Rendering*). Cable stays evenly spaced vertically along the tower's sides, would descend to the deck where they would be tied in equidistant intervals along the deck's outer edges. Similar cable backstays would anchor the tower and bridge to land on the mauka side of the bridge.

The bridge is composed of primarily straight or slightly curved lines. The deck is (relative to the nearby vehicular bridge) a narrow 26-feet-wide (approximately) and although slightly bowed, it would appear virtually flat, clearing the water typically by about 12 feet (11.3 feet MSL). The cables are straight but set diagonally. The shape of the tower is mostly composed of angular straight lines. Construction materials are minimal, primarily concrete and steel. Surface textures and colors have not been selected.

The makai landing will include an inclined path leading Diamond Head and stairs leading Ewa parallel to the Ala Wai Boulevard. A portion of the inclined path will be cantilevered approximately 10 feet over the Ala Wai Canal allowing pedestrians and bicyclists the experience of being close to the canal as they move to and from the bridge deck located approximately 10 feet above the water. The mauka landing will include stairs and an inclined path in the zone between the existing boathouse launch ramps and the Ala Wai Community Garden. Parking lot adjustments at the Ala Wai Neighborhood Park will provide enhanced access to the bridge, Ala Wai Park Trail, and other existing park amenities.

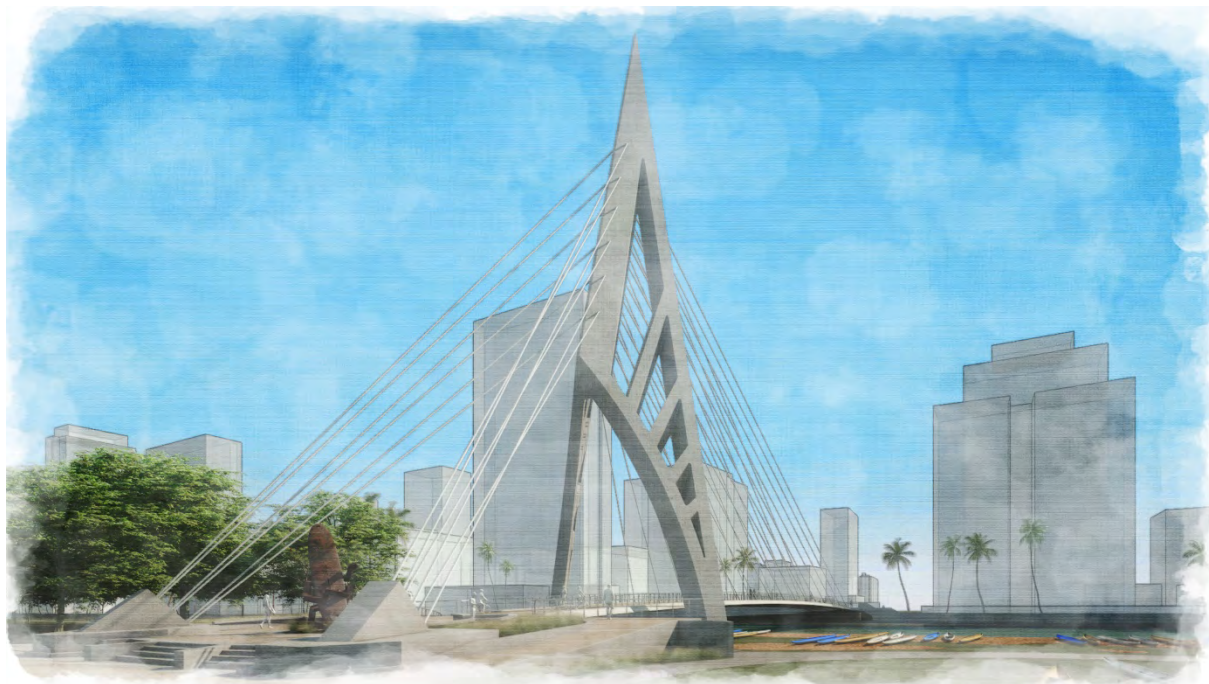


Figure 2: Architectural Rendering of Proposed Cable-Stay Bridge across the Ala Wai Canal. Source: HDR.

In profile, as shown in Figure 3, the bridge's supporting cables would form a translucent screen of scalene triangles that when observed from either side of the bridge, partially obscure the city and landscape beyond the structure. Nonetheless, the ability to see through the lattice of cables—and the absence of supporting piers in the canal—make the structure less obtrusive than other bridges over the canal while making it more visually dominating. The design was inspired by Polynesian sailing canoes.

Community Aesthetic Values

The value the community places on the aesthetics of its public domain is essential to the character, livability, and attractiveness of the city and county. This value is articulated in the Revised Ordinances of Honolulu, listed in Chapter 21, Section 21-1.20 of its Land Use Ordinance (LUO). This section states that the purpose and intent of regulating land uses is to “encourage orderly development” and to minimize the “adverse effects resulting from the inappropriate location, use or design of sites and structures” while conserving “the city's natural, historic and scenic resources and encouraging design which enhances the physical form of the city;”

“The purpose of the LUO is to regulate land use in a manner that would encourage orderly development in accordance with adopted land use policies, including the Oahu general plan and development plans, and to promote and protect the public health, safety and welfare by, more particularly: (1) Minimizing adverse effects resulting from the inappropriate location, use or design of sites and structures; (2) Conserving the city's natural, historic and scenic resources and encouraging design which enhances the physical form of the city;”

To maintain the attractiveness of Waikiki to tourists and residents, Chapter 29 of the LUO addresses *Streets, Sidewalks, Malls and Other Public Places* specifically declaring that “The city council finds a compelling need in this district [Waikiki] to ensure the safety and welfare of both motorists and pedestrians”, noting, in particular:

“The Waikiki district is the heart of the city's tourist industry and a major business, entertainment and recreation area for visitors and residents alike. In 1986, there were approximately 5.6 million visitors to the State of Hawaii. The visitor industry is an essential component of the economic vitality of the area and the state. On an average, there were approximately 66,000 visitors in the Waikiki district each day. In addition to this, the resident population of the Waikiki district is approximately 23,000 people. As a result, travel through the district is hindered by heavy pedestrian and vehicular traffic and congestion at all times of the day. Pedestrian traffic counts on the sidewalk at critical spots along Kalakaua Avenue alone during peak hours reach over 3,900 pedestrians per hour, an extraordinarily high volume. Daily pedestrian traffic on the mauka side of the street at the International Market Place in both directions during peak tourist season is estimated at 39,600. Peak season daily pedestrian traffic on both sides of the street exceeds 65,000. Similar extraordinarily high pedestrian traffic is also found on the sidewalks along Kuhio Avenue and sections of Lewers Street. The city's interest in open and attractive sidewalks extends throughout the Waikiki special district.”

Consequently, the quality of the visual environment is of paramount concern for the community.

Area of Visual Effect (AVE)

Following the FHWA's VIA process, the study area for determining visual effects of the project is referred to as the Area of Visual Effect (AVE). The AVE is defined by the area that is physiologically visible within the physical constraints of a project's viewshed. A viewshed is defined by the physical constraints of terrain, vegetation, structures, and atmospheric conditions that can inhibit views. The AVE is further constrained by the actual visual acuity of a typical viewer. The ability of a person to actually see an object in a viewshed, even if it is theoretically visible (i.e., if it is within a person's line of site), is dependent on the object's distance from the viewer, its size, and its perceived luminosity. Consequently, the AVE is a product of both physical and physiological constraints.

To evaluate visual impacts, a set of "Key Views" are selected which are representative of the views and visual resources neighbors and travelers would typically experience in the vicinity of the proposed project. For the Ala Wai Pedestrian Bridge project, the Key Views would be looking along the canal toward Diamond Head from the McCully Street Bridge, Ala Wai Boulevard, and Ala Wai Park Trail. Augmenting these views, additional Key Views could be considered from University Avenue looking makai toward Waikiki, from Kalaimoku Street looking mauka across the canal, from the Ala Wai Golf Course, from the terminus of the canal near the Waikiki-Kapahulu Public Library looking Ewa along the canal, and from the paddler's perspective.

Figure 3 through Figure 5 include simulations of key views of the Ala Wai Bridge and include a view from Ala Wai Promenade, looking Ewa towards McCully Street Bridge (*Figure 3*); a view from McCully Street Bridge, looking toward Diamond Head (*Figure 4*); and a view from University Avenue on the mauka side of the canal looking toward Ala Wai Neighborhood Park, Ala Wai Canal, and Waikiki on the makai side (*Figure 5*).



Figure 3: View from Ala Wai Promenade, looking Ewa toward McCully Street Bridge. Source: HDR



Figure 4: View from McCully Street Bridge, looking toward Diamond Head. Source: HDR



Figure 5: View from University Avenue on the mauka side of the canal looking toward Ala Wai Neighborhood Park, Ala Wai Canal, and Waikiki on the makai side. Source: HDR

The proposed cable-stayed bridge would rise 180 feet above the surface of the Ala Wai Canal (as represented by *Figure 6: Aerial View of the Ala Wai Canal Bridge*). The further from the location of the proposed bridge, the less the bridge would fill a viewer's field of vision and the more diminutive and visually inconsequential the bridge would appear. Closer to the bridge, buildings also affect views—either creating opportunities for views or blocking them. Consequently, the actual AVE can reasonably be reduced to those areas of the viewshed that are within approximately three (3) miles from the proposed pedestrian bridge.

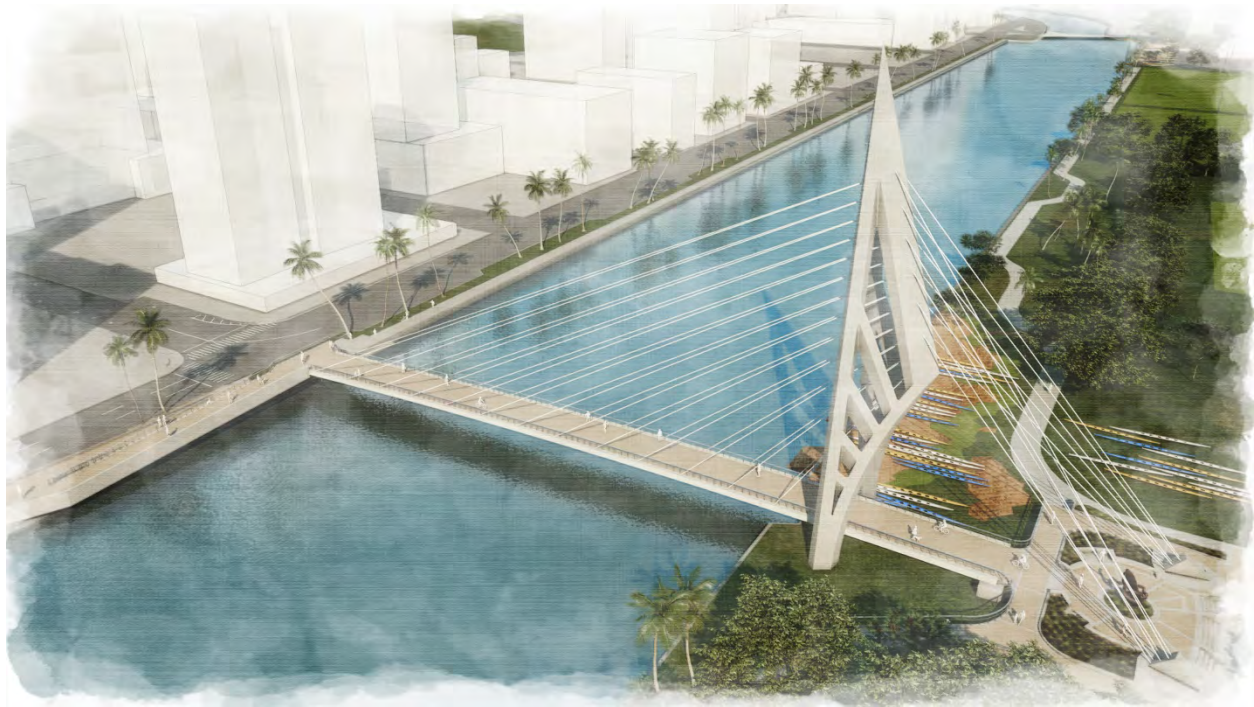


Figure 6: Aerial View of the Ala Wai Canal Bridge. Source: HDR

Within the AVE, views from the northwest are primarily from buildings although a few areas of higher terrain may also provide views from the ground, unless intervening vegetation obscures sightlines. Since detailed modeling of individual buildings was unnecessary for the level of analysis being conducted for this visual impact assessment, it is unknown how much of the bridge would be seen from any location. The proposed bridge would largely blend into the surrounding built environment and large developments of Waikiki, as shown in Figure 5. In general, much of the bridge may be seen from a tall building if the view is not obscured by another building. Views from lower elevations are more likely to be obscured by intervening buildings, other structures, terrain, and vegetation, leaving views, in some cases, of only the tops of the gossamer rigging of the cable-stayed bridge. There would be no views of the proposed bridge along the canal between Kalakaua Avenue and Kahanamoku Lagoon. Consequently, subsequent references to the canal will be referring only to the segment between McCully Street Bridge and the canal's eastern terminus near Kapahulu Avenue.

Viewers in buildings northwest of the canal would be able to view southeast along the canal's axis directly at the bridge which would appear, from their vantage, to bisect the canal into eastern and western halves, visually disrupting the continuous pool between the McCully Street Bridge and the terminus of the canal near the Waikiki-Kapahulu Public Library. If constructed as a cable stay bridge, the bridge would appear more dominating, because of its height, than the other beam bridges currently crossing the canal. However, such a structure would completely span the canal and would not require piers in the water, making it less obtrusive than other crossings when viewed from land adjoining the canal.

Views from several tall buildings in the western hub of Waikiki would have at least partial views of the proposed bridge and portions of the western half of the canal. From this vantage, the bridge may not appear to bisect the canal but rather may primarily appear as a visual link to the mainland. Pedestrians with views looking northeast along Kalaimoku Street toward the canal would see the bridge crossing over to the mainland and connecting with University Avenue.

For many buildings with sides facing northwest, the proposed bridge would visibly connect Waikiki with the mainland while also visually disrupting the canal. Similarly looking northwest, the proposed bridge would also be visible from the golf course where it would provide a visual connection between Waikiki and the mainland.

In summary, although the potential viewshed of the proposed project is quite large, intervening terrain, vegetation, and buildings, coupled with the limits of human visual acuity, restricts the AVE to the vicinity of the canal, specifically from buildings, streets, bridges, and public spaces adjacent to or oriented to the canal. Many of these views will be partial views of the bridge, although along the banks of the canal and from buildings with unrestricted views of the whole canal, views of the whole structure will likely be evident.

Inventory Phase

The Inventory Phase identifies the visual resources that may be affected by the proposed project; the viewers whose views may be affected; and the scene's existing visual quality as defined by what those viewers like and dislike about the visual resources they see.

Visual Resources

The FHWA VIA process divides visual resources into three categories: natural, cultural, and project. Natural visual resources include the land, water, vegetation, animals, and atmosphere that are visible in the project area. Cultural visual resources include buildings, structures, art, and other artifacts created by people, including visible infrastructure not part of the project. Project visual resources include all the visible elements constructed or installed as part of the proposed project.

NATURAL VISUAL RESOURCES

The most noticeable feature of the natural landscape is its terrain. It is the basis of directional orientation. One is oriented *makai*, toward the ocean, or *mauka*, toward the mountains. Oahu was formed by volcanos and the mountains they created frame the plain on which Honolulu developed. Except for forays into adjacent valleys, the city mostly hugs the coast on a generous coastal plain. Near the project, the plain meets the ocean at Waikiki Beach. The striking white

sand beachfront setting is terminated at its southern end by a visually domineering dormant volcanic crater, Diamond Head. (See *Figure 7: Honolulu Context*)

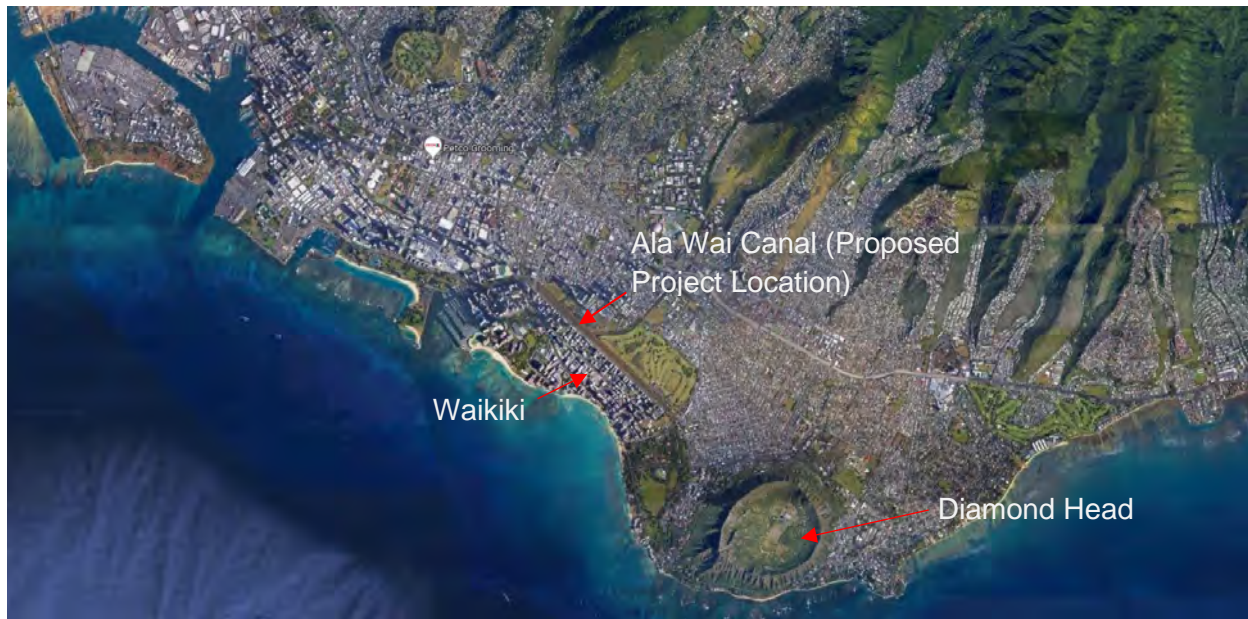


Figure 7: Honolulu Context. Source: Google Maps.

In addition to the world-famous beach, the other significant water feature of the project area is the Ala Wai Canal (see *Figure 8: Waikiki Beach* and *Figure 9: Ala Wai Canal*). The canal was constructed in the 1920s to alter the drainage of the area. Material dredged to make the canal was used to fill wetlands and raise the elevation on the makai side of the canal, allowing for the development of the Waikiki. Although the canal was constructed, the water in the canal and the use of that water will be considered for the assessment of visual impacts, a natural visual resource. The floodwalls, bridges, and adjacent promenades will be considered cultural visual resources.



Figure 8: Waikiki Beach—the natural environment transformed into a cultural icon. Note Diamond Head in the background. Source: HDR.



Figure 9: Ala Wai Canal from an adjacent high-rise looking Diamond Head. Source: Google Earth.

CULTURAL VISUAL RESOURCES

The dominant visual resources of the cultural environment in the project area are the buildings that form Honolulu (see *Figure 10: Project Area*). In Waikiki on the makai side of the canal, the buildings are mostly modern residential high rises (including hotels). In McCully-Moiliili District on the mauka side of the canal, the buildings are mostly older and shorter, predominately two-

story residential structures, although there are several mid-rise structures and clusters of high-rise buildings adjacent to the Ala Wai Community Park that are closer to the canal.



Figure 10: Project Area. Source: Google Maps.

Commercial enterprises, local, national, and international, interlace the project area, mostly at ground-level, and predominately in Waikiki. Park and recreational facilities are prominently located adjacent to the mauka side of the canal, including field and water sports in Ala Wai Community Park (See Figures 4 and 11) with a golf course occupying over half of the canal's mauka waterfront.

Eight field lights shine on ball fields in the Ala Wai Community Park on the mainland side of the Ala Wai Canal between McCully Street and University Avenue. Figure 4 shows the proposed bridge in relation to the field lights at Ala Wai Community Park. The parking lots, basketball court, and tennis courts of the Ala Wai Neighborhood Park also have lights, though shorter than the field lights in Ala Wai Community Park.



Figure 11: Fields at Ala Wai Community Park. Source: Google.

Nestled among the recreational facilities on the mauka side of the canal are elementary, middle, and high schools.

Although buildings are the dominant cultural visual resource in the project area, it was the construction of the canal that created the two features that define the project area—the separation of Waikiki from the rest of Honolulu and the raising of the elevation of Waikiki to an elevation above sea level. It is the canal, as a constructed artifact and cultural resource, that defined the context for developing Waikiki’s tourist-oriented buildings.

A typical grid network of streets, sidewalks, and trails crisscross the project area as shown on *Figure 10: Project Area*. As shown in *Figures 12 and 13: Waikiki Street Views*, streets with overhead utilities are mostly absent in Waikiki, which are frequently lined with trees including in center medians.

In the McCully-Moiliili District on the mauka side of the canal, overhead utilities typically line every street (with the exception of some segments of University Avenue) and boulevard trees are less frequently used as shown on *Figure 14: McCully-Moiliili Street View*.



Figure 12: Waikiki Street Views- Kalakaua Avenue. Source: Google Maps.



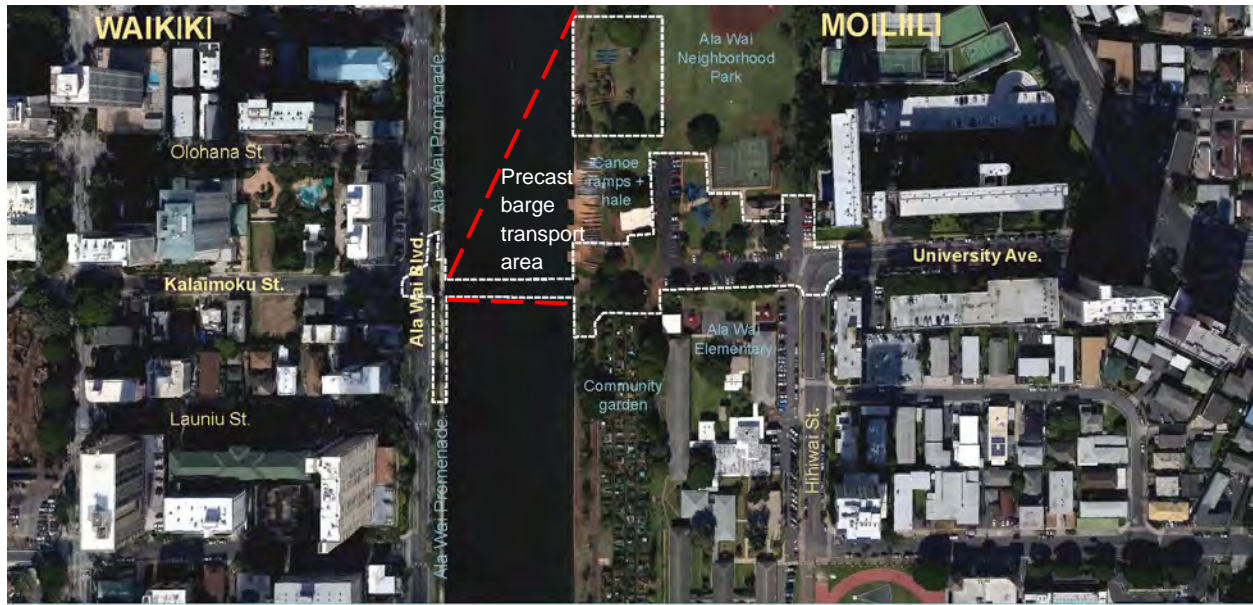
Figure 13: Waikiki Street Views – Kalakaua Avenue. Source: Google Maps.



Figure 14: A McCully-Moiliili District Street View – University Avenue. Source: Google Maps.

PROJECT VISUAL RESOURCES

Currently, there is no direct transportation connection between University Avenue and Kalaimoku Street. Therefore, there are currently no existing project visual resources related to crossing the Ala Wai Canal at the proposed crossing location. The only resources currently existing at that location are natural and cultural resources. Although some of the cultural resources are related to transportation, they are not part of an existing crossing and would not typically be considered project visual resources (See *Figure 15: Proposed Crossing Location.*). However, the existing McCully Street bridge, located in the vicinity of the proposed Project, is available for bicyclists and pedestrians and is considered an existing visual resource of the project environment (See *Figure 16: McCully Street Bridge*) (City and County of Honolulu 2019).



Project Area
(outlined in white)

Figure 15: Proposed Crossing Location



Figure 16: McCully Street Bridge. Source: Google Maps.

Viewers

In addition to visual resources, the Inventory Phase also catalogs viewers. The FHWA process includes two basic types of viewers: travelers and neighbors. Travelers are defined as people who will have views *from* the existing or proposed transportation facility. Neighbors are people who have views *to* the existing or proposed facility.

Currently, there is no crossing of the canal at the location being considered. There is a bridge on McCully Street, approximately 1,900 feet west of the proposed crossing. Some of the

pedestrians and bicyclists who currently use the McCully Street Bridge may become travelers on the proposed new pedestrian bridge. However, most of the existing users of the McCully Street Bridge, indeed most of the people within view of the site of the proposed crossing will remain neighbors.

TRAVELERS

Travelers are classified by the FHWA by their mode of travel and their reason for travel. The travelers on the new bridge will be exclusively people walking and rolling and bicycling. They will be moving across the canal mostly as commuters on their way to a particular destination, as fitness enthusiasts who will cross the bridge as part of their exercise routine, or as tourists who are strolling about the Waikiki area, enjoying its pleasures and sights. These types of travelers, even commuters on foot or on a bicycle, may be sensitive to their surroundings and pick routes that enhance their experience of being outdoors.

NEIGHBORS

Neighbors will remain mostly residents or visitors with views of the new bridge, either staying in one location (essentially stationary in relation to the proposed bridge) or moving through the AVE (away or toward the new bridge). Using the categories defined by the FHWA, these neighbors can be classified by land use and the activities that brought them into the AVE of the bridge. Typically, the activities of neighbors are related to land uses, including in this case, residential, recreational, or institutional (primarily schools), commercial, and retail land uses. In general, residents are the most sensitive to visual change. Recreational and institutional neighbors can also be sensitive to visual change if it affects their ability to engage in their chosen activity. Commercial and retail neighbors tend to be more focused on transacting business and are primarily concerned with any disruptions the proposed project may cause to those transactions (which typically aren't only visual).

Existing Visual Quality

Honolulu, and especially the Waikiki District, is one of the country's premier tourist attractions. Consequently, both neighbors and travelers may have high expectations for visual quality in the vicinity of the proposed bridge. Mostly, they are not disappointed.

The FHWA VIA process defines existing visual quality as the value viewers place on their relationship with natural, cultural, and project visual resources that compose the landscape within the AVE. The relationship viewers have with these resources are defined by the FHWA as the three attributes of visual quality of a transportation project—natural harmony, cultural order, and project coherence.

NATURAL HARMONY

It is primarily the larger features of the natural environment that viewers find so visually attractive about Oahu. In particular, the view from the beaches of Waikiki where Diamond Head meets the ocean is one of the picture-postcard views that lures tourists (see *Figure 8: Waikiki Beach*) to the island. This quintessentially Hawaiian view is not, however, a view one gets from within the AVE. Although views of the ocean are probably preferred, within the AVE such views are mostly limited to being seen by viewers in high rises. Consequently, views of the canal and the water in it are also appreciated, especially views east along the canal toward Diamond

Head. Although only a partial view of the volcanic cone is not as dramatic as those seen from Waikiki beaches, the view of Diamond Head from along the canal is still a desirable view for people in the AVE, especially those recreating or touring near the canal (see *Figure 14: McCully-Moiliili District Street View* as an example).

Mauka views from within the AVE as seen along Ala Wai Boulevard are also desirable, especially views of the canal acting as a tree-lined reflecting pool with a backdrop beyond the city of verdant mountainsides.

The landscape of the area is not particularly natural given the many commercial developments that exist. However, viewers (both neighbors and travelers) find the natural environment of the area, which framed by dominant landforms, mountains and ocean, and associated sunshine, sand, and palm trees, attractive and satisfying. Residents who have chosen to live in Oahu also value these natural traits. In general, some viewers may believe natural harmony is especially high and value it accordingly. Some residents believe that the visual dominance of cultural artifacts has reduced existing natural harmony from its potential and would like to see this natural harmony enhanced.

CULTURAL ORDER

Similar to the impression of natural harmony, some viewers may tend to rate existing cultural order high. Throughout most of the AVE, mostly neat, well-maintained modern structures prevail. Most are tall residential or commercial structures constructed of modern materials and jockeying for the best views of the surrounding landscape. Some low and mid-height residential structures are less visually appealing especially as the distance from tourist attractions near Waikiki Beach increase. Although located in a unique setting, the structures themselves are typical of the modern and post-modern era architecture. Streets are mostly set on a predictable grid. The canal matches this grid, essentially occupying one city block side by several dozen city blocks long. The Ala Wai Canal Promenade is located makai of the project area and runs along the Ala Wai Canal. The Ala Wai Promenade is lined with coconut trees and is popular for walking and jogging. Recreational facilities tend to be near water, mostly on the mauka side of the canal as are schools and playgrounds, which are located in residential areas near the canal. Neighborhood parks, plazas, and the Ala Wai Community Garden, are also located mauka of the canal and are particularly noticeable in Waikiki along the edges of the canal. The overhead utility-lined streets located mauka of the canal appear less orderly. A public library punctuates the closed eastern end of the canal.

PROJECT COHERENCE

The proposed bridge is located in a highly developed area of Honolulu, where natural elements are intermingled with the build environment. The bridge was designed to be consistent with the project area's current visual character and is intended to mimic the natural environment in Honolulu. Constructing a bridge in the project area would result in the addition of another modern visual resource of similar height, scale, color, and materials to the existing high-rise buildings in the area. Consequently, the proposed new bridge would not be in stark contrast with other structures visible in the vicinity of the canal.

Although there is not a pedestrian or vehicular bridge at the proposed site, there is bridge at McCully Street, a few blocks Ewa of the proposed project. As a project visual resource for pedestrians and bicyclists, the McCully Street Bridge is not particularly attractive. Its sidewalk is narrow with utility poles, trash receptacles, and signs disrupting pedestrian movement on its approaches while motorized traffic rushes by closely on the bridge. Bicyclists have a designated lane in traffic that is encroached by motor vehicles weaving across the bike lane to make right turns (see *Figure 17: Active Transportation on McCully Street Bridge*). The McCully Street Bridge is a wide, five span bridge with a forest of piers in the water, closing the view underneath the bridge, and limiting the visual continuity of the canal (see *Figure 16: McCully Street Bridge*). Views from the bridge toward Diamond Head are pleasant, providing pedestrians on the bridge with views of recreational activities including canoes and kayaks passing underneath the McCully Street Bridge.



Figure 17: Active Transportation on McCully Street Bridge. Source: Google Maps.

The Diamond Head side of the McCully Street Bridge is flanked with small ornamental trees in planters placed on what appears to be a utility crossing structure outside the bridge's metal crash barrier. A sidewalk occupies the narrow space between the barrier and the curb. There are no planters on the Ewa side of the bridge. (See *Figure 18: McCully Street Bridge's Aesthetic Treatments*.)



Figure 18: McCully Street Bridge's Aesthetic Treatments. Source: Google Maps.

Analysis Phase

The analysis phase documents the compatibility of the visual character of the proposed project with that of the existing landscape. It also identifies the response viewers would have to the visual changes caused by the project. It concludes by defining if viewers perceive those changes as being beneficial or adverse.

Resource Compatibility

The proposed structure will cross a long, linear, and artificially straight canal. Although the shape of the canal is defined by its concrete embankment and its setting in the city's urban grid, it is still a water body—essentially a long reflecting pool. Consequently, the canal is considered both a natural and cultural resource.

The bridge would intrude into the natural landscape by visually subdividing the canal into two halves. However, by avoiding the use of piers, the division is less pronounced as the water in the canal remains undisturbed.

As large constructed cultural resources, the canal and the proposed bridge in the context of Honolulu as an urban center, represent similar cultural attributes, both physical and social. The concrete and steel that would be used to construct the bridge are the same materials widely used to construct the city. The height of the bridge is not that different from the height or scale of other structures, primarily buildings, in the districts of Waikiki or McCully-Moiliili that adjoin the canal. Textures and colors used on the new bridge, although currently not defined, can be made to contrast or blend with nearby buildings. Consequently, it is not these aspects of visual character (height, scale, texture, or color) of the bridge that would contrast with the existing setting but rather the proposed bridge's placement, construction, and shape.

The proposed location of the bridge alters the visual character of the canal by interrupting the view of a continuous rectangular pool and the skyline above the pool. The proposed cable-stayed construction is unusual within the AVE, making it particularly noticeable. As a result of cable-stayed construction, the bridge's triangular shape contrasts sharply with the city's more rectangular forms, such as the many buildings and structures within Waikiki (see *Figure 5. View from University Avenue*). Consequently, although the height and scale of the bridge and the materials that would be used to construct it would be similar to other construction found in the AVE, the location, construction, and shape of the bridge would distinctly contrast with the existing landscape.

Viewer Response

The response viewers would have to the construction of a new bridge would largely be a function of their location and reason for being in their location. Neighbors and travelers would have different responses, as would those who are frequently in the AVE (such as neighbors who reside or work in the AVE or travelers who would frequently commute on the new bridge) and those who are only transitory (such as tourists residing in a hotel or walking or bicycling across the new bridge). Permanent neighbors and transitory travelers would be sensitive to the changes to existing visual quality. The views in the area are often considered a benefit for permanent neighbors, and altering those views could be considered an adverse impact, in some cases. For transitory travelers, the views provided by the new bridge would probably be considered beneficial.

Some neighbors, especially those who are permanent, would likely perceive the bridge as a newly constructed artifact that intrusively crosses both a natural and cultural resource. However, other neighbors who find it useful for commuting or recreational purposes may not be affected by the visual changes resulting from the proposed bridge. Transitory neighbors, such as tourists, would probably see a dynamic bridge that is merely part of an animated city. For neighbors, particularly those who are in the AVE permanently and currently reside or work in buildings with views of the canal, a new bridge would appear to bisect the canal (see *Figures 4 and 6*). Although the bisecting nature of the bridge may be noticed by transitory neighbors (such as hotel guests), it probably would not be particularly noticeable—merely part of the city's existing landscape.

For neighbors on the ground on the Ewa side of the bridge, the bridge would obscure—but not completely mask—views of Diamond Head and views of the Diamond Head side of the canal. If viewed from the ground on the Diamond Head side of the bridge, the Ewa side of the canal and some of the associated buildings Ewa of the bridge may be obscured.

For neighbors recreating in the water and those viewing from the canal's shore, a bridge clearing the canal without piers, would appear to be more open than the other bridges that currently cross the canal. Indeed, the clearance of the bridge above the water, the absence of piers in the water, and the perceived thinness of the cables when viewed from a distance would minimize perceived visual obstructions.

For travelers on the new bridge, views would be enhanced in every direction – looking Ewa, Diamond Head, mauka, and makai. In particular, the new bridge would offer a closer,

unobstructed vantage point of Diamond Head and a new perspective of the Ala Wai Neighborhood Park.

Socially, the new bridge will not just replace some of the active transportation functions (pedestrian and bicycle movements) currently reserved for the McCully Street Bridge, it will provide an improved space for people to walk and bike without obstructions and away from motor vehicle traffic, enhancing safety for the users. Based on forecasts prepared as part of the Alternatives Analysis for the proposed project, the proposed bridge could attract between 1,300 and 4,300 people walking and biking daily, between 100 and 1,500 of that total would be new users. Rather than viewing the surrounding landscape from a narrow and obstructed sidewalk, views for travelers on the new bridge will be seen from a less disruptive and more aesthetically pleasing location. If a pedestrian were to stop to enjoy the view on the McCully Bridge, they are essentially blocking anyone from passing them on the bridge. However, the 20 foot wide proposed bridge allows plenty of space for people to stop and enjoy their surroundings – particularly the unobstructed view of Diamond Head.

Socially, the new bridge will connect streets between two distinct neighborhoods of the city whose boundaries currently end at the canal. While improving social interaction, access to destinations within Waikiki, economic opportunity, and public safety, visually the bridge will unite two districts that are currently separated (see Figures 25 and 26). For travelers, the preferred view of Diamond Head, as seen from the beach will more accessible with a new bridge.



Figure 19: Makai view toward Kalaimoku Street in Waikiki from proposed bridge location in Ala Wai Community Park. Source: HDR.



Figure 20: Mauka view toward Ala Wai Community Park and University Avenue from the proposed bridge location at the intersection of Ala Wai Boulevard and Kalaimoku Street. Source: HDR.

Impacts to Visual Quality

A new bridge would both adversely and beneficially impact existing visual quality. Although the new bridge would impact the visual continuity of the long and linear segment of the canal it will not totally obscure it (see *Figure 4: View from McCully Street Bridge*). The artificial visual character of the canal defines it as a modern constructed visual resource. Adding a bridge will add another modern cultural resource of similar height, scale, color, and materials.

Consequently, the proposed new bridge would not be in stark contrast with other structures visible in the vicinity of the canal. As previously stated, it is the position and shape of the proposed bridge that contrast sharply with existing conditions. Nonetheless, only some viewers—primarily those who inhabit the area as permanent neighbors (typically residents) or permanent travelers (typically commuters)—who will notice the contrast.

The response to that contrast and consequently the value placed on the impacts to visual quality are mixed. Typically, transitory neighbors and travelers (typically tourists) will not be aware of the contrast. Even the visually unusual location and shape, so noticeable to the permanent neighbor or traveler, will primarily appear as another example of Oahu's dynamic modern architectural forms to transient viewers. Although the bridge may hinder some existing views of some transient neighbors (tourists), the bridge, as previously discussed, would not

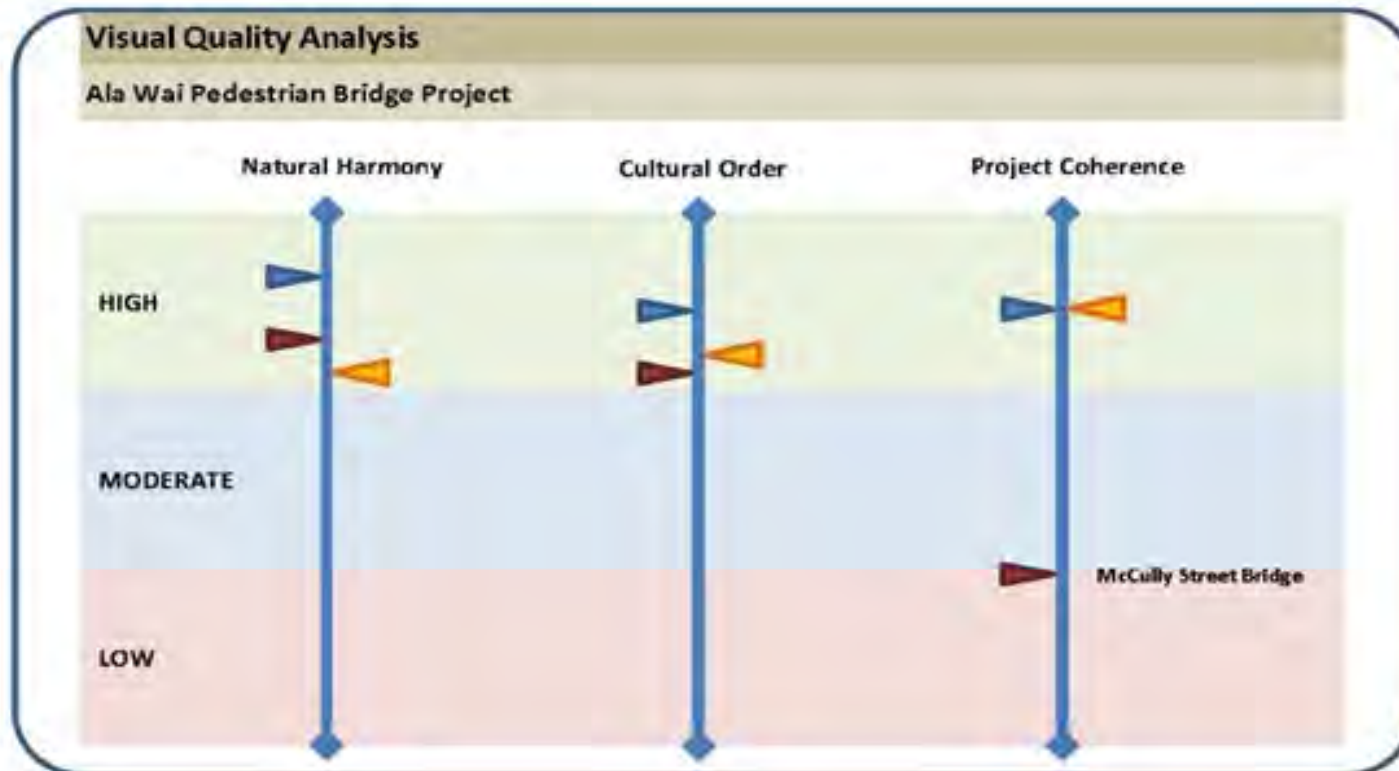
totally their block views. Indeed, visibility from a new bridge may actually enhance views of the surrounding landscape. Consequently, for transient viewers, either neighbors or travelers, the visual impacts caused by the bridge would be on balance, neutral.

Permanant neighbors (typically residents) and travelers (typically commuters) have a more nuanced assessment of impacts to visual quality. Some will recognize the artificial divide that the canal has created between the McCully-Moiliili and the Waikiki districts. Bridging the gap and joining University Avenue with Kalaimoku Street will, to these viewers, increase cultural order and benefit visual quality.

Others may view the bridge—despite its similarities in scale and materials, the gossamer nature of its rigging and its clear-spanning the canal—as still altering the linear nature of the canal and disrupting an uninterrupted view of the surrounding landscape as a reduction in natural harmony and an averse impact to visual quality.

Clear-spanning the canal with a cable-stayed structure illustrates the countervailing forces that such a bridge must have to stay erect and to extend that distance, providing the level of project coherence considered appropriate by both neighbors and travelers.

As illustrated by *Figure 21: Visual Quality Analysis*, the desire for natural harmony is quite high for all viewer groups, higher than is currently provided in the community's urban setting. Although the factors that contribute to natural harmony in the project area (views of the mountains and water, in particular) would be retained, the addition of another constructed artifact would probably slightly reduce the experience of natural harmony. Still the experience of the setting's natural harmony would probably remain quite high. The desire for cultural order is also high, perhaps slightly less than that desired for natural harmony. By visually reconnecting neighborhoods, the project will enhance the perception of cultural order and slightly improve existing visual quality. The desire for project coherence is also high based on the review of Honolulu's planning documents and as evidenced by the buildings recently constructed and how well they are maintained in the project area. The existing project coherence based on the experience of active transportation users of the McCully Street Bridge will be substantially improved by the proposed structure.



Legend




-  Desired Visual Quality
-  Existing Visual Quality
-  Proposed Bridge

Figure 21: Visual Quality Analysis. Source: HDR.

Design Phase

During the Design Phase adverse impacts are mitigated and beneficial impacts are advanced as enhancements. As shown in *Figure 22: Design Phase Actions*, project actions (mitigation or enhancement) can have an effect on either the environment or viewers. Mitigation of adverse impacts can be accomplished through avoidance, minimization, reduction, or compensation. Enhancements can be accomplished through restoration or improvements (FHWA 2015).

Impact Type	Action Type		Action Affecting	
			Environment (Visual Resources of the Natural, Cultural, or Project Environments)	Viewers (Travelers and Neighbors)
Adverse	Mitigation	Avoidance	Choose alternatives that maintain the quantity and quality of existing visual resources	Maintain existing views for all viewer groups
		Minimization	Choose alternatives that do the least harm to existing visual resources	Maintain to the largest extent possible existing views for most viewer groups
		Reduction	Alter project parameters or modify the preferred alternative to lessen adverse impacts on visual resources	Alter project or its parameters to lessen adverse impacts on viewers and their views
		Compensation	Replace adversely affected resource with the same type of resource or provide substitute for affected resource	Re-establish similar views of the same visual feature or create substitute views of similar visual features or other features of interest to viewers
Beneficial	Enhancement	Restoration	Remove degraded resources	Screen undesirable views
			Rehabilitate degraded visual resources	Restore obscured views or damaged viewing locations
		Improvement	Add complementary visual resources to the natural, cultural, or project environments	Create desirable views that contribute to the viewer's desired visual experience

Figure 22: Design Phase Actions

As currently designed, adverse impacts have been minimized for both the environment and viewers. The proposed design of the built alternative for the chosen location does the least harm to the natural, cultural, and project environments while maintaining, to a large extent, the existing views for most viewer groups. Nonetheless, adverse impacts may be able to be reduced or compensated for further and beneficial impacts may be added by providing restoration or improvements.

For example, the project may be able to compensate for adverse impacts by creating observation decks on the bridge or its approaches. The Proposed Project would also connect neighborhoods, businesses, parks, schools and recreational activities; improve pedestrian and bicycle facilities; improve parking along the approach from University Avenue; and improve pedestrian and bicycle facilities along the Kalaimoku Street approach.

Although a dynamic structure by day, thoughtfully lighting the bridge at night would emphasize its form and location, creating an iconic beacon and an emblem of the two adjoining districts. An illuminated bridge would not only show against the sky and city, it would also be reflected in the water of the canal, anchoring it to its location.

The design could restore an understanding of the connection between McCully-Moiliili and Waikiki by including interpretive signage or other interpretive or artistic measures about the history of the canal. It could enhance the experience of viewers by designing the bridge and ramps as platforms with leaning rails to view kayaking and boats racing on the canal.

Inspired by images of Polynesian canoes, the new bridge could become an another iconic symbol of Hawaii, a modern symbol that embraces the island's past as it connects people and communities.

Appendix B – Identification of Architectural Historic Properties

IDENTIFICATION OF HISTORIC PROPERTIES

Ala Wai Bridge Project

Honolulu District, Oahu Island, Hawaii

Contract No. SC-DTS-1900086

Federal-Aid Project No. TAP-0300 (159)

Submitted Pursuant to Hawaii Revised Statutes, Chapter 6E and
National Historic Preservation Act Section 106



City and County of Honolulu,
Department of Transportation
Services
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State of Hawaii, Department of
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U.S. Department of
Transportation Federal
Highway Administration



Prepared by Mason Architects, Inc. for
The City and County of Honolulu, Department of Transportation Services
under contract to HDR Inc
September, 2020

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Introduction

Mason Architects, Inc., (MASON) was hired by HDR Inc. to identify architectural historic properties in support of the Environmental Assessment (EA) being prepared for the Ala Wai Bridge Project proposed by the City and County of Honolulu's Department of Transportation Services (CCH DTS).

The identification of historic properties was also made in keeping with National Historic Preservation Act (NHPA) Section 106 and HRS 6E requirements, including HAR §13-275-5 Identification and inventory of historic properties and HAR §13-275-6 Evaluation of significance. MASON identified a total of 30 resources within the study area. Of these, 12 were already listed or found eligible for State and/or National Register of Historic Places (NRHP), and 18 were evaluated as not eligible.

Project Site

The project site in Waikīkī and Mō'ili'ili, Honolulu, is situated over, and on both banks of, the historic Ala Wai Canal, not far from the terminus of University Avenue. The proposed bridge will cross the canal from the canoe landing at the Ala Wai Neighborhood Park on the mauka (Mō'ili'ili) bank, over the water to the pedestrian promenade of the makai (Waikīkī) bank, roughly where Kālimoku Street meets Ala Wai Boulevard.



Figure 1: Aerial view with overlay by HDR showing proposed project site upon completion. Source: HDR

On the mauka bank, the project site is a T shape, extending from University Avenue's terminus. The surrounding area is characterized by grassy open space and scattered buildings of the Ala Wai Neighborhood Park, and the buildings of the adjacent Ala Wai Elementary School. The Ala Wai Community Garden sits between the Ala Wai Elementary School and the waters of the canal. The Ala Wai Park Trail meanders across the project site, mostly parallel to the canal. The

bridge foundations on this bank are proposed near the boat ramps used by local canoe paddlers.

The makai bank project site is characterized by the open Ala Wai Canal promenade lined with coconut palms, and the bordering one-way, three-lane, Ala Wai Boulevard. Across the boulevard are dense blocks of residences, residential apartments, condominiums, and hotels that typify this portion of Waikīkī.

See the section on Character Defining Features for additional discussion on the canal setting.

Study Area and APE

The study area and Area of Potential Effect (APE)¹ for this architectural inventory survey is significantly larger than the project site to accommodate: temporary staging, contractor access, and parking areas; the portion of the Ala Wai Canal within the view plane of the proposed bridge; adjacent buildings (such as Ala Wai Elementary School and condominiums), individual properties on both sides of the canal, and portions of the public right-of-ways from University Avenue and Kālimoku Street. These boundaries make up an approximately 91-acre area shown in the (Figure 2) Study Area and APE map below.

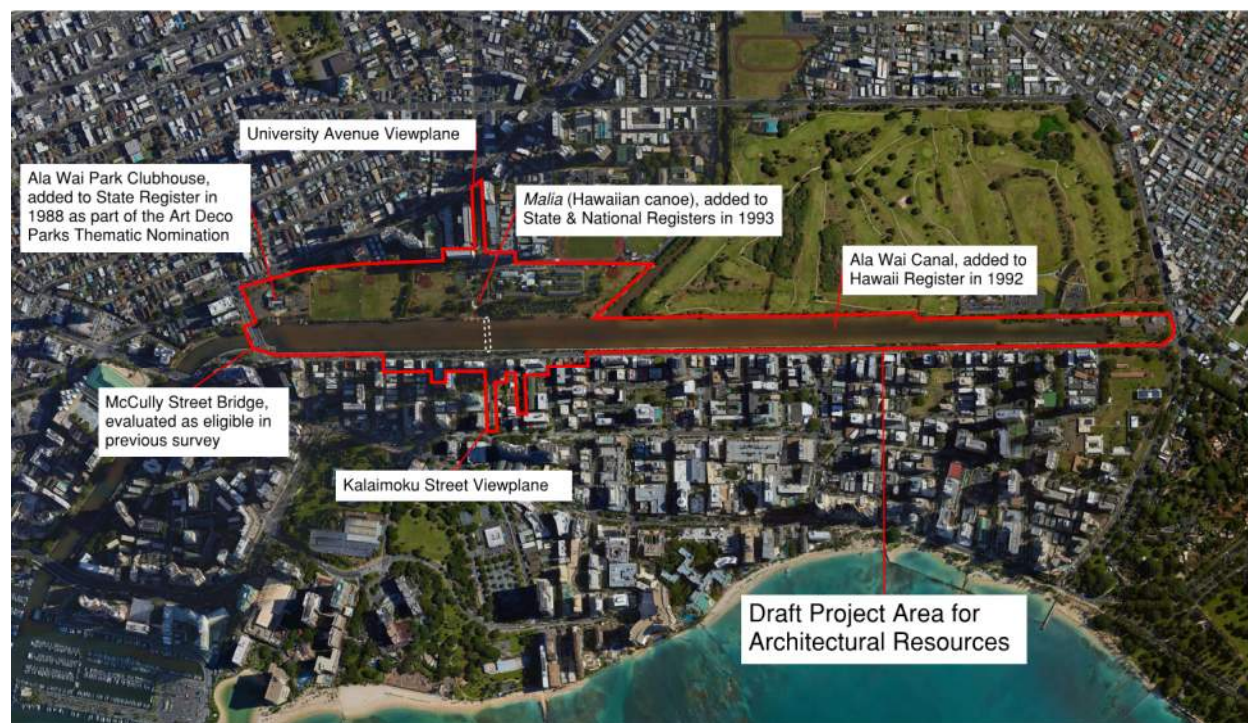


Figure 2: APE and Study Area for Architectural Resources Identification. (Aerial view with APE overlay by MASON)

¹ The City & County Department of Transportation Services (DTS) sent a Section 106 initiation letter to the State Historic Preservation Division with the Proposed Area of Potential Effect (APE) map shown in Figure 2. SHPD concurred with the Proposed APE in a response letter to DTS dated July 7, 2020.

Historical Overview

A total of 30 architectural resources were identified for evaluation within the APE. These resources are listed individually in Table 1: Identification of Historic Properties (page 22). The section below provides an overview of the history and context of the development of the Ala Wai Canal, and the portions of Waikīkī and Mō'ili'ili found within the study area.

The 30 resources evaluated for eligibility to the Hawai'i Register of Historic Places (HRHP) and National Register of Historic Places (NRHP) are discussed within this context, identified with a **bold** font. For simplicity, throughout this report, significance criteria is expressed for both HRHP /NRHP with capital letters (i.e., "A" through "D"), in keeping with the common practice for the NRHP Criteria. NRHP Criteria A-D translate directly to the first four of the HRHP Criteria, which are expressed with lower case letters ("a" through "d"). As shown on page 17, the HRHP Criteria also has one additional criterion, "e," which was not applied to the resources below.

Development of the Ala Wai Canal

Waikīkī is translated from the Hawaiian language as "Spouting Waters," and was originally characterized by wetlands fed by a confluence of springs from the uplands of Makiki, Mānoa and Palolo. In the pre-contact era, Waikīkī was a major seat of political power on O'ahu. This area, with its abundant freshwater and its proximity to shore, supported thousands of Hawaiians, who established taro fields and fishponds in the fertile land of Waikīkī.

The arrival of Captain James Cook's ships from England, beginning in 1778, prompted wholesale changes in Hawaiian culture. A dramatic decline in native Hawaiian population due to the introduced diseases, among other factors, occurred in the first fifty years after contact. The arrival of western weapons helped Kamehameha I unite the Hawaiian Islands into a single kingdom, instead of areas ruled by separate chiefs. He moved his court, and, therefore, the kingdom's capital, several times -- between Kailua-Kona, on Hawai'i island, Waikīkī or Honolulu, on O'ahu, and Lahaina, Maui. Under Kings Kamehameha II and III, Lahaina served as the kingdom's capital from 1820 to 1845, during the height of the whaling period. Honolulu, whose harbor was the best for foreign ships, became the permanent capital starting in 1845.²

Individual cultivation of crops gave way to large-scale industrial agriculture, and after much experimentation, cane sugar became Hawai'i's most successful export crop in the 1860s. The United States' Civil War spurred the market for sugar, but at its end, due to tariffs, Hawaiian sugar could not compete with the South. The 1876 ratification of the Reciprocity Treaty removed the tariffs, and a boom in Hawaii's sugar industry followed. Sugar plantations proliferated, and sugar became the dominant crop in Hawai'i for over 100 years, beginning in the Monarchy era.³ Hawai'i's population stopped its decline and began a steady increase, greatly spurred by the growth of sugar plantations, which imported labor to work in the cane fields. The immigrant workers in this period and the very early Territorial years came in waves arriving in

² Mason Architects, Inc. *Hawaii Statewide Reconnaissance Level Survey, Phase I*. Prepared for the State Historic Preservation Division under Professional Services Solicitation No. SHPD-FY 16-002. December 19, 2016. Pp. 7-8.

³ Ibid.

large numbers from China, Japan, South Pacific islands, Portugal and Portuguese territories, Spain, and Korea, and later the Philippines.⁴

By the late-nineteenth century, with the overthrow of the Monarchy, Waikīkī's population and land use began to shift. Former Japanese and Chinese sugar plantation workers began establishing farms in Waikīkī, growing rice, and raising ducks in the wetland, plus planting other crops. The wealthy elite, mostly enriched by sugar, shipping, or banking businesses, began to purchase property along the shoreline to build elaborate mansions, often second homes for recreational purposes. Small hotel accommodations were also created for well-heeled visitors.

With ensuing urbanization, drainage problems began. As roads were built, runoff was blocked. A drainage system, which diverted surface waters from Punchbowl-Makiki areas into Waikīkī, caused more problems. In 1906, a report issued by the president of the Hawai'i Territorial Board of Health, Lucius E. Pinkham,⁵ proclaimed the need for a canal. Titled "Reclamation of the Waikīkī District," the report cited the Territory's responsibility to improve low-lying and poorly drained land near Waikīkī that was thought to be a detriment to public health. Much of this land, as well as adjacent low-lying property that would receive dredged fill, was acquired by the Dillingham Co. in 1912.⁶ Pinkham served as the fourth Territorial Governor of Hawai'i from 1913 to 1918. During his tenure as governor, the legislature passed measures to authorize the condemnation and purchase of the land necessary for the drainage canal.

Hawaiian Dredging Co., under Walter F. Dillingham, received the contract for the construction of the canal. Dredging began in October of 1921. Canal construction advanced methodically once the dredge *Kewalo* began operations at the edge of the reef between Ala Moana and Waikīkī. On January 30, 1922, dredging began. The canal's original 60 foot width was widened to 150 feet and deepened. It was finally widened to 250 feet, to provide additional dredge material to fill adjacent low areas within Dillingham's McCully tract. In early August of 1927, the unlined canal with natural banks was complete. (The portion of the canal at the Diamond Head end that was part of Pinkham's original proposal was not built, however.)

The newly drained and filled land of Waikīkī yielded over 600 acres of valuable real estate for housing developments and tourist accommodations that became vital to O'ahu.⁷ The canal

⁴ Ibid.

⁵ Pinkham had arrived in Hawai'i in 1891 and was employed for the next three years by the O'ahu Railway and Land Co., a Dillingham Company subsidiary. In 1898, after a five-year hiatus on the mainland, he returned to Hawai'i to work again for Dillingham interests as manager of their Pacific Hardware Co., before receiving an appointment as president of the Board of Health in 1904. Pinkham died in November 1922, about one year after the Dillingham subsidiary Hawaiian Dredging Co. had begun work on its contract to excavate the canal.

⁶ Dee Ruzicka, "Back of the Beach, Assessing Waikīkī's Historic Properties." UH Mānoa, Thesis for Master of Arts Degree. 1999. p. 19-21. H. Brett Melendy, *Walter Francis Dillingham, 1875-1963, Hawaiian Entrepreneur and Statesman*. (Lewiston, NY: Edwin Mellon Press). 1996. p. 32. Erica Steele, "The Ala Wai Canal, National Register of Historic Placed Registration Form. 1992. p. 8-5. Don Hibbard and David Franzen, *The View From Diamond Head, Royal Residence to Urban Resort*. (Honolulu: Editions Limited). 1986. p. 90-91.

⁷ "Big Suction Dredge Now Digging Through Ala Moana," *Honolulu Star Bulletin*. October 17, 1921. p. 2. "Work Starts Soon On Big Reclamation," *Honolulu Advertiser*. September 13, 1927. p. 1. "Ala Wai Plans to Be Pushed Forward Soon," *Honolulu Star Bulletin*. April 3, 1928. p. 11. "Dredger Leaves Canal After Five Years," *Honolulu Advertiser*. August 4, 1927. p. 6.

effectively separated the now much larger Waikīkī from the Mō'ili'ili neighborhood mauka of the canal.

The canal was given its name in 1925, when the Honolulu City Planning Commission called for citizens to suggest Hawaiian names. Jennie Wilson, wife of Honolulu Mayor John H. Wilson, submitted the winning entry "Ala Wai," which means "waterway" in Hawaiian.

Soon after the canal's completion, erosion problems began; the lack of side walls lead to banks being eaten away, spurred in part by the waves of motor boats. In 1934, with limited Civil Works Administration (CWA) funds, the City & County constructed lava rock revetments for about one third of the canal's walls. With Federal Emergency Relief Act (FERA) funds later in the year, the project was completed. By the late 1940s, however, the walls were already in need of repair;

The makai walls began to break down during World War II, with the walls in many places bulging out and large rocks falling into the water. Holes appeared in the concrete cap. Following the war, small sections and then large portions of the wall crumbled. In addition, in a number of places, the ground behind the wall sank.⁸

In 1949, the City & County Public Works Department started repairs beginning at the Kapahulu end, and completed about 3,000' of the makai wall, and portions of the mauka wall before funds ran out.⁹ These repairs put "a concrete facing in front of the mortarless stone wall."¹⁰ Repair work on the makai wall resumed the next year. However, "the top of the wall was never completed," which drew complaints from the Outdoor Circle for being 'unsightly.'¹¹

In 1950, the contractor E.E. Black Ltd., undertook repair work on the section of the canal walls located between Kalakaua Avenue and Ala Moana Boulevard. This work included construction of the three foot high segmental arch balustrade extant today. (This distinctive feature is outside of the APE). This was part of a project that extended Ala Wai Boulevard into a post-war apartment neighborhood, and also included sidewalks, curbs and street lights.¹²

In 1953, the continuing need for wall repairs was finally met with funding from the legislature. W.T. Spalding, civil engineer and architect, completed plans for work between Kalakaua Bridge and the head of the canal.¹³ The project was completed by low bidder Pacific Construction Co. Ltd., in 1954, and included "repairs at several locations along the makai side" of the canal, added new rocks to the top two or three feet of wall that had eroded, cemented them in place, repaired concrete coping, and replaced earth fill behind the wall. It also included a "400-foot section of concrete liner near the Kalakaua Ave. bridge."¹⁴

⁸ Hibbard, Don. Ala Wai Canal, HAER No. HI-143. August 5, 2019.

⁹ Hibbard, Don. Ala Wai Canal, HAER No. HI-143. August 5, 2019.

¹⁰ "Ala Wai Wall Will Be Repaired, Trees Planted," *Honolulu Advertiser*. May 7, 1950. p. 30.

¹¹ "Mayor, Board Urged To Complete Ala Wai Wall," *Honolulu Advertiser*. May 27, 1951. p. 32.

¹² Hibbard, Don. Ala Wai Canal, HAER No. HI-143. August 5, 2019.

¹³ "Ala Wai Wall To Be Restored," *Honolulu Advertiser*. March 7, 1954. p. 7.

¹⁴ "Ala Wai Wall Repairs Are Progressing," *Honolulu Advertiser*, June 13, 1954. p. 27.

The Ala Wai Canal was added to the HRHP on July 17, 1992 (SIHP# 50-80-14-9757), under Criterion A for "its pivotal role in the development of the Waikīkī district."¹⁵ The canal is re-evaluated today under this study as eligible for the HRHP/NRHP under Criteria A and C to acknowledge that the mid-century wall reconstruction work added distinctly Hawaiian materials and features that would not likely be used in the construction of a new canal today. These lava rock components, which have now reached the 50-year historic "threshold," have achieved significance in their own right. See section titled Ala Wai Canal Significance and Character Defining Features for more information on the significance and features of the canal.

Development of Waikīkī's Street Grid and Subdivisions

Subdivisions that existed before the canal's completion were on higher land and located southeast of Ka'iulani Street. These included: Hamohamo (established in 1913), which was centered on Paoakalani Street; Royal Grove (established in 1915) at Lili'uokalani and Kalākaua Avenues; and 'Āinahau (established in 1919) at Lili'uokalani and Kuhio Avenues.

As the dredge Kewalo was still working on the last portions of the canal in 1927, new streets were built in Waikīkī. Curb lines for Kālaimoku Street, 'Olohana, Nāmāhana, Kuamo'o, Keoniana and Pau Streets were laid out in 1926, and the streets were paved in 1927. Those streets made up the Kalākaua Acres subdivision, which began selling lots in early 1927. The Moana Estates subdivision also began selling the same year, with its new roads laid out between Lewers Street and Seaside Avenue. Launiu Street and Kai'olu Street, between these two subdivisions, were built by 1928. In 1929, the Ala Wai Boulevard was carried through to Kapahulu and paved.

Upon completion of the canal, Waikīkī residential development burgeoned. During the late 1920s through the 1930s, Honolulu newspapers were filled with advertisements for new house lots in Waikīkī. This included the 1925-1927 subdivisions of McCarthy Tract, Kālākaua Acres, Moana Estates, and Waikīkī Acres subdivisions. Along with the growth in residential development in Waikīkī, construction of hotels and other transient vacation use buildings continued.

The area just mauka of the Ala Wai Canal was planned as park space, and much of it remains in this use today. Ala Wai Park was developed following a national pattern of increased planning and construction of urban parks and playgrounds in the early 20th century. This initiative evolved with the belief that parks and playgrounds could be places of social reform, capable of sheltering impressionable youth (typically immigrants) from an often harsh existence. Most large cities established a playgrounds and parks division within their municipal government by the early 1900s. Honolulu followed suit with its 1922 Recreation Commission, which opened nine playgrounds in the city. In 1931 the Honolulu Park Board was created, which was able to secure Federal assistance that was available after 1933. This provided manpower, rather than funding, for construction in the form of Federal Emergency Relief Administration (FERA) and Civil Works Administration (CWA) workers. After the Ala Wai Park and Clubhouse were constructed, the

¹⁵ Erica Steele, "The Ala Wai Canal, National Register of Historic Places Registration Form." Washington DC: National Park Service, US Department of the Interior. 1992. p. 3.

Works Progress Administration (WPA) and National Youth Administration (NYA) provided assistance to the city with playground directors and staff at the newly created parks.¹⁶

Work constructing the Ala Wai Park and Clubhouse was begun ca. 1935. The **Ala Wai Clubhouse**, designed by architect Harry Sims Bent, is sited on the northwest corner of the park, which was the first portion of park land to be developed and landscaped. Bent arrived in Honolulu ca. 1925 as a construction supervisor for Bertram Goodhue and Associates to oversee the building of the Honolulu Academy of Arts Building on Beretania Street. He was hired by the City and County of Honolulu in 1933 to design several city parks (Ala Moana Park, Hale'iwa Beach Park, Mother Waldron Playground, Kawānanakoa Playground, and the Ala Wai Clubhouse at Ala Wai Community Park).¹⁷

The Clubhouse was designed for use by Honolulu's rowing clubs and was completed in late 1936 along with the adjacent park landscaping.¹⁸ The **Ala Wai Clubhouse** was added to the Hawai'i Register under Criterion A on June 9, 1988 as part of the Art Deco Parks Thematic Nomination (SIHP# 50-80-14-1388). It is significant for its associations with the development of the City and County of Honolulu's parks in the 1930s, and for its association with the sport of canoeing. Although the original landscaped portion of the Ala Wai Park was approximately 3.5 acre grounds of the Ala Wai Clubhouse, the park lands extended all the way to the Mānoa-Palolo Drainage canal.¹⁹ The remainder of park lands would not be improved for years.

With the push to develop Waikīkī into a more residential area, in the late 1930s, Honolulu city planners envisioned Mō'ili'ili as a hotel-apartment district.²⁰ Initial planning called for a district comprised of two- to three-story walk-up apartment buildings to take the place of the single-family residential houses that had existed in the area prior to that time.

By 1940, many of Waikīkī's streets were lined with single-family residences. A few of these are still extant today within the study area, along Ala Wai Boulevard, between Lewers and Kaiolu Streets. For example, the residence at **2169 Ala Wai Boulevard** was originally built in 1925, although it has undergone recent extensive alterations (dating to 2017) that removed all traces of its original form.²¹ It is not eligible for the HRHP/NRHP. The adjacent two residences at **2167 Ala Wai Boulevard** (one two-family residence at the front, and one single-family residence at the rear) were built in 1934; significant alterations have changed the front residence (rear building was not visible at time of survey). Neither building is eligible for the Hawai'i or National Register of Historic Places.

The parcel at **2107 Ala Wai Boulevard** contains two buildings. The single-family residence built in 1937 is evaluated as eligible for the HRHP/NRHP under Criterion A as one of the few remaining examples of Waikīkī's pre-war single-family residential development period, and under

¹⁶ Don Hibbard, "City & County of Honolulu Art Deco Parks and Playgrounds, National Register of Historic Places Registration Forms." 1988.

¹⁷ Don Hibbard, "Ala Wai Park Clubhouse" and "City & County of Honolulu Art Deco Parks and Playgrounds, National Register of Historic Places Registration Forms." 1988.

¹⁸ "Notice of Completion of Contract, Clubhouse," *Honolulu Advertiser*. January 7, 1937. p. 10.

¹⁹ Honolulu City Planning Commission, "Map of the City of Honolulu Showing Existing Zoning." January 1941.

²⁰ Laura Ruby, *Mō'ili'ili: The Life of a Community* (Honolulu: Mō'ili'ili Community Center, 2005).

²¹ Year built and renovation dates are from C&C Honolulu Real Property Assessment Division.

Criterion C for its distinctive wood-frame, board and batten construction. At the rear of the lot is a small, three-story apartment building in a simple, modern style that was constructed in 1960. A 1959 newspaper article reporting on record construction in Honolulu that month described the building as a "\$24,750 duplex."²² As a duplex from this period, it is associated with Waikīkī's early residential history, however it lacks architectural distinction, and its integrity of feeling and association are compromised. This building has been evaluated as not eligible for the HRHP/NRHP.

The properties at **441-445 Kālainmoku Street** have buildings with similar construction dates. At 441-443 is a 1941 two-story duplex. Its design, with a cantilevered second story balcony across the façade, is a nod to the Monterey Revival style, albeit with an Asian-influenced motif balustrade. It is evaluated as eligible for the HRHP/NRHP under Criterion A as one of the few remaining examples of Waikīkī's war-era duplex residential development period. This once ubiquitous type that was a defining element of residential Waikīkī is now extremely rare.

At **445 Kālainmoku Street** is the Waikīkī Palms, a reinforced concrete sixteen-unit apartment building credited to Richard N. Dennis and Frank Slavsky, AIA architects, along with designer Harold Whitaker.²³ Completed in 1959, its design was praised in newspaper articles; "the building's façade features an unusually handsome combination of wood and concrete...Wooden railing with solid color panels and dark-stained vertical members form an interesting geometrical pattern on the façade."²⁴ The distinctive railing, a dominant design feature of the original façade, has been removed and replaced with a standard safety rail. Despite the apartment's bold original design, it is evaluated as not eligible for the HRHP/NRHP due to a lack of integrity.

The neighborhood character of Waikīkī, comprised of single-family houses and duplexes, persisted through the 1950s, until taller buildings came into prominence. The post-World War II period in Honolulu saw rising real estate prices after the privations and austerity of war. Small apartment buildings were a sound investment at the time, due to a combination of a housing shortage, high land prices, and restricted availability of materials to build larger apartments.²⁵

One extant example of a small apartment building is at **2153 Ala Wai Boulevard**. Originally called Nani Nana apartments when built in 1949, this three-story, eight-unit building was constructed of tile and concrete by Pacific Construction Co., Ltd. Its design, by architects Cyril W. Lemmon and Douglas Freeth, included a third-floor terrace and a two-car garage.²⁶ The building has modern, International Style characteristics including a flat roof, thin cantilevered canopies, smooth concrete surfaces, and the exclusion of ornament. Lemmon and Freeth were two of the founders of AHL Hawai'i's predecessor firm Lemmon, Freeth & Haines. Despite some inappropriate remodeling, such as the added stair railing extension and garage doors with lattice, it is evaluated as eligible under Criteria A and C for the HRHP/NRHP as a small mid-century apartment building in Waikīkī, with a distinctive International Style design.

²² "Building in May Tops \$10 Million," *Honolulu Advertiser*, May 31, 1959. P. B7.

²³ "Waikiki Palms Apartment Open to Visitors Tomorrow," *Honolulu Star-Bulletin*. August 9, 1958. p. 30.

²⁴ "Waikiki Palms Model Apartment Open Today," *Honolulu Advertiser*. August 10, 1958. p. 22.

²⁵ Ruzicka, "Back of the Beach." p. 38.

²⁶ "Apartment Building Permit Issued," *Honolulu Star-Bulletin*. February 21, 1948. p. 28.

Minimal improvements were made to Ala Wai Park by the 1940s; fill was brought in, sprinklers installed, and a baseball field was established. In keeping with its practice of taking over public parks during the war, the Army established Base Yard 101 in a segment of the park, constructing numerous wood and corrugated iron temporary buildings. Once the war ended, the Army restored its portion of the park, and the War Assets Administration sold off the buildings to the public.²⁷

O'ahu's land prices and demand for housing continued to increase throughout the 1950s, but building materials became much easier to obtain. High-rise apartment building construction in Waikīkī began as O'ahu's population exploded, increasing forty-one percent during that decade. In 1955, Waikīkī's (and Hawai'i's) first high-rise cooperative apartment was built, the **Rosalei, at 445 Kaiolu Street**, designed by Earl W. Morrison and Donald N. McDonald.²⁸ The 12-story Rosalei is evaluated as eligible for the HRHP/NRHP under Criteria A and C as Hawai'i's first high-rise cooperative apartment,²⁹ and as one of the earlier expressions in Hawai'i of the Modernism movement.

Construction across the Ala Wai Canal, in Mō'ili'ili, kept up with, and even outpaced, the Waikīkī building boom for a time. With the influx of former service members taking advantage of the GI Bill to attend nearby University of Hawai'i, and the construction of the "mauka arterial" (now H-1 freeway) in the early 1950s, Mō'ili'ili's population grew by 40 percent between 1950 and 1960.³⁰

With a rising population of residents and visitors, additional community buildings were needed in the area. The **Waikīkī-Kapahulu Library**, designed by the noted architectural firm Lemmon, Freeth, Haines (today's AHL), was completed in 1952 at the east end of the Ala Wai Canal, along Kapahulu Avenue. Previously, the only library in the area was a small cottage that provided books to schoolchildren. The library was the firm's first public building, yet it was designed in a somewhat residential character. In his book *Buildings of Hawaii*, Don Hibbard wrote, "The Waikīkī-Kapahulu Library is a quintessential 1950s Hawaiian-style modern building. Modern in its lines, but Hawaiian in heart, the single-story L-shaped library bears a residential quality, with its gently pitched, gabled roof and grand expanse of windows. The intimate walled garden space, the cast-stone masonry screen's depictions of outrigger canoes and ocean motifs, and the extension of the mauka roofline to shelter an independent walkway in a lanai-like manner, further contribute to a delightful celebration of Hawaii's culture and lifestyle."³¹ It is evaluated as eligible for the HRHP/NRHP under Criterion C for its distinctive design.

As part of a Territory-wide push for new schools in the Post-war baby-boom era, **Ala Wai Elementary School** was planned in the early 1950s. Land for the school was split off from the Ala Wai Park in 1953. By this time, park improvements were still being considered but had not

²⁷ "Emergency Location Clearance," *Honolulu Advertiser*, October 25, 1947. p. 7.

²⁸ Mason Architects, Inc. *Photo Essay of 1950s Buildings in Waikīkī and Honolulu*. Honolulu: 2100 Kalākaua Avenue. 2004. pp. 38-39.

²⁹ Two other successive 12-story hotel buildings in Waikiki that year, Princess Kaiulani Hotel, and the Biltmore Hotels, made the same claim as tallest building in Hawai'i.

³⁰ Fung Associates, Inc., Architectural Inventory Survey: Hawai'i Public Housing Authority (Honolulu: prepared for HHF Planners, May 2015).

³¹ Don Hibbard, *Buildings of Hawai'i*. Charlottesville: University of Virginia Press, 2011.

been made. A portion at the park's center was described as "an undeveloped strip of park property, mauka of the canal, extending from the golf course to Kalakaua Avenue. On the 500 foot wide strip are the Ala Wai clubhouse and a baseball field."³² The undeveloped land was a logical site for a badly needed school.

Plans for the school were drawn up by architect C.F. Wagner.³³ Designed for about 300 pupils, the students were temporarily taught in Kaimuki High School buildings while they awaited completion of the new, 12-classroom school. The school was finished in 1954.³⁴ The following year, the school embarked on a second phase of development, adding a few more buildings.

The **Ala Wai Elementary School** is evaluated as eligible for the HRHP/NRHP. It is significant under Criteria A as one of the public elementary schools designed in the mid-20th century, which was developed in response to the baby-boom generation's education needs as they reached school age. Both nationally and locally, school districts faced with exploding enrollments looked to innovative architectural designs for any new construction. The new schools avoided earlier classical or gothic styles in favor of one-story buildings with multiple, elongated wings that afforded each classroom a large expanse of windows. This school's finger-plan campus layout with building wings joined by open walkways was extremely popular in the United States from about the late 1950s through the 1960s. Each classroom could have fresh air, natural light, and, as in Hawai'i, direct access outside via exterior doors.³⁵ At Ala Wai Elementary School, the roofs on the original classroom buildings are hipped, rather than flat, which may reflect a relatively early construction date for a finger-plan school. Hawai'i's finger-plan schools built in the later 1950s and 1960s likely relied on a flat roof form, in keeping with modern design and budgetary constraints, although more research and context would be needed to confirm that.

New roads and bridges were also required to support the rising population. The portion of University Avenue from King Street to Kapi 'olani Boulevard was constructed in 1957, allowing greater access to University of Hawai'i in Mānoa. The influx of both tourists and residents in Waikiki called for additional access onto the peninsula. The **McCully Street Bridge-Ala Wai Canal** was built in 1959, replacing an earlier timber-deck bridge that was built in 1922. The McCully Street Bridge-Ala Wai Canal is evaluated as eligible for the HRHP/NRHP under Criteria A and C. This accords with the findings in the *Hawai'i State Historic Bridge Inventory* (2014), which evaluated the bridge as eligible under Criteria A and C. Under Criterion A it was evaluated as eligible for its contribution to the economic development of Honolulu and Waikiki by providing reliable vehicular access at the time, and as part of the 1954 Bennet-Maier Plan for Waikiki Re-Development. Prior to this bridge's construction, this site was considered the most dangerous intersection in the City & County of Honolulu, in terms of traffic accidents. Eligibility under Criterion C was assigned as an example of the work of William R. Bartels, Chief Engineer

³² "Parks Board Anxious to See Ala Wai Canal Beautified," *Honolulu Star-Bulletin*, April 5, 1952. p. 19.

³³ *Honolulu Advertiser*, May 3, 1954. p. 2.

³⁴ "Land Assigned to School Use," *Honolulu Advertiser*. July 12, 1953. p. 1. "New Schools for Honolulu," *Honolulu Advertiser*. May 3, 1954. p. 2.

³⁵ Lindsay Baker, *A History of School Design and its Indoor Environmental Standards, 1900 to Today*. (Washington DC: National Clearinghouse for Educational Facilities). January 2012. p. 10-12. SWCA Environmental Consultants, Los Angeles Unified School District Design Guidelines and Treatment Approaches for Historic Schools. (Los Angeles: Los Angeles Unified School District Office of Environmental Health and Safety). January 2015. p. 46.

for the Territorial Highway Department, whose body of work is hailed for its engineering and aesthetics.

Upon attaining statehood in 1959, O'ahu's population continued to expand, increasing twenty-six percent during the 1960s. A 1960 Honolulu Rent Control Commission report stated, "Housing must be built for almost 6,400 middle-income households on Oahu during the next 27 months..."³⁶ Population increase, slum clearance, and housing demolition programs all contributed to the housing shortage in the early 1960s. Additionally, the commission pointed out that another 19,000 families occupied dilapidated or badly overcrowded quarters. Despite the construction boom happening at the time, there still existed a growing gap between available housing units and the expanding population. Additionally, as tourists poured into the state from the mainland after the advent of jet travel, the resident population also expanded. Jet access to Hawai'i and Statehood stimulated development and more tourism. Statehood improved the availability of capital market financing, allowing developers to build larger buildings for both residents and tourists.³⁷ As the economy grew and land prices went up, it became less viable to maintain a low-rise residential building when a profit could be made developing a high-rise apartment building. Early on, the proliferation of high-rises was perceived as a problem for Honolulu.

In Waikīkī during the early 1960s, zoning requirements allowed a building to have a maximum total floor area of five times the footprint of the lot. This, combined with building setbacks, were used to keep building heights low.³⁸ However, variances were obtained, and the number of high-rise buildings grew. In 1964, the Hawai'i State Legislature passed Act 8 to aid in the financing of condominiums. The law allowed developers to pre-sell condominium units and give the owners a deed. By the mid-1960s, high rises were common in Waikīkī, and by the end of that decade, they began to crowd out single-family residences and walk-up apartments.

In 1965, the 10-story, Waikiki Holiday Apartments was built at **450 Lewers Street**. The building was developed by a family hui headed by John Y.T. Wong, and was valued at more than \$1 million with 82 rental units.³⁹ Later called as the Waikiki Holiday Hotel, Coconut Plaza Hotel, and now known as the Aston Coconut Plaza, it is evaluated as not eligible for the HRHP/NRHP. While it is associated with an era of extensive high rise development in Waikīkī, it does not exhibit any architecturally distinctive qualities that transcends the ordinary, nor does it have any notable associations with important persons or events.

The 4-story, eighteen-unit **Ala Wai Hale Apartments at 2067 Ala Wai Boulevard** was built in 1966 for \$150,000.⁴⁰ The construction of small-scale apartments like this one was starting to wane in Waikīkī by this time, as high rises were already proliferating. While it is associated with an era of extensive development in Waikīkī, and was referred to as having "an eye-catching

³⁶ "Extension of Rent Control Asked," *Honolulu Advertiser*, December 1, 1960. p. A-6.

³⁷ Ross Wayland Stevenson, "The Importance of Planning to Waikīkī: A History and Analysis." Dissertation submitted in partial fulfillment of the degree of Doctor of Philosophy in Urban and Regional Planning. University of Hawai'i at Mānoa. May 2008. p. 26.

³⁸ Forrest Black, "City to Regulate Height, Bulk of Hotels, Apartments." *Honolulu Star Bulletin*. June 28, 1961. p. 36.

³⁹ "New Construction Changing Skyline Along the Ala Wai," *Honolulu Advertiser*. March 19, 1965. p. A-10.

⁴⁰ "Things Looking Up Along the Ala Wai," *Honolulu Advertiser*. June 16, 1966. p. E8.

design,"⁴¹ it does not exhibit sufficiently distinctive qualities, nor does it have notable associations with important persons or events, for listing on the HRHP/NRHP.

In 1967, the 19-story leasehold condominium **Twin Towers at 2085 Ala Wai Boulevard** apartment building was built. Designed by Hawaii born architect Takashi Anbe, AIA, and built by Charles I. Otsuka, general contractor, its developer, Kalakaua Land Development Inc., said the building "pioneers a new concept of privacy and noise control for medium-priced apartments...every apartment is a corner apartment."⁴² It is evaluated as not eligible for the HRHP/NRHP. While the property has a well-rendered design, it does not exhibit such architecturally distinctive qualities to transcend the ordinary, nor does it have any notable associations with important persons or events.

Just mauka of the Ala Wai Elementary School, the 10-story **Ala Wai Cove** (509 University Avenue) was built in 1961. Originally called Park Terrace, the condominium building was designed by Anderson, Kubala & Associates, Architects and Engineers, with 77 rental units.⁴³ It was referred to at the time of its completion as "one of the few high rise apartments for rent in Honolulu."⁴⁴ While it is one of the earlier tall buildings completed in Mō'ili'ili, and is the work of a noted local firm, it does not exhibit any architecturally distinctive qualities that transcend the ordinary, nor does it have any notable associations with important persons or events. It is evaluated as not eligible for the HRHP/NRHP.

The Ala Wai Park's **south comfort station** was constructed in 1960.⁴⁵ It is evaluated as eligible for the HRHP/NRHP under Criterion C for its architecturally distinctive design and materials, including its wood shake roof and distinctive decorative ridge beam. The *Hawai'i Modernism Context Study* explains that in the post-war period, the City and County of Honolulu built many new structures within its parks and playgrounds, some designed by notable architects. "Many were utilitarian, hollow tile structures with gable roofs. Others were distinctly modern in character, while some assumed the more romantic, rustic appearance traditionally associated with parks buildings throughout the United States thanks to the design policies set forth by the National Park Service."⁴⁶ Designed by Tom Litaker and Louis Pursel, the facility within the Ala Wai Neighborhood Park exhibits a distinctive design with rustic materials, including lava rock columns, wood roof shakes, and a copper-clad decorative ridge beam. The layout includes a restroom and pavilion under a shared roof.

The north comfort station within the Ala Wai Community Park was built later, ca. 1969, and its designer is not known. While its layout is similar to the south comfort station, it does not exhibit the same distinctive materials. Therefore, it is evaluated as not eligible for the HRHP/NRHP.

⁴¹ Ibid.

⁴² "Groundbreaking Set for Towers," *Honolulu Advertiser*. April 16, 1966. p. A-13.

⁴³ "Park Terrace Apartments to Have 77 Rental Units," *Honolulu Star-Bulletin*. December 11, 1960. p. 27.

⁴⁴ "Park Terrace Apartment Open," *Honolulu Advertiser*. December 11, 1960. P. B2.

⁴⁵ Fung and Associates, Inc. *Hawai'i Modernism Context Study* prepared for the Historic Hawai'i Foundation. November, 2011. p. 4-113 to 4-114.

⁴⁶ Fung and Associates, Inc. *Hawai'i Modernism Context Study* prepared for the Historic Hawai'i Foundation. November, 2011. p. 4-113 to 4-114.

Several facilities were added to the Ala Wai Park after this time. The ballfield dugouts, stands, and announcer booth are less than 50 years old. Distinctive playground equipment installed within the area known today as the Ala Wai Neighborhood Park was custom-designed by Lou Pursel and Thomas Litaker, AIA, ca. 1964.⁴⁷ It was removed at an unknown time, and replaced with modern equipment. Existing green and recreational space at both the north and south ends of the park were removed to make way for additional parking, and the ballfield lighting at the north side was installed in 1976. The park trail was completed in 1990. Ca. 1992, the park began being referred to as Ala Wai Community Park (north) and Ala Wai Neighborhood Park (south). Both the **Ala Wai Community Park** and **Ala Wai Neighborhood Park** are evaluated as not eligible for the HRHP/NRHP.

Population on Oahu continued to expand through the 1970s. In addition to the high-rise apartment construction on the mauka side of the canal during these decades, the Waikīkī side also had numerous high-rise buildings constructed. In the 1970s, high rises were built as zoning allowed, a trend that continued in Waikīkī, Mō'ili'ili, and McCully as the urban Honolulu population increased. During the early 1970s, while the Honolulu City Planning Commission established height limits for buildings on Diamond Head to preserve view planes, building heights in Waikīkī soared.⁴⁸

In 1972 the **Hale Moani at 2115 Ala Wai Boulevard** was built. It was evaluated as not eligible for the HRHP/NRHP. It does not meet the exceptional importance threshold under National Register Criteria Consideration G. Further, properties less than 50 years in age are not eligible for listing on the HRHP. It should be re-evaluated when it reaches 50 years.

Ca. 1976, the 41-story condominium high rise at **2121 Ala Wai** was completed. It was evaluated as not eligible for the HRHP/NRHP. It does not meet the exceptional importance threshold under National Register Criteria Consideration G. Further, properties less than 50 years in age are not eligible for listing on the HRHP. It should be re-evaluated when it reaches 50 years.

With continued construction and growth, additional roadways were required. About 1970, University Avenue was extended south from Kapi 'olani Boulevard to Ala Wai Elementary School. This improvement project occurred in conjunction with the construction of a large condominium apartment, the **Ala Wai Plaza** (1970). This building is evaluated as eligible for the HRHP/NRHP under Criterion C for its distinctive design by internationally acclaimed Argentine architect César Pelli (1926-2019), who at the time was working for the Honolulu office of Dennis Mann Johnson Mendenhall (DMJM). The design of this 25-story building includes a distinctive glass vertical circulation tower. According to the *Hawai'i Modernism Context Study*, numerous ordinary high-rise condominiums were built in the first ten years of the 1964 law, but the Ala Wai Plaza is one of the rare examples of the period whose design "transcend(s) the ordinary".⁴⁹

High rises crowded out low-rise buildings in Waikīkī. By the mid-1980s virtually all the area's residents lived in high rises. Almost three-quarters of Waikīkī's apartments were in buildings with

⁴⁷ "'Dragon' In The Park." *Honolulu Advertiser*. January 26, 1964. p. 81.

⁴⁸ Harold Hostetler, "Hearing Set on Diamond Head Building Height Limits." *Honolulu Star-Bulletin*. May 16, 1971. p. B-1.

⁴⁹ Fung and Associates, Inc. *Hawai'i Modernism Context Study* prepared for the Historic Hawai'i Foundation. November 2011. p. 4-113 to 4-114 & p. 4-32.

fifty or more units. Although it remains a significant residential neighborhood (albeit vertically-oriented), it is overshadowed by its status as Hawai'i's primary tourist destination.⁵⁰

The single-family residence at **2163 Ala Wai Boulevard** was built in 1988. Later construction in Waikiki included the 2009 44-unit apartment **Ala Wai Garden Plaza at 2055 Ala Wai Boulevard** that was built on five small TMK lots. Both of these less than 50-year old properties are evaluated as not eligible for the HRHP/NRHP. Neither property meets the exceptional importance threshold under National Register Criteria Consideration G. Further, properties that are less than 50 years in age are not eligible for listing on the HRHP.

Another significant feature (although not architectural) located within the study area is the ***Malia***, a Hawaiian koa canoe built in 1933. Listed on the HRHP/NRHP in 1993 under Criteria A and C, it is currently housed within the Ala Wai Community Park. This 40'-long racing canoe was carved by James Takeo Yamasaki out of a single koa log. The *Malia* has made an important contribution to the Hawaiian State Sport of canoe racing by its participation in countless events. It also served as the prototype for an entire class of fiberglass racing canoes that have been in use since the early 1960s.⁵¹ The *Malia* is owned by the Waikiki Surf Club and is stored in their facility, **University Halau**, which was built in 1988. Despite the important canoe housed within, the halau is evaluated as not eligible because it is less than 50 years in age and does not meet exceptional importance criteria. It is important to note however that this or a similar waterfront location is important to retain the historic integrity of the canoe itself. Per the NR Bulletin 20, "in rare vessels, integrity of setting [is retained] if the craft is associated with the water by means of a waterfront location."⁵²

⁵⁰ Don Hibbard and David Franzen, *View from Diamond Head, Royal Residence to Urban Resort*. Honolulu: Editions Limited. 1986. p. 149.

⁵¹ Dorian Travers, "Hawaiian Canoe Malia, National Register of Historic Places Registration Form." 1993.

⁵² James P. Delgado and A National Park Service Maritime Task Force. "National Register Bulletin 20, Nominating Historic Vessels and Shipwrecks to the National Register of Historic Places." U.S. Department of the Interior, National Park Service, Interagency Resources Division, 1987.

NRHP Criteria for Evaluation

The 30 resources identified within the study area were evaluated for Hawai'i State and National Register of Historic Places significance using the Hawai'i and National Register Guidelines evaluation criteria. The sections to follow are excerpts of National Park Service's (NPS) National Register Bulletin 15, which explains how the National Register Criteria are applied. To follow are the Hawai'i Register of Historic Places Criteria.

In order for the properties evaluated as eligible within this study to be listed on the HRHP/NRHP, they would require additional research, the development of a National Register nomination form, and successful review by the Historic Places Review Board (and National Park Service, for NRHP listing).

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess 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.

To meet the National Register Criteria for Evaluation, a property, in addition to possessing significance within a historic context, must retain integrity. Integrity is the ability of a property to convey its significance through the retention of essential physical characteristics from its period of significance. National Register Bulletin 15 explains the following seven aspects of integrity:

Location is the place where the historic property was constructed or the place where the historic event occurred.

Design is the combination of elements that create the form, plan, space, structure, and style of a property.

Setting is the physical environment of a historic property.

Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.

Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.

Feeling is a property's expression of the aesthetic or historic sense of a particular period of time.

Association is the direct link between an important historic event or person and a historic property.

HRHP Criteria for Evaluation

Hawaii Administrative Rules (HAR) Section §13-275-6, Evaluation of Significance, explains that “to be significant, a historic property shall possess integrity of location, design, setting, materials, workmanship, feeling, and association and shall meet one or more of the following criterion:”

- 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 significant persons 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 distinguishable entity whose components may lack individual distinction; or
- d. That have yielded or may be likely to yield, information important in history or prehistory;
- e. Has an important value to the native Hawaiian people or to another ethnic group or the state due to association 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 (similar traditional cultural significance for NRHP)

The main difference between Hawaii State Criteria and National Register Criteria is Hawaii has one additional criteria; Criterion e.

Identification of Historic Properties

The Historical Overview section provided historical and contextual information that supported the development of significance evaluations. These are presented in Table 1: Identification of Historic Properties, on page 22. As shown in this table, of a total of 30 resources surveyed, 12 were identified as historic properties. The locations of the 30 properties surveyed are shown on the maps in Figures 3, 4, and 5.

Features of the landscape such as the Ala Wai Community Garden and various view planes that are situated within the project area were not included in the survey because they are not permanent or traditionally considered built architectural structures. The landscape or environment of the survey area is loosely addressed in the discussion of integrity, as it relates to setting and feeling. Further, specific view planes are addressed in a separate Visual Analysis report, produced for the EA.

Ala Wai Canal Significance and Character Defining Features

Of the 30 historic resources identified in Table 1, the Ala Wai Canal is most prominent and integral to the proposed bridge project. Accordingly, to follow is an in-depth discussion on the canal's significance and character defining features.

Significance

Criterion A (*Properties "that are associated with events that have made a significant contribution to the broad patterns of our history"*)

The Ala Wai Canal was listed on the HRHP in 1992 under Criterion A for its association with the development of Waikīkī under the significance areas "Community Planning and Development" and "Social History," for:

Its pivotal role in the development of the Waikiki district, first as a residential neighborhood and soon after as a world renowned resort area... The structure, which the original proposer of the canal, Lucius E. Pinkham envisioned as a great lagoon to be used for boating and recreational purposes, remains in the midst of so much change, relatively unchanged, and continues to be used regularly by paddlers and fisherman.

Further the listing states,

The Ala Wai Canal provides an important aesthetic dimension to the Waikiki neighborhood with its open space and tranquil waters. While the land surrounding the Ala Wai has undergone incredible change in the last 71 years, the environment at the canal has remained relatively constant.

At the time of the 1992 nomination, the canal's concrete and lava rock walls were not yet 50 years in age, so it is likely author Erica Steele based eligibility solely on Criteria A to focus on events "that have made a significant contribution to the broad patterns of our history," rather than the physical aspects that typically express Criterion C ("embodies the distinctive characteristics of a type, period, or method of construction").

Criterion C (*Properties “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”*)

Today the canal is evaluated as eligible for both Criteria A and C. This evaluation acknowledges that the wall reconstruction work has reached the 50-year historic “threshold” and achieved significance in its own right for the distinctive characteristics of its type, period, and method of construction.

The canal meets Criterion C because it “embodies the distinctive characteristics of a type, period, or method of construction...”⁵³ To be eligible under this portion Criterion C, Bulletin 15, *How to Apply the National Register Criteria for Evaluation*, states that, “a property must clearly illustrate, through ‘distinctive characteristics,’ the following: The pattern of features common to a particular class of resources; the individuality or variation of features that occurs within the class; the evolution of that class, or; the transition between classes of resources.”⁵⁴

The canal illustrates the pattern of features common to canals and drainage ditches built on Oahu in the 20th century. Such waterways were constructed according to the traditional methods within the locality of the Territory of Hawaii. The canal reflects the use of naturally available materials and methods that are no longer typically used. This includes the canal’s original dredged construction with un-reinforced earthen banks and bottom, and later modifications that entailed lava rock walls reinforcing its makai bank, and concrete coated walls on its mauka side, and a segmental arch lava rock balustrade. This mixture of construction types conveys both the individuality of features common to this class, and “the variation of features that occurs within the transition between classes of resources.” This unique combination of distinctly Hawaiian materials and features would likely not be used in the construction of a new canal today.

Character Defining Features

The Ala Wai Canal is significant for its contributions to the development of Waikīkī as a canal that enabled the reclamation of wetlands and fishponds. The relationship with the development of Waikīkī would not have been possible without the canal.

The extant character-defining features of the Ala Wai Canal that convey its significance are a combination of physical and contextual environmental features listed below.⁵⁵

According to National Park Service Preservation Brief 17, “Architectural Character: Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving their Character” character-defining elements of a historic resource include “the overall shape..., its materials,

⁵³ The canal does not “represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction”.

⁵⁴ National Park Service, National Register Bulletin 15, *How to Apply the National Register Criteria for Evaluation*. U.S. Department of the Interior. 1990. P. 18.

⁵⁵ 36 CFR § 800.5 - Assessment of Adverse Effects (a)(1) states that, “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.” Accordingly, any assessment of adverse effects would need to consider all historic qualifying characteristics of the canal, including those associated with Criteria A and C.

craftsmanship, decorative details, interior spaces and features, as well as the various aspects of its site and environment.”

The Ala Wai Canal is a relatively simple structure from both a physical and functional standpoint (it has no locks, sluice gates, footbridges, or other features). Its physical presence within the landscape is for the most part at or below grade, largely hidden from view.

Today, the Ala Wai Canal is a body of water recognized as a “respite of open space, tranquility and beauty,”⁵⁶ which, together with the Ala Wai Boulevard, “offer further spatial releases from the high density of Waikīkī’s commercial strip.”

The most noticeable characteristics from a distance are; 1) the broad body of water channeled within it, and, 2) the open space above and around it. The virtually flat elevation of the canal and its adjacent embankments are well in keeping with the 25’ height limit (Land Use Ordinance Chapter 21-9.40), and the recommendations of the Diamond Head Special District Design Guidelines imposed upon the canal area.

The canal is also relatively short in length. The entire length of the canal segment found within the APE is visible as one continuous, uninterrupted view plane. This uninterrupted view plane is visible from numerous vantage points, such as along the Ala Wai promenade, from the McCully Street Bridge and the Waikīkī-Kapahulu Library property.

Physical Character Defining Features of the Canal within the APE include:

- Flat/below grade elevation
 - The engineering required for the canal to function results in a virtually flat or below grade elevation when viewed from the adjacent open spaces, promenade, streets, and bridges;
- Lava rock and concrete sidewalls.
 - Lava rock walls reinforce the makai bank and concrete revetments and prevent the erosion of the mauka bank;
- Stairwells.
 - Stairwells located along the makai bank provide access from the promenade to the water;
- Canal bottom and depth.
 - Mixed concrete-lined and unlined canal bed of variable depth;
- Canal width.
 - Canal width varies with the widest portion reaching 250 feet;
- Canal length.
 - Canal is roughly 2 miles long;
- Rectilinear footprint/alignment within the APE. (It bends outside the APE between McCully Bridge and Kalakaua Avenue)
- Functionality.

⁵⁶ Don Hibbard and David Franzen, *View from Diamond Head, Royal Residence to Urban Resort*. Honolulu: Editions Limited. 1986.

- Capacity to function as an open waterway that channels rainwater into the ocean while providing a recreational open space for the public.

Contextual and Environmental Character Defining Features of the canal within the APE include:

- Continuous, uninterrupted open space and view planes across and along the waterway.
 - Open waterway that easily conveys significance as a canal with no visual obstructions, while providing an undisturbed open space recreational area.
 - Affords prominent public views of the rear slopes of the Diamond Head State Monument, the Ko'olau mountain range, and Punchbowl, from select vantage points.
 - Views of Diamond Head from Ala Wai Boulevard are identified as "significant views" in the Waikiki Special District Design Guidelines (2002).
- Low-scale buffers and open space along each bank.
 - Adjacent on its mauka side, as a low-scale buffer from residential towers, are open grassy areas of the Ala Wai parks, sports fields, and one-story buildings (Ala Wai Clubhouse, Ala Wai Elementary School, the boat house, comfort station, etc.)

Adjacent on its makai side, as a low-scale buffer from Waikīkī high rises, are the Ala Wai Boulevard palm-lined promenade, and the Ala Wai Boulevard roadway.





Table 1: Identification of Historic Properties			
Name/Address/TMK	Year Built	Evaluation of Significance (Applies to both 36 CFR §800.4 [c])/HAR §13-275-6) <i>Integrity Assessment*</i>	Photo
MAUKA BANK			
Ala Wai Canal No TMK	1927	Eligible. While MASON does concur with the original 1990 listing (Hawai'i Register on July 17, 1992) under Criteria A (since at that time, the walls were not yet historic) this study recommends eligibility under both Criteria A and C in recognition that the mid-20 th century wall repairs/modifications have become historic in their own right, expressing local, traditional methods used within the Territory of Hawaii in that period. <i>Retains integrity of L, D, M, W, A. Integrity of setting and feeling are partly diminished because of changes to the setting/urban environment.</i>	
McCully Street Bridge No TMK	1959	Eligible. MASON agrees with the 2014 Hawaii State Historic Bridge Inventory evaluation, which evaluated the bridge as eligible under Criteria A and C. <i>Retains integrity of L,M,W,A. Integrity of design is diminished by the 1996 addition of a large concrete utilities chase structure along the Diamond Head outboard side of the bridge. Integrity of setting and feeling are diminished by changes to the surrounding area, and addition. Despite the addition and changes, it retains sufficient integrity for listing.</i>	
Ala Wai Community Park Property 2015-2021 Kapi 'olani Blvd. [1] 2-7-036: 001, 005 Includes: <i>Malia Koa Canoe</i>	1933	Eligible. MASON concurs with the 1993 listing of the canoe on the HRHP/NRHP under Criteria A and C. <i>An integrity assessment was not made since the canoe was not accessed within the locked building at the time of fieldwork. Integrity is unknown, but is assumed intact.</i>	
Ala Wai Clubhouse (Ala Wai Recreation Center)	1936	Eligible. MASON concurs with the listing of the Clubhouse on the Hawai'i Register June 9, 1988 as part of the Art Deco Parks Thematic Nomination (SIHP# 50-80-14-1388) under Criterion A. <i>Retains integrity of L,D,M,W,A. Retains partial integrity of setting and feeling, due to changes to the property and environment.</i>	

Table 1: Identification of Historic Properties			
Name/Address/TMK	Year Built	Evaluation of Significance (Applies to both 36 CFR §800.4 [c])/HAR §13-275-6) <i>Integrity Assessment*</i>	Photo
Ala Wai Community Park	1936	Not eligible. Except for the area immediately surrounding the Clubhouse, as described in the Clubhouse nomination form, the remainder of the park does not have integrity. <i>Integrity: N/A</i>	
Ala Wai Neighborhood Park - South Comfort Station	1960	Eligible under Criterion C for its architecturally distinctive design and materials, including its lava rock columns, wood shakes, copper-clad decorative ridge beam. <i>Retains integrity of L,D,M,W,F,A. Retains partial integrity of setting, due to changes to the environment and park setting.</i>	
North Comfort Station	Ca. 1969	Not eligible. While its overall layout is similar to the south comfort station, it does not exhibit the same distinctive materials, and is not architecturally notable. <i>Integrity: N/A</i>	
Ala Wai Community Park (Continued)			
Various Ballfield Improvements	Varies; post-1970	Not eligible. Some features are less than 50 years. Others have no known historic associations with important events, people, or design. <i>Integrity: N/A</i>	
University Halau	1988	Not eligible. Does not meet the exceptional importance threshold under National Register Criteria Consideration G. Properties less than 50 years in age are not eligible for listing on the HRHP. Note: One canoe housed within is listed on the HRHP/NRHP. See table entry for <i>Malia Koa Canoe</i> . <i>Integrity: N/A</i>	
Bike Path/Trail	Ca. 1990	Not eligible. Does not meet the exceptional importance threshold under National Register Criteria Consideration G. Properties less than 50 years in age are not eligible for listing on the HRHP. <i>Integrity: N/A</i>	
Ala Wai Plaza Condominium 500 University Ave. [1] 2-7-013: 002	1970	Eligible under Criterion C for its distinctive design by internationally acclaimed Argentine architect Cesar Pelli of DMJM. <i>Retains integrity of L,D,S,M,W,F,A. Overall the primary components of this tower are largely intact.</i>	






Table 1: Identification of Historic Properties			
Name/Address/TMK	Year Built	Evaluation of Significance (Applies to both 36 CFR §800.4 [c])/HAR §13-275-6) <i>Integrity Assessment*</i>	Photo
Ala Wai Cove Condominium 509 University Ave. [1] 2-7-013: 011	1961	Not eligible. While it is one of the earlier tall buildings completed in Mō'ili'ili, and is the work of local firm Anderson & Kubala, it does not exhibit any architecturally distinctive qualities that transcend the ordinary, nor does it have any notable associations with important persons or events. <i>Integrity: N/A</i>	
Ala Wai Elementary School 503 Kamoku St. [1] 2-7-036: 007	1954	Eligible under Criteria A as one of the many mid-century elementary schools developed in the Post-war period to meet the needs of the baby boom generation. (A more pristine and intact example of a finger-plan school would likely be eligible under Criterion C as well.) <i>Retains integrity of L,D,M,W,A. Due to changes over time with the expansion of the school with new buildings, and the surrounding environment, integrity of setting and feeling are diminished.</i>	
Waikiki-Kapahulu Library 402 Kapahulu Ave. [1] 2-7-036: 006	1952	Eligible under Criterion C as a quintessential 1950s Hawaiian-style modern building, the library is the work of master architect Cyril Lemmon. <i>Retains integrity of L,M,W and F. Aspects of design, setting and association are diminished somewhat due to changes to the building and surrounding environment over time, as well as loss of some library functions (performances in the auditorium).</i>	
MAKAI BANK Entries progress westward			
Aston Coconut Plaza 450 Lewers [1] 2-6-017: 028	1966	Not eligible. While it does represent an era of extensive development in Waikiki, it does not exhibit any architecturally distinctive qualities that transcend the ordinary, nor does it have any known associations with important people or events. <i>Integrity: N/A</i>	
2169 Ala Wai Blvd. [1] 2-6-017: 034	2017	Not eligible. Does not meet the exceptional importance threshold under National Register Criteria Consideration G. Properties less than 50 years in age are not eligible for listing on the HRHP. <i>Integrity: N/A</i>	






Table 1: Identification of Historic Properties			
Name/Address/TMK	Year Built	Evaluation of Significance (Applies to both 36 CFR §800.4 [c])/HAR §13-275-6) <i>Integrity Assessment*</i>	Photo
2167 Ala Wai Blvd. [1] 2-6-017: 033	1934	Not eligible. Lacks integrity due to alterations. <i>Integrity: N/A</i>	
2163 Ala Wai Blvd. [1] 2-6-017: 025	1988	Not eligible. Does not meet the exceptional importance threshold under National Register Criteria Consideration G. Properties less than 50 years in age are not eligible for listing on the HRHP. <i>Integrity: N/A</i>	
2153 Ala Wai Blvd. [1] 2-6-017: 029	1949	Eligible under Criteria A and C as a late-International Style residential apartment in Waikiki as designed by noted architects Cyril Lemmon and Douglas Freeth (founders of today's AHL). <i>Retains integrity of L,D,M,W,F,A. Has partly diminished integrity of setting due to changes to the urban environment. The overall form, massing, and notable features such as its cantilevered concrete canopies, flat overhanging eaves, and the ladder to roof, are intact resulting in retained integrity of design, materials, and workmanship. Replaced features, such as garage door and railing extensions are easily removable, while others (such as the windows) do not conflict with the original design.</i>	
Rosalei Apartments 445 Kaiolu St. [1] 2-6-017: 004	1955	Eligible under Criteria A and C as Hawai'i's first high-rise cooperative apartment building. <i>Retains integrity of L,D,M,W,F,A. The overall tower retains its aspects of physical integrity, however its setting is diminished due to the increased urban development in Waikiki, particularly the construction of high-rises.</i>	
2121 Ala Wai Blvd. [1] 2-6-017: 003	Ca. 1976	Not eligible. Does not meet the exceptional importance threshold under National Register Criteria Consideration G. Properties less than 50 years in age are not eligible for listing on the HRHP. <i>Integrity: N/A</i>	





Table 1: Identification of Historic Properties			
Name/Address/TMK	Year Built	Evaluation of Significance (Applies to both 36 CFR §800.4 [c])/HAR §13-275-6) <i>Integrity Assessment*</i>	Photo
2115 Ala Wai Blvd. Hale Moani [1] 2-6-017: 016	1972	Not eligible. Does not meet the exceptional importance threshold under National Register Criteria Consideration G. Properties less than 50 years in age are not eligible for listing on the HRHP. Should be re-evaluated when it reaches 50 years. <i>Integrity: N/A</i>	
2107 Ala Wai Blvd. [1] 2-6-017: 023 Includes: Single family residence	1937	Eligible under Criterion A as one of the few remaining examples of Waikiki's pre-war single-family residential development period, and under Criterion C for its distinctive wood-frame, board and batten construction. <i>Retains integrity of L,D,M,W,A. Due to drastic changes in the surrounding urban environment since its 1930s-era construction, it lacks integrity of setting and feeling. Despite its poor condition and boarded up windows, its overall physical form and features easily express its historic period, notable as a striking anachronism within the urban Waikiki environment.</i>	
3-story apartment	1960	Not eligible. As a 1960 duplex, it is associated with Waikiki's early residential history, however it lacks architectural distinction, and its integrity of feeling and association are compromised. <i>Integrity: N/A</i>	
2103 Ala Wai Blvd. [1] 2-6-017: 015	No date	Not eligible. (Vacant lot) <i>Integrity: N/A</i>	

Table 1: Identification of Historic Properties			
Name/Address/TMK	Year Built	Evaluation of Significance (Applies to both 36 CFR §800.4 [c])/HAR §13-275-6) <i>Integrity Assessment*</i>	Photo
441 Kālainmoku St. [1] 2-6-017: 014 Includes: (441-443 Kālainmoku) Duplex	1941	Eligible under Criterion A as one of the few remaining examples of Waikiki's war-era development that included duplex residences. <i>Retains integrity of L,D,F,A. Partly diminished integrity of setting due to modifications in the urban environment. Partly diminished integrity of materials and workmanship due to replacement of features such as the front door and select windows. Other critical character defining features (such as the Asian-motif balustrade, and the sliding corner windows) are intact.</i>	
(445 Kālainmoku) 16-unit apartment Waikiki Palms	1959	Not eligible. Despite the apartment's bold original design, it is evaluated as not eligible for the Hawai'i and National Register due to a lack of integrity resulting from the removal of the distinctive railing that was the façade's most dominant design feature. <i>Integrity: N/A</i>	
2085 Ala Wai Blvd. Twin Towers [1] 2-6-016: 001 19-story, with 72 units in its twin towers	1967	Not eligible. While the property has a well-rendered design, it does not exhibit such architecturally distinctive qualities to transcend the ordinary, nor does it have any known associations with important people or events. <i>Integrity: N/A</i>	
2067 Ala Wai Blvd. Ala Wai Hale [1] 2-6-016: 038	1966	Not eligible. While associated with an era of extensive development in Waikiki, it does not exhibit sufficiently distinctive qualities, nor does it have notable associations with important people or events for listing on the HRHP/NRHP. <i>Integrity: N/A</i>	
2055 & 2061 Ala Wai Blvd. Ala Wai Garden Plaza 5 TMKs, [1] 2-6-016: 056 - 060	2009	Not eligible. Does not meet the exceptional importance threshold under National Register Criteria Consideration G. Properties less than 50 years in age are not eligible for listing on the HRHP. <i>Integrity: N/A</i>	

*Integrity assessments provided in the table include abbreviations of the seven aspects of integrity:

L = Location
D = Design
S = Setting
M = Materials
W = Workmanship
F = Feeling
A = Association



Figure 3: Resources evaluated near Ala Wai Community Park. Inset shows southeast end of Study Area. Source: MASON.



Figure 4: Resources evaluated on the Mauka Bank, in vicinity of project site. Source: MASON.



Figure 5: Resources evaluated on the Makai Bank, in vicinity of project site. Source: MASON.

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MASON

Evaluation of Effects on Built Historic Properties, Ala Wai Bridge Project

To: Meredith Soniat, City and County of Honolulu, Department of
Transportation Services

Date: March 11, 2021

From: Polly Tice, Mason Architects, Inc.

Re: Evaluation of Effects on Built Historic Properties, Ala Wai Bridge Project,
Honolulu District, Oahu Island, Hawaii. Contract No. SC-DTS-1900086. Federal-
Aid Project No. TAP-0300 (159).

Proposed Action

The proposed project entails construction of a new pedestrian and bicycle bridge (proposed bridge) over the Ala Wai Canal. The proposed bridge has a cable-stayed design with an asymmetrical configuration that utilizes a main pylon sited on the mauka side of the canal. The proposed width of the bridge would be approximately 20 feet to accommodate bicycle and pedestrian traffic. The proposed bridge would not physically adhere to the Ala Wai Canal walls, and no permanent structures would be installed in the canal.

On the mauka bank, it is proposed that a 180-foot high tower would support a deck that would cantilever over the Canal. The tower as currently designed would include a triangular design and would support the bridge with approximately 26 cables and 2 backstay anchors. The makai landing would sit on the Ala Wai Promenade, and incorporate a stair and an Americans with Disabilities Act (ADA) compliant ramp with a slope of 5% or less, supported by a concrete abutment roughly 12.5' tall at its highest point, 15 feet wide, and roughly 172 feet in length. The ramp would cantilever over the canal floodwall by approximately 9'-8". The mauka ramp would include planted areas. Pedestrian and bicycle improvements would be constructed between the mauka end of the bridge and University Avenue within the existing Ala Wai Neighborhood Park parking lot.

Evaluation of Effect on Historic Properties

Criteria of Adverse Effects

The criteria of adverse effects are described under Section 106 (CFR 800.5 a.) as follows:

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.

Effects to historic properties are federally defined by 36 CFR 800.5(1), Assessment of Adverse Effect 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.

Examples of 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.

HAR Chapter 13-275-7 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.

Evaluation of Effect

The proposed action was evaluated for its effects on the integrity of historic properties. *Table 1: Evaluation of Effect of Proposed Action on Historic Resources* provides the evaluations of effect for each of the resources within the study area that are either; 1) listed on the Hawaii and/or National Registers, OR 2) evaluated in this study, or previous studies, as eligible for the Hawaii or National Registers. As shown in Table 1, only two resources have a potential adverse effect evaluation under Section 106 (or “Effect, with proposed mitigation commitments” evaluation under HRS 6E-8).

Potential indirect and cumulative effects to the historic resources identified in the Area of Potential Effect (APE) were considered in this evaluation. As defined in CFR 800.5.a, such “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.” The indirect and cumulative factors considered were: 1) The separate U.S. Army Corps of Engineers (USACE) Flood Risk Management Project, with assumptions about Ala Wai Watershed flooding and sea-level rise that influence the bridge design; 2) Changes proposed for the Ala Wai Neighborhood Park (under this or a future project) to accommodate an increase in parking and traffic to the site, and; 3) An increase in the number of cyclists/pedestrians/vehicles to the Ala Wai Neighborhood Park and Waikiki Surf Club practice site en route to the bridge and Waikiki.

Effects for three historic properties of most concern, the Ala Wai Canal, the Malia canoe, and the South Comfort Station, are evaluated in detail below. See Table 1 for all evaluations of effect.

Ala Wai Canal Evaluation of Effect Assessment

Significance

The Ala Wai Canal was listed on the Hawaii Register of Historic Places in 1992 under Criterion A for its association with the development of Waikiki under the significance areas “Community Planning and Development” and “Social History,” for:

Its pivotal role in the development of the Waikiki district, first as a residential neighborhood and soon after as a world renowned resort area...The structure, which the original proposer of the canal, Lucius E. Pinkham envisioned as a great lagoon to be used for boating and recreational purposes, remains in the midst of so much change, relatively unchanged, and continues to be used regularly by paddlers and fisherman.

Further the listing states,

The Ala Wai Canal provides an important aesthetic dimension to the Waikiki neighborhood with its open space and tranquil waters. While the land surrounding the Ala Wai has undergone incredible change in the last 71 years, the environment at the canal has remained relatively constant.

At the time of the 1992 nomination, the canal’s concrete and lava rock walls were not yet 50 years in age, so it is likely nomination author Erica Steele wrote the significance evaluation based on Criteria A to focus on events “that have made a significant contribution to the broad patterns of our history,” rather than the physical aspects that typically express Criterion C

("embodies the distinctive characteristics of a type, period, or method of construction"). The canal is re-evaluated today as eligible for both Criteria A and C. This evaluation acknowledges that the wall reconstruction work that had taken place by 1950 has surpassed the 50-year historic "threshold" and achieved significance in its own right, for the distinctive characteristics of its type, period, and method of construction.

Character Defining Features

The Ala Wai Canal is significant for its contributions to the development of Waikiki. The extant character-defining features of the Ala Wai Canal that convey its significance are a combination of physical and contextual environmental features. These are listed below.¹

According to National Park Service Preservation Brief 17, "Architectural Character: Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving their Character" character-defining elements of a historic resource include "the overall shape..., its materials, craftsmanship, decorative details, interior spaces and features, as well as the various aspects of its site and environment."

The Ala Wai Canal is a relatively simple structure from both a physical and functional standpoint (it has no locks, sluice gates, footbridges, or other features). Its physical presence within the landscape is for the most part at or below grade, largely hidden from view.

Today, the Ala Wai Canal is a body of water recognized as a "respite of open space, tranquility and beauty,"² which, together with the Ala Wai Boulevard, "offer further spatial releases from the high density of Waikiki's commercial strip."

The most noticeable characteristics from a distance are; 1) the broad body of water channeled within it, and, 2) the open space above and around it. The virtually flat elevation of the canal and its adjacent embankments are well in keeping with the 25' height limit (Land Use Ordinance Chapter 21-9.40), and the recommendations of the Diamond Head Special District Design Guidelines imposed upon the canal area.

The canal is also relatively short in length. The entire length of the canal segment found within the APE is visible as one continuous, uninterrupted view plane. This uninterrupted view plane is visible from numerous vantage points, such as along the Ala Wai promenade, from the McCully Bridge and the Waikiki-Kapahulu Library property.

Physical character defining features of the Canal within the APE include:

¹ 36 CFR § 800.5 - Assessment of Adverse Effects (a)(1) states that, "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." Accordingly, today, any assessment of adverse effects would need to consider all historic qualifying characteristics of the canal, including those associated with the 'why' of Criteria A and C.

² Don Hibbard and David Franzen, *View from Diamond Head, Royal Residence to Urban Resort*. Honolulu: Editions Limited. 1986.

- Flat/below grade elevation
 - The engineering required for the canal to function results in a virtually flat or below grade elevation when viewed from the adjacent open spaces, promenade, streets, and bridges;
- Lava rock and concrete sidewalls.
 - Lava rock walls reinforce the makai bank and concrete revetments and prevent the erosion of the mauka bank;
- Stairwells.
 - Stairwells located along the makai bank provide access from the promenade to the water;
- Canal bottom and depth.
 - Mixed concrete-lined and unlined canal bed of variable depth;
- Canal width.
 - Canal width varies with the widest portion reaching 250 feet;
- Canal length.
 - Canal is roughly 2 miles long;
- Rectilinear footprint/alignment within the APE. (It bends outside the APE between McCully Bridge and Kalakaua Avenue)
- Functionality.
 - Capacity to function as an open waterway that channels rainwater into the ocean while providing a recreational open space for the public.

Contextual and environmental character defining features of the canal within the APE include:

- Continuous, uninterrupted open space and view planes across and along the waterway.
 - Open waterway that easily conveys significance as a canal with no visual obstructions, while providing an undisturbed open space recreational area.
 - Affords prominent public views of the rear slopes of the Diamond Head State Monument, the Koolau mountain range, and Punchbowl, from select vantage points.
 - Views of Diamond Head from Ala Wai Boulevard are identified as “significant views” in the Waikiki Special District Design Guidelines (2002).
- Low-scale buffers and open space along each bank.
 - Adjacent on its mauka side, as a low-scale buffer from residential towers, are open grassy areas of the Ala Wai parks, sports fields, and one-story buildings (Ala Wai Clubhouse, Ala Wai Elementary School, the boat house, comfort station, etc.)
 - Adjacent on its makai side, as a low-scale buffer from Waikiki high rises, are the Ala Wai Boulevard palm-lined promenade, and the Ala Wai Boulevard roadway.

Effect Assessment

The characteristics that qualify the canal for listing in the Hawaii Register are listed above, and the integrity discussion follows.

Location

Location is the “place where the historic property was constructed.” The proposed project would not diminish the presence of the Ala Wai Canal in its original location. As such, the proposed project would retain the canal’s integrity of location.

Design

Design is the “combination of elements that create the form, plan, space, structure, and style of a property.” The proposed project aims to retain lava rock sidewalls, stairwells, canal concrete bottom and depth, canal width, canal length, functionality, rectilinear/footprint. The retention of these features would allow the integrity of design to remain intact. (If design changes occur during the construction process that affect the existing canal’s features, integrity of design may be impaired.)

Setting

Setting is the “physical environment of the historic property.” The proposed plan would disrupt the existing setting of the historic property. The existing relationship of the canal to Diamond Head State Monument, best demonstrated by the unobstructed view from McCully Street Bridge, and viewpoints west of the proposed bridge, would be affected by the introduction of a 180-foot high bridge tower.

MAUKA BANK

In addition to disrupting the views that contribute to the perception of the historic canal as a continuous, uninterrupted open waterway, the construction of the proposed cable-stayed bridge with 180-foot tower would introduce a highly visible vertical element that would notably contrast with, and disrupt, the largely flat elevation of the canal, and the open space character of the mauka bank.

MAKAI BANK

The massing of the buildings adjacent to the makai side of the canal has changed significantly since the original construction of the canal, and therefore that aspect of the setting would not be affected by the proposed project.

The proposed bridge would alter the existing low-scale buffer of the makai bank. The introduction of the makai landing structure atop the Ala Wai Promenade, and over the canal, would both alter the open space of this area while obstructing the vistas across and over the canal. The overall height of the bridge is driven by sea-level rise expectations that are part of the USACE Ala Wai Flood Risk Management Project. This height requirement results in a higher wall for the makai landing structure, and increases the length of its access ramp. This large structure would diminish the canal’s integrity of setting.

Materials

Materials are the “physical elements that when combined or deposited during a particular time and in particular pattern or configuration to form a historic property.” The proposed project aims to retain the concrete and lava rock sidewalls, stairwells, canal bed and depth, canal width, canal length, functionality, and rectilinear footprint. As such, the proposed project would not diminish integrity of materials. (If the design or construction process results in the removal of any of these features, integrity of materials would be diminished.)

Workmanship

Workmanship is the “physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.” The proposed project would retain concrete and lava rock sidewalls, stairwells, canal concrete bottom and depth, canal width, canal length, functionality, rectilinear footprint. These physical character-defining features reflect the workmanship that went into construction of the canal. As such, the proposed project would retain integrity of workmanship. (If the design or construction process results in the removal of any of these features, integrity of workmanship would be diminished.)

Feeling

Feeling is a “property’s expression of the aesthetic or historic sense of a particular period of time.” The proposed project would alter the continuous, uninterrupted open waterway and view planes across and along the canal, and a portion of the low-scale buffers and open space along each bank. These two contextual/environmental character-defining features contribute to the feeling of the canal. The introduction of a cable-stayed bridge with a 180-foot high tower would diminish the canal’s integrity of feeling.

Association

Association is the “direct link between an important historic event or person and a historic property.” The original use and functionality of the canal would remain intact. However, the canal bifurcated what was once a contiguous wetland and farming region into two areas that would develop with unique identities; Waikiki as a global tourist destination, and Moiliili and McCully as locally-oriented residential areas. In reality, the canal has always served to separate Waikiki and its tourism-related activities from the lives of local residents, and the proposed bridge would create a physical link between these two distinct communities, minimally blurring this separation. Nevertheless, this new connection would only minimally affect integrity of association, since the canal would remain intact as a distinct boundary line between the two areas that its dredged spoils helped create.

Integrity Summary

The proposed bridge will not physically alter the canal’s integrity of location, design, materials, or workmanship. The proposed bridge will extend directly over the canal, diminishing the canal’s integrity of feeling and setting and minimally affecting integrity of association. Nevertheless, the proposed bridge would not substantially diminish integrity to a degree in which the canal would be removed from the Hawaii Register of Historic Places.

Malia Evaluation of Effect Assessment

The Malia, a Hawaiian racing canoe, was carved by James Takeo Yamasaki in 1933 out of a single koa log. She was listed on the Hawaii Register of Historic Places / National Register of Historic Places (HRHP/NRHP) in 1993 under Criteria A and C for her important contributions to the Hawaiian State Sport of canoe racing, and served as the prototype for an entire class of fiberglass racing canoes that have been in use since the early 1960s. The Malia is owned by the Waikiki Surf Club and stored with other canoes in the University Halau on the mauka bank of the Ala Wai, adjacent to the proposed bridge landing. University Halau was built in 1988 and is not a historic building.

No direct, physical effects to the canoe are associated with the proposed bridge project. Namely, the canoe's integrity of location would not be compromised, since the proposed project does not require its removal or relocation. The canoe's integrity of design, materials, and workmanship are not affected, since the bridge project does not physically alter or modify the canoe. Further, the canoe's integrity of association would not be compromised by the bridge project, since it would retain its direct link to its importance to the Hawaiian State Sport of canoe racing. However, the project may have adverse effects on the Malia's integrity of setting and feeling, as discussed below.

The canoe's setting includes both the non-historic structure it is housed within (University Halau) and its placement alongside the Ala Wai Canal. Despite ample public access, the site is a relative enclave, used most typically by select population groups that visit, such as paddlers, bike path users, nearby residents, and children/families of nearby schools.

The waterfront location of the Malia is important to retain its historic integrity. Per National Register Bulletin 20, *Nominating Historic Vessels and Shipwrecks to the National Register of Historic Places*, "in rare vessels, integrity of setting [is retained] if the craft is associated with the water by means of a waterfront location. This setting must not detract from appreciating the vessel as a waterborne craft or present her as a museum object." Accordingly, this location, or a similar location on the Ala Wai Canal where the canoe would be equally protected, or even another waterfront site away from the Ala Wai Canal, could be historically appropriate. (The Malia has been stored in different locations over the course of her life.)

The functionality of the Malia's waterfront location is characterized by four floating docks directly in front of University Halau that paddlers use to put canoes, including the Malia, in the water. Because the proposed project will be built so close to the southernmost dock, it requires that its removal. However, the project also entails re-installing that dock at the north end of the row. This relocation appears to potentially increase the distance from the halau that some canoes may need to be hauled for water entry/egress.

The waterfront setting of the canoe would be altered by the introduction of a large bridge structure roughly 50' from the halau, in an area currently characterized by a walkway, grassy open space, and trees. The bridge structure will change the character of the area by disrupting south-facing views of the continuous, uninterrupted open waterway towards Diamond Head. The presence of the bridge and its 180-foot tower would also introduce a highly visible vertical element that would notably contrast with, and disrupt, the relatively low-scale and open space feeling of the waterfront setting.

The bridge project also modifies circulation patterns here, slightly re-routing the bike path along the southeast side of the halau, and, more broadly, drawing pedestrians and cyclists to the area, intent on traversing the bridge to and from Waikiki. (The 2019 Alternatives Analysis states "87,000 people currently live in an area where they can easily walk or bike across the Ala Wai Canal to or from central Waikiki. A new mid-canal crossing would expand the walk and bikeshed allowing 9,000 more residents (96,000 total) the ability to walk or bike to central Waikiki from where they live within 20 minutes.") The indirect, or cumulative, effects of this growth in visitors to the area, and to the vicinity of the Malia's waterfront setting, cannot be precisely calculated.

However, it is not unreasonable to assume that the general character and feeling of this quiet public space will change as the proposed bridge grows in popularity.

South Comfort Station Evaluation of Effect Assessment

The south comfort station in the Ala Wai Neighborhood Park is evaluated as eligible for the HRHP/NRHP under Criterion C for its architecturally distinctive design and materials, including its wood shake roof and distinctive decorative ridge beam. Designed by Tom Litaker and Louis Pursel, the facility exhibits a distinctive design with rustic materials, including lava rock columns, wood roof shakes, and a copper-clad decorative ridge beam. The layout includes a restroom and pavilion under a shared roof.

No direct, physical effects to the comfort station are associated with the proposed project. Namely, the comfort station's integrity of location would not be compromised, since the proposed project does not require its removal or relocation. The comfort station's integrity of design, materials, and workmanship are not affected, since the bridge project does not physically alter or modify the building. The comfort station's integrity of association would not be compromised by the bridge project, since it would retain its direct link to its distinctive design.

The south comfort station's integrity of setting and feeling would not be notably affected. The Ala Wai Neighborhood Park, in which the comfort station is located, is not a historic resource, and has changed over time, with continuously enlarged parking areas and modifications to play equipment and play areas. The comfort station is evaluated as a historic resource that retains all aspects of integrity except setting, because of the changes made to the park over time. The comfort station currently retains its association since its (restroom/public pavilion) use has remained unchanged over time. Further, it currently retains its integrity of feeling because it still supports a recreational function of the park facilities (e.g., grassy playing fields, playground structures). The proposed project will not impair the setting and feeling of the south comfort station; the associated modifications (expansion of parking and removal and changes to play equipment) are not unlike other changes that have taken place in the park since the comfort station was built.

The proposed project will draw additional people to the area. However, because the comfort station was designed as a public restroom and pavilion, and has successfully functioned in this manner for sixty years, it is assumed that there will be no adverse effects to this building related to an increase in use. However, the City may need to increase maintenance of the building to meet the increase in use.

Table 1: Evaluation of Effect of Proposed Action on Historic Resources

Historic Resource	Evaluation of Effect (Section 106)	Determination of effect to significant historic properties (HRS 6E-8)	Notes
Ala Wai Canal	Potential adverse effect.	Effect, with proposed mitigation commitments.	The tall, visually striking cable-stayed bridge is visible from a great distance, and introduces a visual element that diminishes the integrity of the property's setting and environment. Its design is not consistent with SOI standard 9, since it is not compatible with the massing, size, scale, and architectural features of the canal. Integrity of setting, feeling would be diminished and integrity of association would be minimally impaired by the new bridge over the canal.
McCully Street Bridge	No adverse effect.	No historic properties affected.	Views of the new bridge in the distance will not detract from this property's integrity.
<i>Malia</i> Koa Canoe	Potential adverse effect.	Effect, with proposed mitigation commitments.	Modifications to the immediate vicinity of the canoe's waterfront setting detract from its integrity of setting and feeling.
Ala Wai Clubhouse	No adverse effect.	No historic properties affected.	Southeast views from portions of this property towards Diamond Head will include the new bridge, but will not detract from its integrity.
South Comfort Station	No adverse effect.	No historic properties affected.	Views of the new bridge nearby will not detract from this property's integrity. Modifications to the park/parking lot do not impair integrity since this setting has changed significantly since the comfort station was built.
Ala Wai Plaza Condominium	No adverse effect.	No historic properties affected.	Views of the new bridge nearby will not detract from this property's integrity.
Ala Wai Elementary School	No adverse effect.	No historic properties affected.	Views of the new bridge nearby will not detract from this property's integrity.
Waikiki-Kapahulu Library	No adverse effect.	No historic properties affected.	While the new bridge will be visible at a distance from the library, it will not detract from the library's historic integrity.
2153 Ala Wai Blvd. residential apartment	No adverse effect.	No historic properties affected.	While the new bridge may be visible from portions of this property, it will not detract from the apartment's historic integrity.
Rosalei Apartments	No adverse effect.	No historic properties affected.	While the new bridge may be visible from portions of this property, it will not detract from the apartment's historic integrity.
2107 Ala Wai Blvd. single family residence	No adverse effect.	No historic properties affected.	While the new bridge may be visible from portions of this property, it will not detract from the residence's historic integrity.
441-443 Kālainmoku St Duplex	No adverse effect.	No historic properties affected.	While the new bridge may be visible from portions of this property, it will not detract from the duplex's historic integrity.

Resolution of Adverse Effects

If an adverse effect is found, the agency official shall consult further to resolve the adverse effect. “The agency official, in consultation with the SHPO/THPO, may propose a finding of no adverse effect when...the undertaking is modified or conditions are imposed, such as the subsequent review of plans for rehabilitation by the SHPO/THPO to ensure consistency with the Secretary’s Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines, to avoid adverse effects.”³

For the adverse effects anticipated to the Ala Wai Canal, Secretary of the Interior’s Standard 9 is most applicable. Standard 9 states that, “New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.” While the proposed bridge design is successful in that it does not “destroy historic materials that characterize” the Ala Wai Canal, and is “differentiated from the old,” it is not “compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.”

As stated in 36 CFR § 800.6 - Resolution of adverse effects [(a) Continue consultation], “The agency official shall consult with the SHPO/THPO and other consulting parties, including Indian tribes and Native Hawaiian organizations, to develop and evaluate alternatives or modifications to the undertaking that could avoid, minimize, or mitigate adverse effects on historic properties.”

To minimize adverse effects to the Ala Wai Canal and its environment, and conform more closely to the Secretary of Interior’s Standards, design modifications would:

- Reduce the vertical height and thickness of the bridge structure as much as possible;
- Minimize any potential damage to, or obscuring of, the stone side walls lining the canal;
- Use a color for the bridge structure that blends with the character of the canal and/or its environment. (White and bright colors should be avoided.)

Reducing the height, massing and overall scale of the structure could also: result in a bridge more in context with the other bridges that span the Ala Wai Canal; minimize the overall visual impact on the historic setting and feeling of the Ala Wai Canal; allow for a more uninterrupted view of this open waterway (which includes views of Diamond Head), and; better retain the appearance of the canal’s overall physical environment and integrity of feeling.

If it is not feasible to make design modifications to the bridge to minimize effects to the Ala Wai Canal or Malia canoe, other types of mitigation efforts could be undertaken. Such adverse effect resolution efforts would be decided on through consultation with the SHPD and interested consulting parties. Mitigation agreements would be recorded in a Memorandum of Agreement (MOA).

Mitigation options for consideration in the consultation process could include; historical interpretive panels that tell the story of the Ala Wai Canal’s history, architectural recordation of the Ala Wai or adjacent properties in the form of HABS/HAER/HALS recordation (with large-

³ 36 CFR § 800.5 - Assessment of adverse effects: (a) *Apply criteria of adverse effect.*

scale photography), new or updated National Register Nomination forms, or a historic context study. One possible option to mitigate the adverse effects to the Malia's setting would be to relocate the canoe, but only if another suitable, protected, waterfront location could be found, and if such an arrangement were desired by the property owner, Waikiki Surf Club. Otherwise, another option may be for the City to implement measures that would safeguard the University Halau and the Malia against vandalism or other issues that may arise as a result of the increase in visitors to the area.

DRAFT

Appendix C – Archaeological Literature Review and Field Inspection/ Supplemental
Archaeological Identification Report

**Archaeological Literature Review and Field Inspection/
Supplemental Archaeological Resources Identification Report
for the Ala Wai Pedestrian Bridge Project,
Waikīkī Ahupua‘a, Kona (Honolulu) District, O‘ahu Island, TMKs:
[1] 2-6-015:012; 2-6-016:001, 038, 056 through 06F0; 2-6-017:024,
025, 029, 033, 034; 2-7:013:002, 011; 2-7-036:000, 001, 002, 005
through 007**



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Honolulu, Hawai‘i
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1. Management Summary

This Literature Review and Field Inspection/ Supplemental Archaeological Resources Identification Report was developed for the Ala Wai Bridge project located in Waikīkī Ahupua‘a, Kona (Honolulu) District, Island of O‘ahu TMKs: [1] 2-6-015:012; 2-6-016:001, 038, 056 through 060; 2-6-017:024, 025, 029, 033, 034; 2-7:013:002, 011; 2-7-036:000, 001, 002, 005 through 007. This investigation was completed at the request of the City and County of Honolulu’s Department of Transportation Services (CCH DTS), Hawaii Department of Transportation (HDOT), and Federal Highway Administration – Hawai‘i Division (FHWA) for construction of the Ala Wai Bridge.

The bridge is proposed to extend from the south end of University Avenue, within the Ala Wai Neighborhood Park, across the Ala Wai Canal, and connect to the intersection of Ala Wai Boulevard and Kālainoku Street. The area of ground disturbance for the project measures approximately 0.28 acres (12,196.8 square feet [sq. ft.] or 1,133 square meters [sq. m.]) and is comprised of two landings, a northern landing at the end of University Avenue within the Ala Wai Neighborhood Park and a southern landing within the Ala Wai Boulevard Promenade at the intersection of Kālainoku Street and Ala Wai Boulevard. The area of potential effect (APE) for the undertaking measures approximately 91 acres (3,963,960 sq. ft. or 368,264 sq. m.) and includes the proposed bridge project site, temporary access, staging area, parking areas, the portion of the Ala Wai Canal within the view plane, and individual properties, city streets, and sidewalks that are anticipated to have a prominent view of the bridge. The proposed project is considered an undertaking since it will utilize funds from Federal-Aid Project No. TAP-0300(159), administered by the FHWA.

The proposed undertaking will construct a pedestrian and bicycle bridge across the historic Ala Wai Canal (SIHP #50-80-14-9757). Ground disturbances associated with the project will include excavations for bridge supports and landings that will extend to maximum depths ranging from 40 to 50 ft. (12.2 -15.2 m.) below the ground surface, excavations for sidewalks and landscaping that will extend to 1-2 ft (30-60 cm) below surface and trenching for utilities and lighting that will extend from 1-6 ft. (30-182 cm) below surface.

Background research for the project APE indicates it is located within a former wetland area primarily used for habitation, growing crops, and constructing fishponds in the pre-contact era. It was later used for banana and rice cultivation in the historic era up until the 1920s when land reclamation events began filling lands and dividing Waikīkī into city blocks and the Ala Wai Canal was constructed. The Ala Wai Community Park and Ala Wai Golf Course were also developed during this time period.

Numerous Land Commission Awards (LCAs) are present within the project APE. One LCA encompasses the area of ground disturbance, LCA 8559B, ‘Apana 29 awarded to William C. Lunalilo (Appendix A & B). The LCA is shown on an 1881 S. E. Bishop map as “Kaihi kapu, Lele o PAU” and is depicted as a large circular lo‘i with a berm encircling it. Research also indicates that lands comprising LCA’s awarded in the vicinity were distributed by King Liholiho (King Kamehameha II) and Ka‘ahumanu (wife of Kamehameha I and co-regent during reign of Kamehameha II) in the 1820’s and were likely controlled by the ruling class prior to that.

Several previous archaeological studies have been conducted within the APE (Esh and Hammatt 2004 and 2006a, Petrey et al. 2008, Armstrong and Spear 2009, O’Hare et al. 2010, and LaChance et al. 2014). Additionally, the proposed area of ground disturbance underwent an archaeological inventory survey in 2015 and 2016 for the Ala Wai 46kV underground cables relocation project (Martel and Hammatt 2017) and archaeological monitoring during recent geotechnical boring (Thurman 2020-draft). The Martel and Hammatt (2017) study and several others to the south documented SIHP #50-80-14-5796, the original buried Waikīkī wetland surface (LeSuer et al. 2000, Yucha et al. 2009, Sroat et al. 2011, Pammer et al. 2014, Morriss and Hammatt 2015, and Martel and Hammatt 2017). The site consists of deposits of agricultural wetland sediments, non-agricultural wetland sediments, peat sediments, pond sediments, and pond berms dating from the pre-contact era to the early 1900’s and has been documented in multiple separate locations. The site has generally been encountered below 4 to 6 ft. (1.2-1.8 m.) of modern and historic land reclamation fill materials. The site was previously documented within the project APE, specifically in a trench just to the south of the area of ground disturbance within the Ala Wai Boulevard and Kālainoku Street right-of-way. No human burials or human skeletal remains have been previously documented anywhere within the project APE.

The Ala Wai Canal (SIHP #50-80-14-9757) is located within the area of ground disturbance and the project APE. It was added to the Hawai‘i Register of Historic Places (State Register) and nominated as eligible for listing on the National Register of Historic Places (NRHP) in 1992 (Appendix C). Two other previously documented historic properties are located within the project APE, including the Ala Wai Park Clubhouse (SIHP #50-80-14-1388) located at the corner of McCully Street and Kapi‘olani Avenue and the Hawaiian racing canoe “Malia” (SIHP #50-80-14-9762, NRHP #93001385) located in a canoe hale (house) approximately 50 ft. (15 m) northwest of the northern landing of the proposed bridge (Appendix D & E). The McCully Street Bridge, constructed in 1959 and previously assessed as eligible to the State Register, is present along the west extent of the APE.

Mason Architects recently conducted an Identification of Historic Properties report for the proposed Ala Wai Bridge project (Mason Architects 2020). Their study identified 30 resources within the project APE, of which 12 were already listed or found eligible for the State and/or National Register and 18 were evaluated as not eligible. Identified historic properties included Ala Wai Canal (SIHP # -9757), Ala Wai Park Clubhouse (SIHP # -1388), the *Malia* Canoe (SIHP # -9762, NRHP #93001385), McCully Street Bridge, features of the Ala Wai Community Park, Ala Wai Elementary School, Waikīkī-Kapahulu Library, condominiums, apartments, and residences. The list of historic properties compiled by Mason Architects (2020) is attached as Appendix F.

The purpose of this Literature Review and Field Inspection/ Supplemental Archaeological Resources Identification Report was to determine land-use history and identify any potential features, artifacts, or cultural deposits present on the ground surface within the APE. 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 Ala Wai pedestrian bridge.

This report is also to fulfill, in part, FHWA’s obligations under the National Historic Preservation Act (NHPA) Section 106, 36 CFR Part 800. Specifically, as FHWA has determined this activity to be an undertaking as defined under Section 106, this report is intended to fulfill the agency’s obligations under 36 CFR Part 800.4 – Identification of Historic Properties. This report fulfills the obligations under this part in the following ways:

- It documents the area of potential effects (APE);¹
- It reviews existing information on historic properties within the APE, including any data concerning potential historic properties not yet identified;
- It seeks information, as appropriate, from consulting parties, and other individuals and organizations likely to have knowledge of, or concerns with, historic properties in the area, and identifies issues relating to the undertaking's potential effects on historic properties; and
- It gathers information from any Native Hawaiian Organization identified to assist in identifying properties, which may be of religious and cultural significance to them and may be eligible for the National Register.²

The archaeological field inspection conducted for the project included a pedestrian survey of the project APE to the extent possible. Full access to the APE was not possible due to mandated state restrictions related to the COVID-19 pandemic and some areas being on private property. The previously recorded historic properties were identified. No newly identified historic properties or artifacts were observed.

Based on compiled background research and the results of the current field inspection, it is found that the Ala Wai Canal (SIHP # -9757) will be impacted by the proposed project and it is also likely that SIHP #50-80-14-5796, a culturally modified wetland surface present below early 20th century land reclamation fills, will be encountered during excavations associated with the project, primarily in the area of the makai landing. Additionally, human skeletal remains and pre-contact and historic-era artifacts are commonly encountered within fill materials throughout Waikīkī. Therefore, in order to mitigate potential adverse impacts to the Ala Wai Canal, significant subsurface wetland deposits, or any other potential historic property present, it is recommended that the proposed project proceed under an archaeological monitoring program conducted in accordance with HAR 13-279 (Rules Governing Standards for Archaeological Monitoring Studies and Reports) for all ground disturbances associated with the project. It is also recommended that following the monitoring program, a site number be obtained for the McCully Street Bridge.

¹ The area of potential effects has been previously determined by FHWA and approved by SHPD.

² This project involved sensitive information about historic properties of cultural significance. This will be further discussed in the Cultural Impact Assessment (CIA) prepared for this project.

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2. Introduction

Project Background

This Literature Review and Field Inspection report was prepared on behalf of CCH DTS, FHWA, and HDOT and was written for proposed ground disturbances associated with the construction of a pedestrian bridge spanning the Ala Wai Canal in Waikīkī Ahupua‘a, Kona (Honolulu) District, Island of O‘ahu TMKs: [1] 2-6-015:012; 2-6-016:001, 038, 056 through 060; 2-6-017:024, 025, 029, 033, 034; 2-7:013:002, 011; 2-7-036:000, 001, 002, 005 through 007. The bridge is proposed to extend from the south end of University Avenue, within the Ala Wai Community Park, across the Ala Wai Canal, and connect to the intersection of Ala Wai Boulevard and Kālaaimoku Street. The area of ground disturbance for the project measures approximately 0.28 acres (12,196.8 square feet [sq. ft.] or 1,133 square meters [sq. m.]) and is comprised of two landings, a northern landing at the end of University Avenue within the Ala Wai Community Park and a southern landing at the intersection of Kalaimoku Street and Ala Wai Boulevard. The area of potential effect (APE) for the undertaking measures approximately 91 acres (3,963,960 sq. ft. or 368,264 sq. m.) and includes the bridge project site, a temporary access, staging and parking area, the portion of the Ala Wai Canal within the view plane, and individual properties, city streets and sidewalks that are anticipated to have a prominent view of the bridge. The proposed project is considered an undertaking due to being funded in part under the direct and indirect jurisdiction of FHWA and using Federal financial assistance. The project area is shown on a United States Geological Survey (USGS) map (Figure 1), an aerial photo (Figure 2), and a Tax Map Key (TMK) map (Figure 3). A site construction plan, cross-section, and conceptual site rendering are provided as Figure 5, Figure 6, and Figure 7.

The proposed undertaking will construct the Ala Pono pedestrian bridge across the historic Ala Wai Canal (SIHP #50-80-14-9757). Ground disturbances associated with the project will include excavations for bridge supports and landings that will extend to a maximum of 40 to 50 ft. (12.2 - 15.2 m.) below ground surface, excavations for sidewalks and landscaping that will extend to 1-2 ft. (30-60 cm) below surface, and trenching for utilities and lighting that will extend from 1-6 ft. (30-182 cm) below surface.

The purpose of this report was to determine the land-use history of the project area and to identify potential historic properties, artifacts, and cultural deposits present on the ground surface within the project APE. Fieldwork for this project was performed under the archaeological permit number 20-15 issued to Honua Consulting by the State Historic Preservation Division/Department of Land and Natural Resources (SHPD/DLNR) in accordance with Hawai‘i 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 construction of the Ala Wai pedestrian bridge.

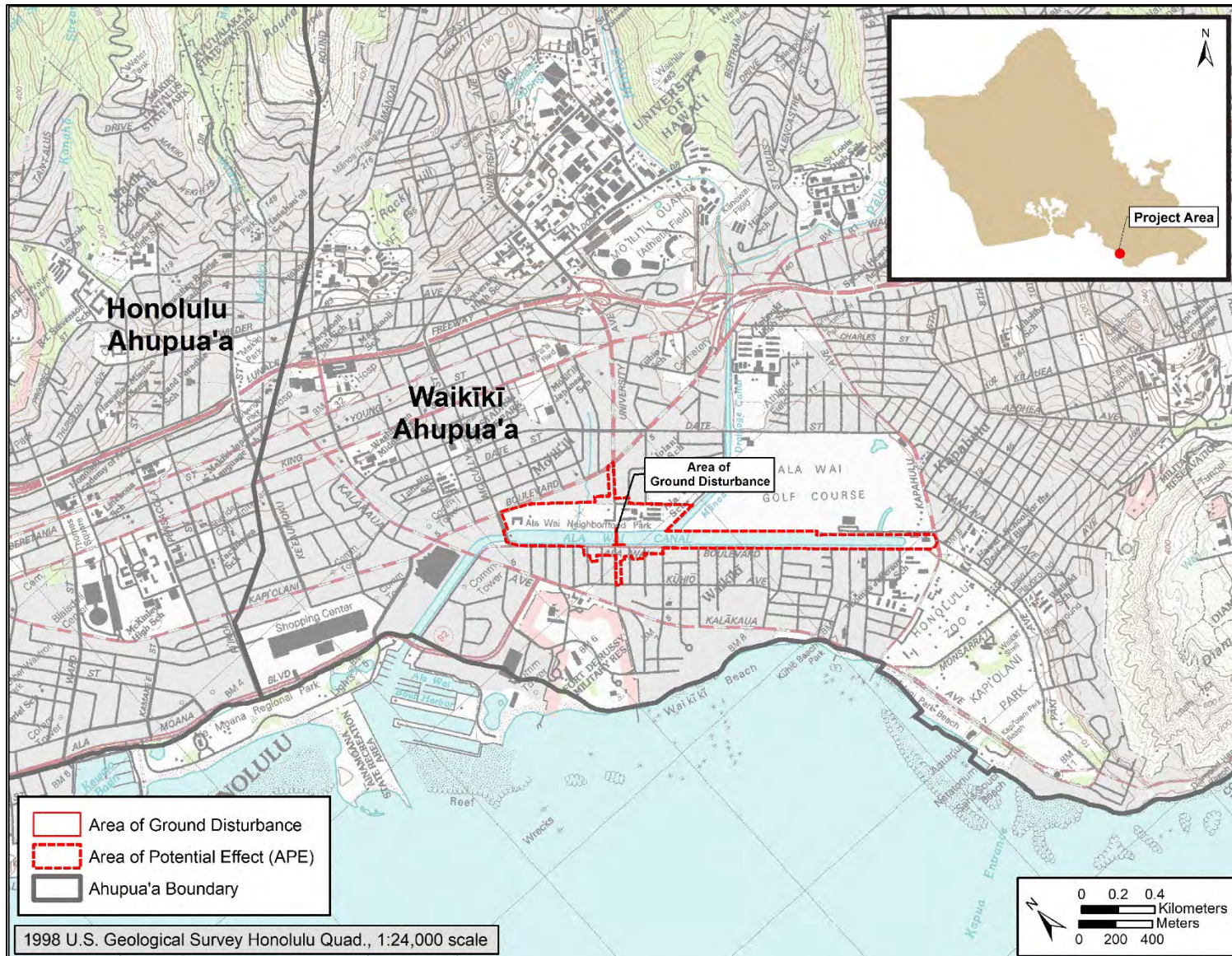


Figure 1. Portion of a 1998 Honolulu U.S. Geological Survey (USGS) topographic map showing the project APE
Ala Wai Pedestrian Bridge LRFI

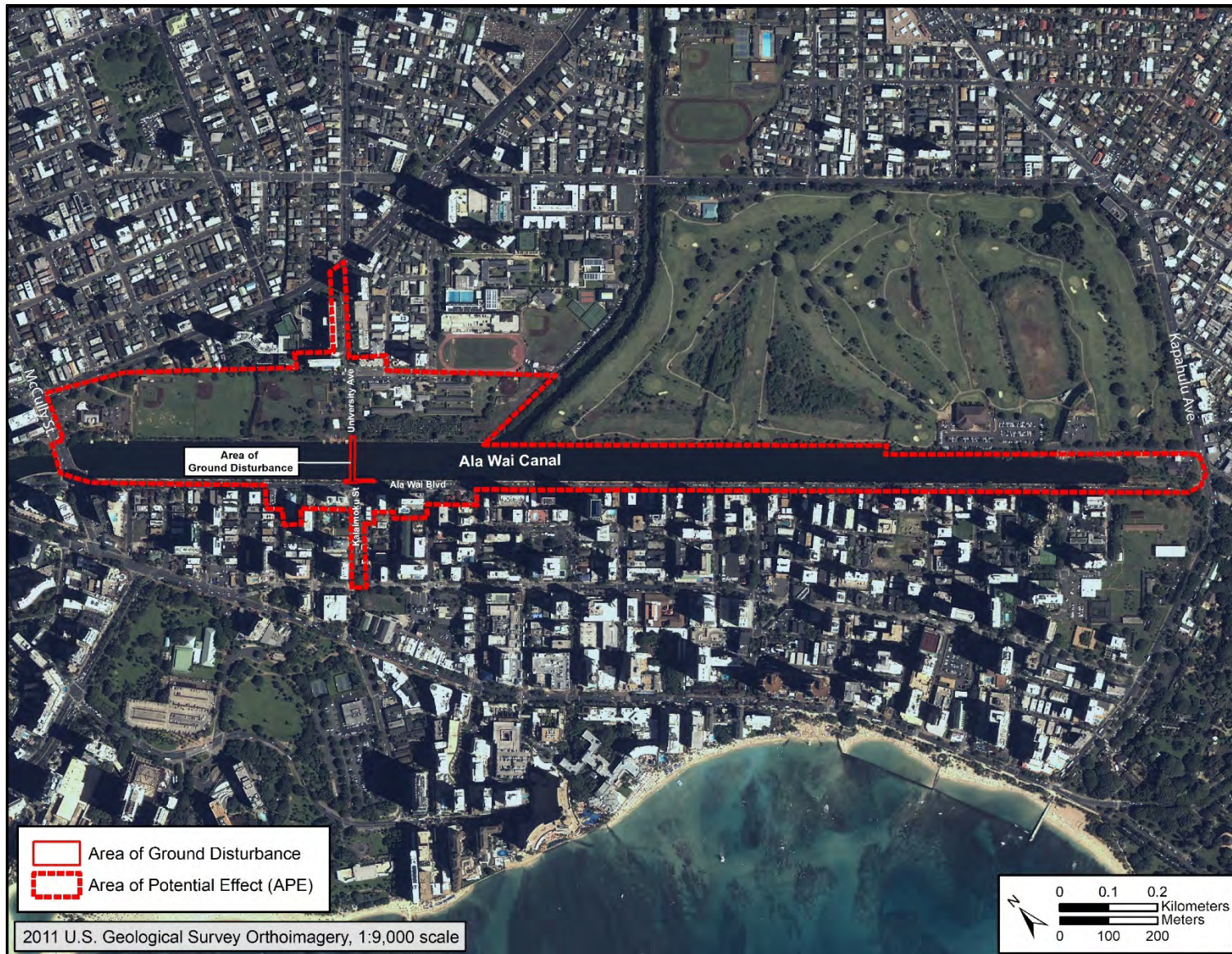


Figure 2. Aerial photo showing the location of the project area (2011 Orthoimagery)

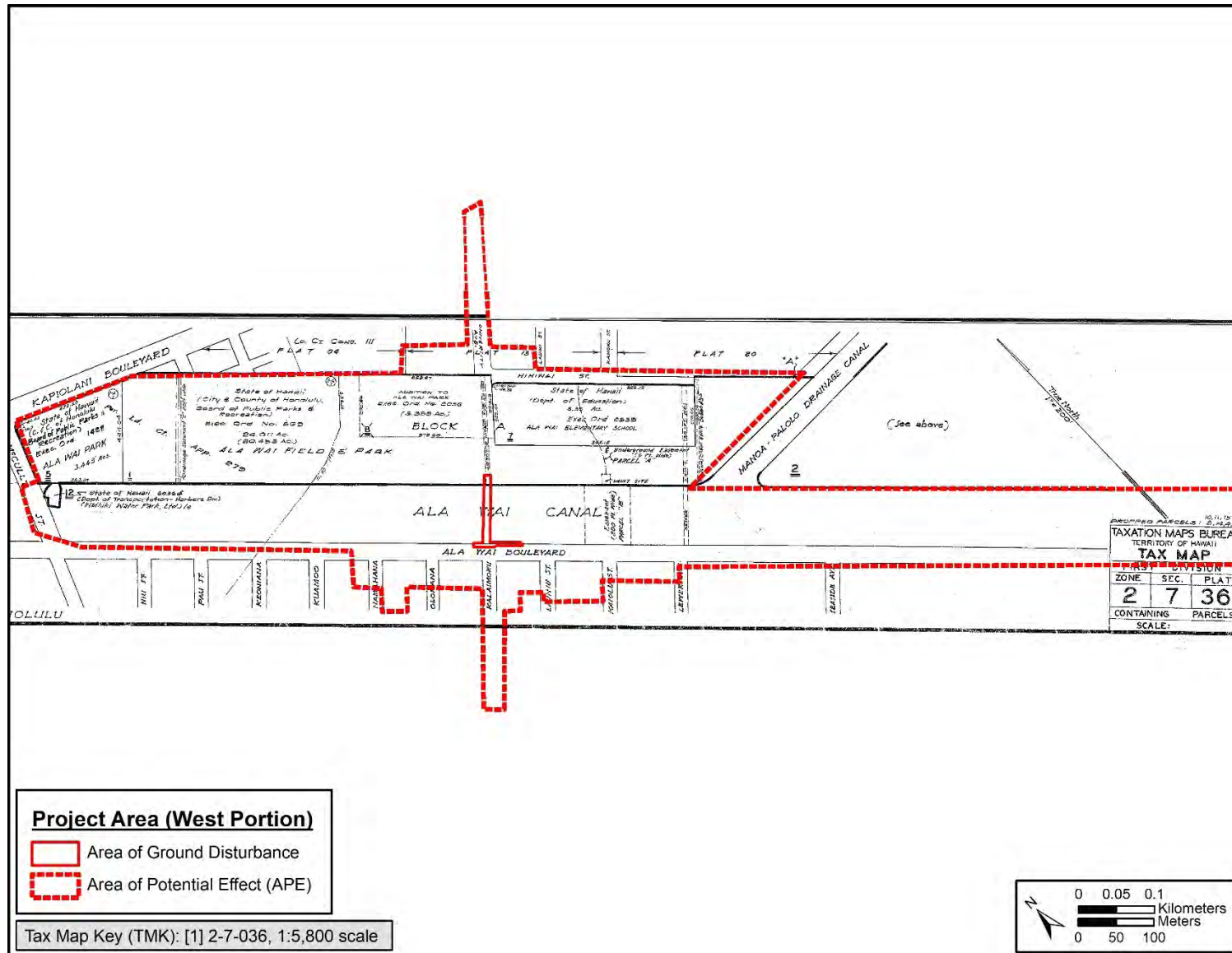


Figure 3. Portion of Tax Map Key (TMK) [1] 2-7-036 showing the west half of the project APE

Ala Wai Pedestrian Bridge LRFI

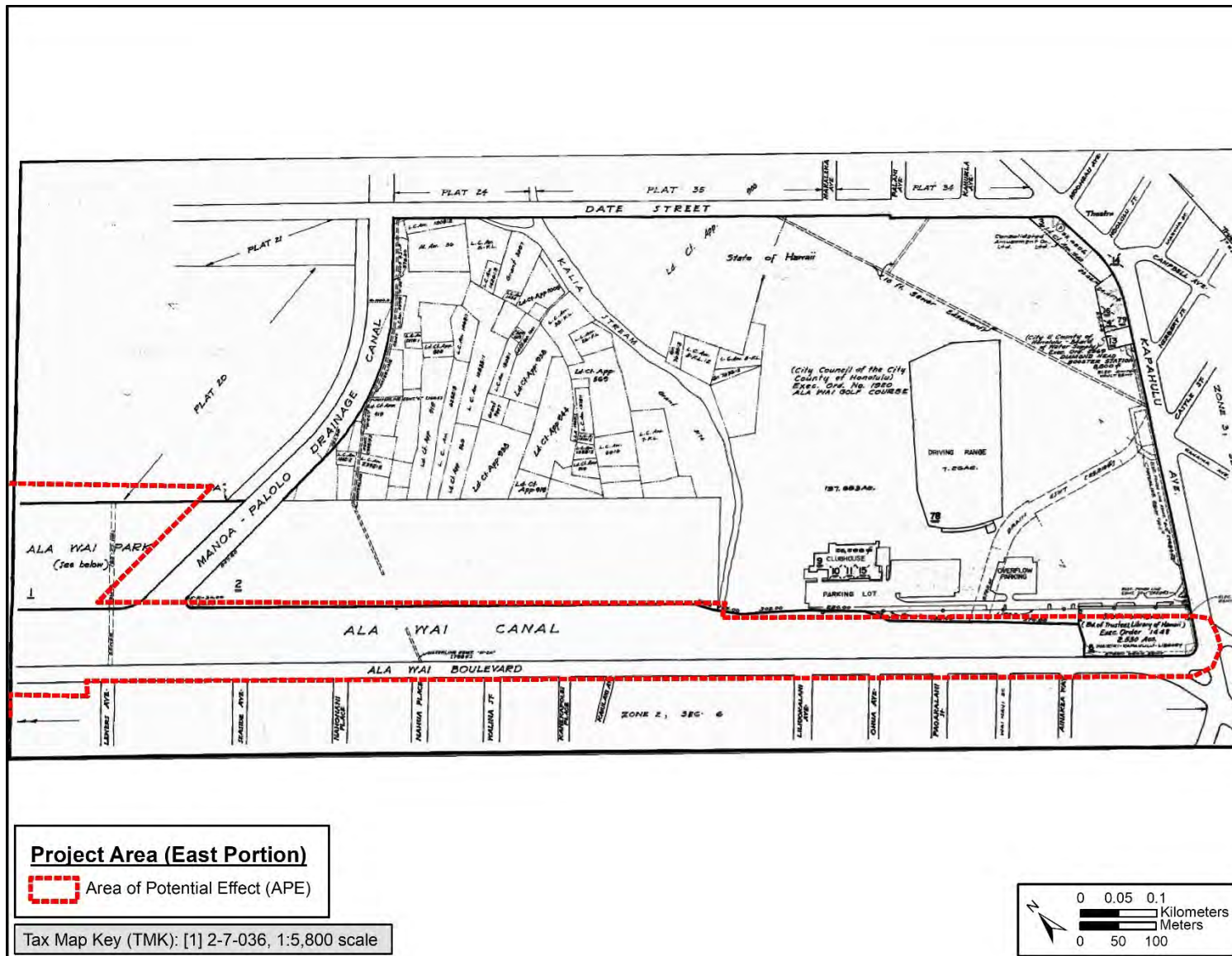
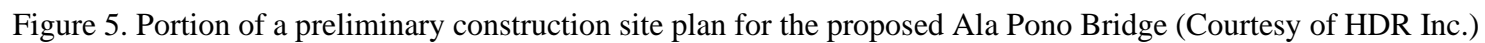


Figure 4. Portion of Tax Map Key (TMK) [1] 2-7-036 showing the east half of the project APE



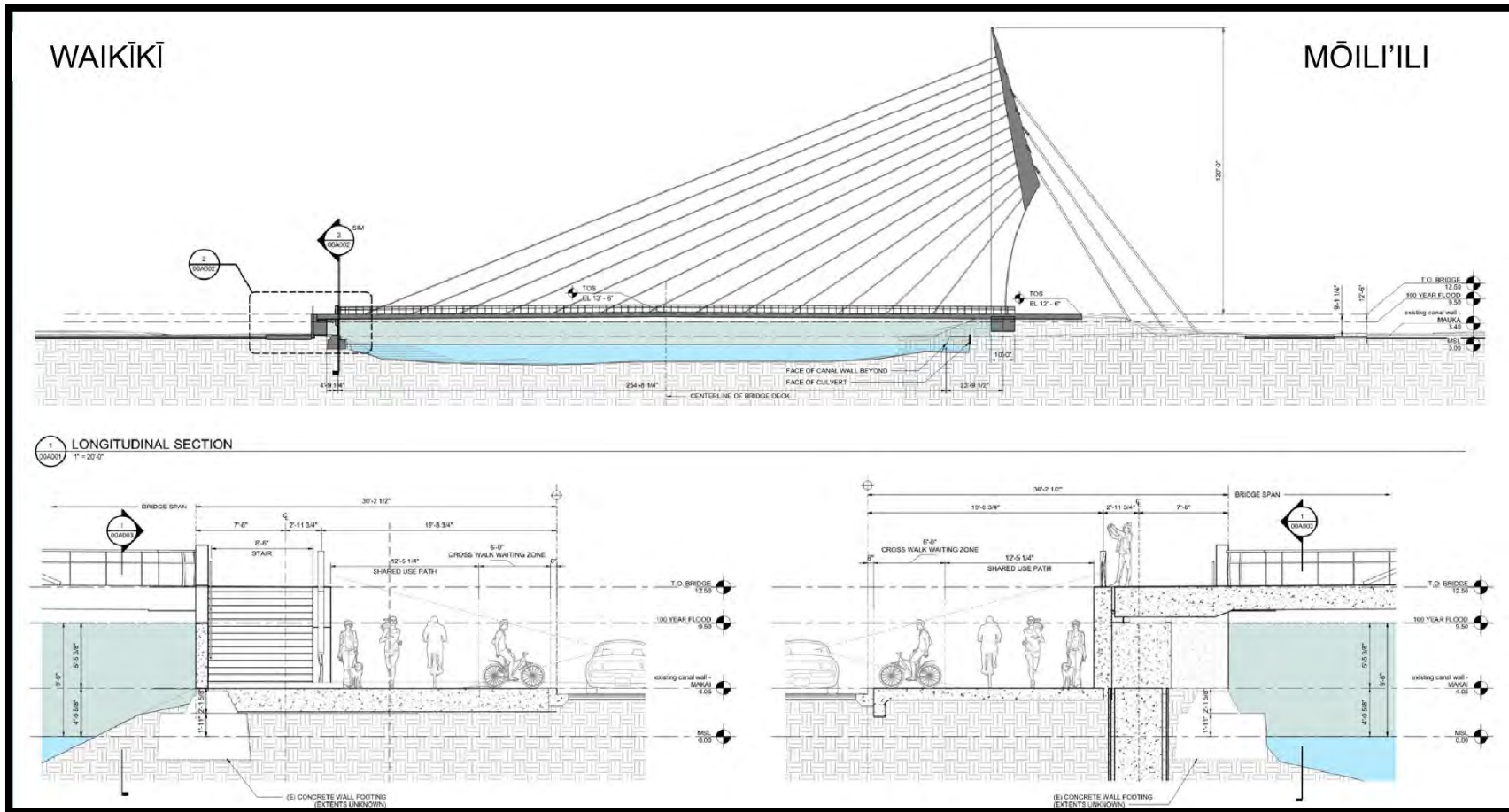


Figure 6. Portion of a preliminary construction plan showing a cross-section of the proposed Ala Pono Bridge (Courtesy of HDR Inc.)

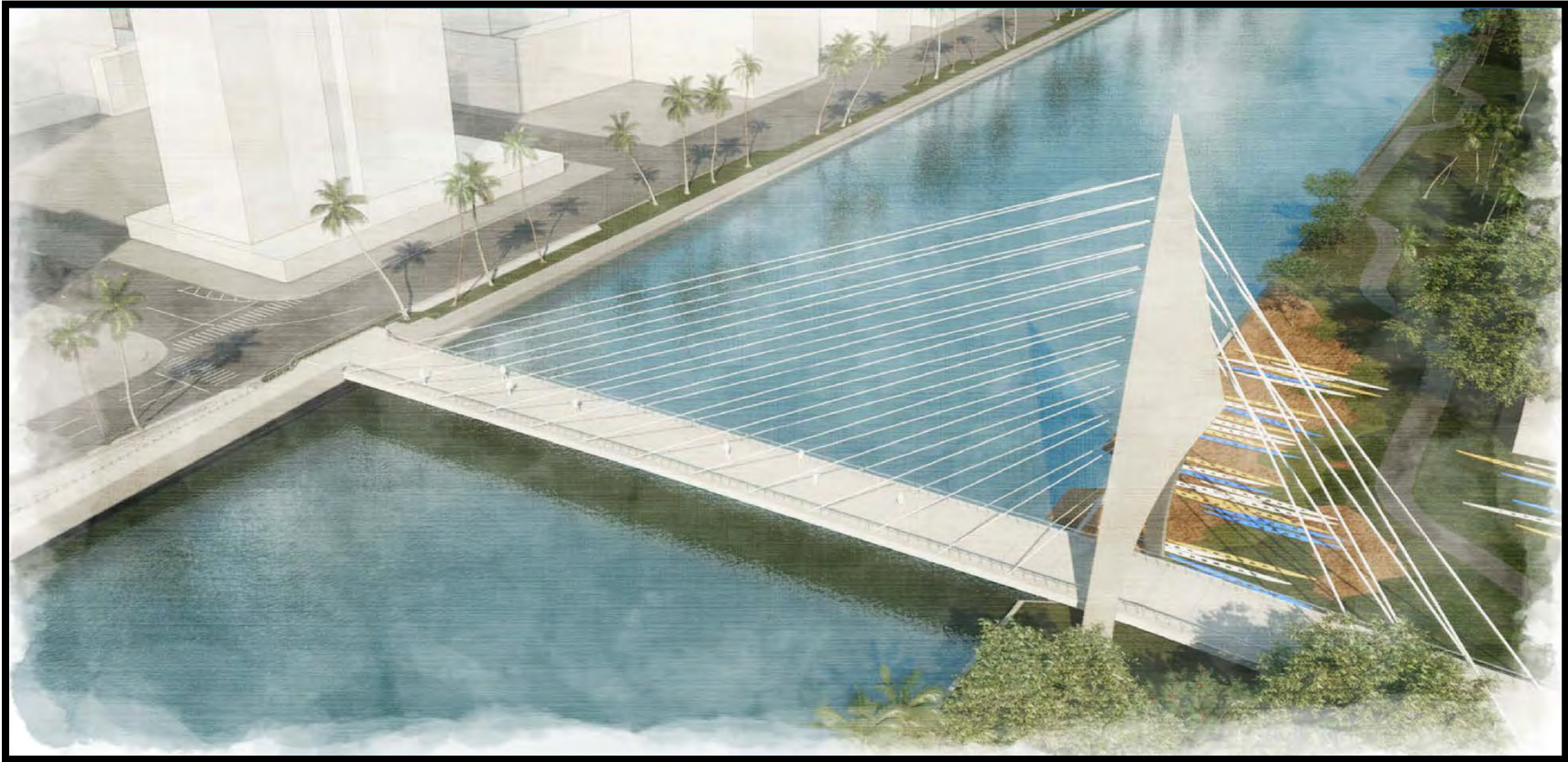


Figure 7. Conceptual site rendering of the Ala Pono Bridge (Courtesy of HDR Inc.)

Environmental Setting

Natural Environment

The project APE is located within the low-lying inland coastal zone of Waikīkī, approximately 2,000 ft (609.6 m) mauka (inland) of the Waikīkī Beach shoreline and at an elevation of approximately 0-8 ft. (0-2.4 m) above mean sea level. The average rainfall in this area is between 0.9 inches (22.6 millimeters) in December to 4 inches (101.4 mm) in July, with a mean of 25 inches (636 mm) per year (Giambelluca et al. 2013). Temperatures in this region typically range from 71 to 84 degrees Fahrenheit (U.S. Climate Data 2020). There is no natural vegetation present along the Ala Wai Canal. The natural soil of the project APE was likely originally wetland deposits overlying Jaucas sand which developed from natural erosion of the nearby coral reef. In some areas of Waikīkī the sand was naturally covered with alluvium washed down from the uplands. The land was drastically changed in the 1920s and early 1930s during construction of the Ala Wai Canal, the Ala Wai Community Park, and the Ala Wai Golf Course. Today, the Ala Wai Canal is used frequently by local canoe paddlers.

According to U.S. Soil Survey Data, the soils underlying the project APE largely consist of mixed fill land (FL) with a small portion of Kawaihapai Clay Loam (0-2% slopes, KIA) within the far eastern extent (Figure 8). Fill land “consists of areas filled with material from dredging, excavation from adjacent uplands, garbage, and bagasse and slurry from sugar mills” (Foote et al. 1972:31). Mixed fill land occurs in areas around Pearl Harbor and Honolulu, near the ocean, and typically are used for urban development.

The Kawaihapai soil series consists of well-drained soils in drainage ways and alluvial fans on coastal plains of O‘ahu and Moloka‘i (Foote et al. 1972:63). The soils were formed from basic igneous rock of the humid uplands that washed down slope as alluvium. They are typically level to moderately sloping and the natural vegetation includes guava (*Psidium guajava*), honohono (Hawaiian mint, *Haplostachys haplostachya*), kukui (*Aleurites moluccanus*), and hala (*Pandanus tectorius*). Kawaihapai Clay Loam, 0-2% slopes (KIA), is found on smooth slopes where permeability is moderate, runoff is slow, and the erosion hazard is no more than slight (Foot et al. 1972:64). This soil type is commonly used for sugarcane, truck crops, pasture and orchards.

Built Environment

The proposed Ala Wai pedestrian bridge spans the Ala Wai Canal, a 2-mile long man-made waterway that forms the northern boundary of the heavily developed commercial district of Waikīkī. The canal separates downtown Waikīkī from the Makiki, Mō‘ili‘ili, and Ala Moana neighborhoods to the north. The project APE is located in a dense urban environment and is bound by mid- and high-rise residential developments, the Ala Wai Elementary School, ‘Iolani School, and the Ala Wai Golf Course to the north, Kapahulu Avenue to the east, Ala Wai Boulevard to the south, and the McCully Street Bridge to the west.

Both banks of the Ala Wai Canal have been heavily developed and include concrete sidewalks and pathways, above-ground power lines, and sub-surface utilities. The northern or mauka (mountain) side of the proposed bridge alignment is within the Ala Wai Community Park which includes a tennis court, canoe clubhouse, canoe launch ramps, bicycle path, and parking lot in the near vicinity. The Ala Wai Promenade, a concrete pathway, runs along the southern or makai

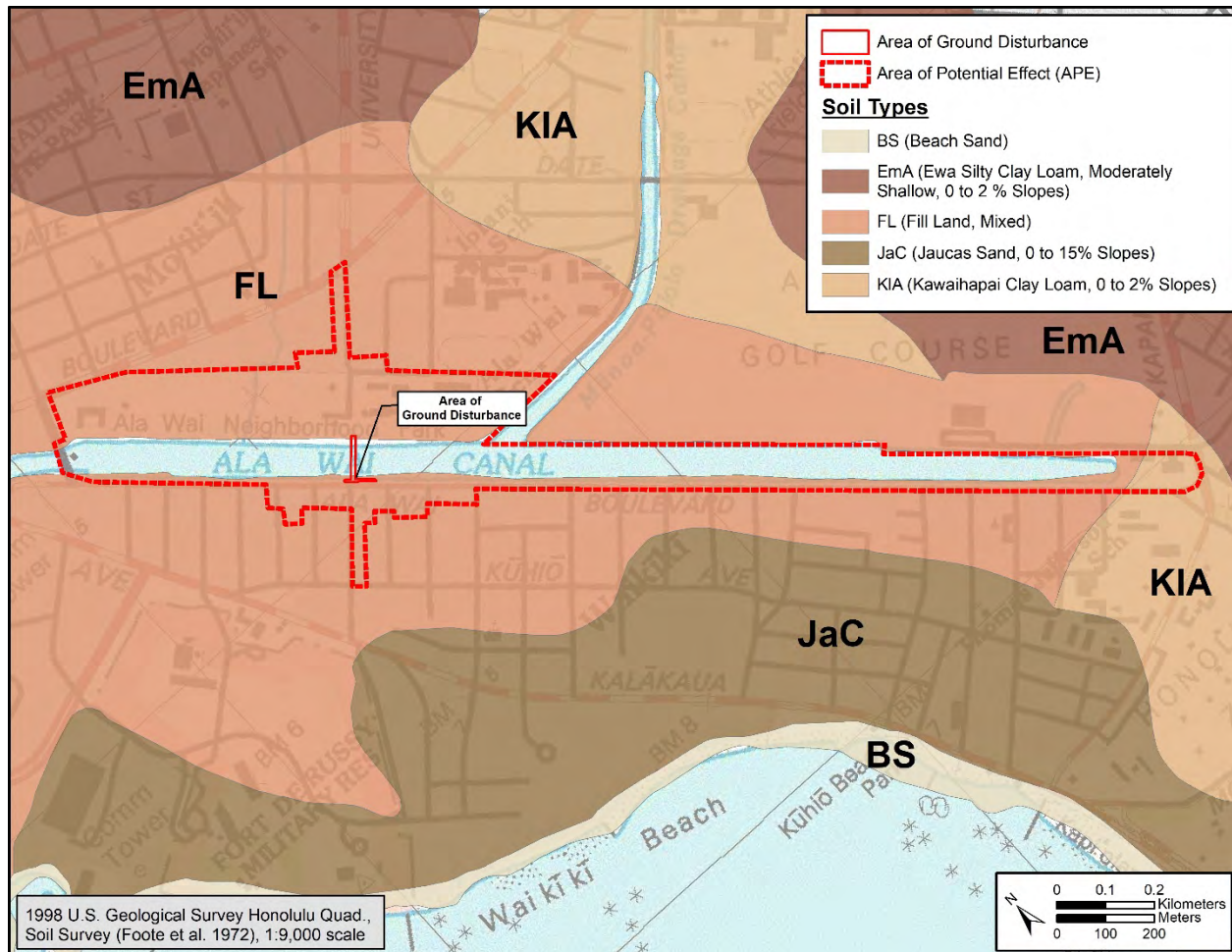


Figure 8. Portion of a 2013 USGS topographic map with soil series overlay showing anticipated soils within the project area (Foote et al. 1972)

(seaward) side of the proposed bridge alignment and is frequented by pedestrians, commuters, and tourists, traveling from Kapahulu to Ala Moana. Ala Wai Boulevard runs parallel to the Ala Wai Canal, adjacent to the south side of the Ala Wai Promenade. Ala Wai Boulevard is lined with coconut palms (niu, *Cocos nucifera*) and borders city blocks of dense residences, condominiums, and hotels to the south.

Vegetation within the project APE consists predominantly of introduced lawn grasses and trees. The grasses include smutgrass (*Sporobolus africanus*), dallisgrass (*Paspalum dilatatum*), Carolina lovegrass (*Eragrostis pectinacea*), Henry's crabgrass (*Digitaria ciliaris*), Bermuda grass (*Cynodon dactylon*), and St. Augustine grass (*Stenotaphrum secundatum*) and the trees include coconut, monkeypod ('ohai, *Samanea saman*), rainbow shower tree (*Cassia x nealiae*), and kou (*Cordia sebestena*).

The southern half of the project APE is within the Waikīkī Beach Special Improvement District (Figure 9). The Waikīkī Beach Special Improvement District was created in 2015 by city ordinance and is described as being formed to:

to preserve and restore Waikīkī Beach and to provide consistent and credible management for future beach revitalization. Special improvement districts are proven tool used across the country to fund specific projects within the area that are supplemental to government services. SIDs are among the most effective ways of forming and funding public-private partnerships to muster resources to tackle especially complicated challenges. (WBSIDA 2020)

The Waikīkī Beach Special Improvement District Association (WBSIDA) governs the SID and raises money from commercial properties extending from the Ala Wai Harbor along the coast to Kapahulu Avenue and from the Ala Wai Canal to submerged lands and coastal waters 150 feet makai of the shoreline. The raised taxes help to supplement costs of shoreline improvement, restoration, and protection projects.

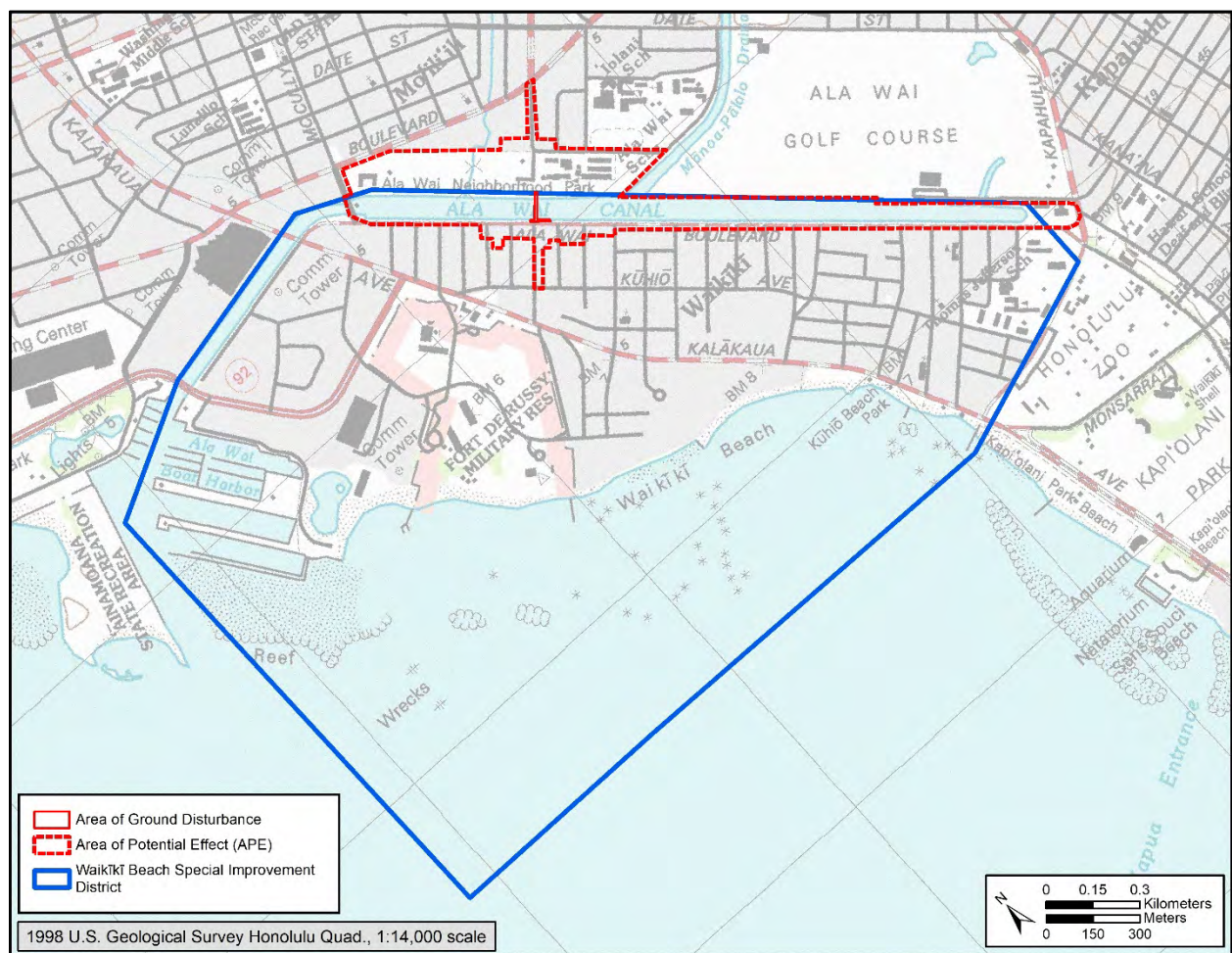


Figure 9. Portion of a 1998 Honolulu USGS showing the area of ground disturbance, APE, and the Waikīkī Beach Special Improvement District

3. 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), Papakilo Database (www.papakilodatabase.com), the State Library on-line (<http://www.librarieshawaii.org/Serials/databases.html>), and Waihona ‘Aina Mahele database (<http://www.waihona.com>). Hawaiian terms and place names were translated using the on-line Hawaiian Dictionary (Nā Puke Wehewehe ‘Ōlelo Hawai‘i, www.wehewehe.com) and Place Names of Hawaii (Pukui et al. 1974). Historic maps were obtained from the State Archives, State of Hawai‘i Land Survey Division website (<http://ags.hawaii.gov/survey/map-search/>), and 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.

Traditional Background, Place Names, and Mo‘olelo

Traditionally, Waikīkī was a population center with extensive inland agricultural fields and a fertile fringing reef. Waikīkī is translated to “spouting water”, said to be named for the swampland that once covered the area (Pukui et al. 1974:223). Multiple streams flowed from the valleys of Makiki, Mānoa, and Pālolo and provided fresh water to irrigated taro fields (lo‘i) and crops such as sweet potatoes, bananas, and sugar cane. The coastal areas were drier than inland zones and therefore the irrigation systems provided the means for wetland agricultural complexes throughout the plains of Waikīkī. Inland fresh springs were available in Mō‘ili‘ili and Punahou. 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. The bounty of Waikīkī made it a popular area traditionally, historically, and through to the modern era. However, with post-contact (post-1778 AD) advances in trade with foreign vessels, changes to agricultural practices, land reclamation activities, and commercialized development, Waikīkī has undergone vast changes.

Traditional Waikīkī, A Residence of Hawaiian Royalty

Waikīkī has long been a residence of Hawaiian royalty or ali‘i (Beckwith 1970, Kanahele 1995, Fornander 1996). Fornander (1996:89) describes an early mō‘i (king) of O‘ahu.

Mailikukahi is said to have been born at Kukaniloko [where royalty gave birth, central O‘ahu], and thus enjoyed the prestige of the tabu attached to all who born at that hollowed place. After his installation as Moi he made Waikiki in the Kona district his permanent residence, and with a few exceptions the place remained the seat of the Oahu kings until Honolulu harbor was discovered to be accessible to large shipping.

Beckwith (1970) recounts Mailikukahi, as well as his successors, as being considered wise and just rulers. The Legend of Kalaunuihewa describes the waring chief of Kaua‘i and land reforms conducted to strengthen power of the ali‘i and stabilize control over the growing island populations. On O‘ahu this was done by Mailikukahi, from Waikīkī.

With Mailikukahi, Waikiki became the ruling seat of chiefs of Oahu. He carried out strict laws, marked out land boundaries, and took the firstborn son of each family to be educated in his own household. He honored the priests, built heiaus [temples], and discountanced human sacrifice.” (Beckwith 1970:383)

Kanahele (1995:134-135) describes three factors of the ali‘i residence in Waikīkī, they were near a beach, next to a stream or ‘auwai (canal or ditch), and among a grove of coconut or kou (*Cordia subcordata*) trees. These conditions were plentiful along the Waikīkī coastline and the ocean provided vast aquatic resources and plentiful pastimes.

The renowned John Papa ‘Ī‘ī was born in Kawehewehe, Waikīkī and he recounted the setting during his early years.

Kamehameha’s houses were at Puaaliilii, Makai of the old road, and extended as far as the west side of the sands of Apuakehau. Within it was Helumoa, where Kaahumana ma went to while away the time. The king built a stone house there, enclosed by a fence; and Kamalo, Wawae, and their relatives were in charge of the royal residence. Kamalo and Wawar were the children of Luluka and Keaka, the childhood guardians of Kamehameha. This place had long been a residence of chiefs. It is said that it had been Kekuapoi’s home, through her husband Kahahana, since the time of Kahekili. (‘Ī‘ī 1959:17)

A traditional trail system through Honolulu, Mānoa Valley, and Waikīkī was also described by ‘Ī‘ī (1959). The trail stretched from Kawaiahao (in Honolulu) through coconut groves, along fishponds, “then through the center of Helumoa of Puaaliilii, down to the mouth of the Apuakehau stream; along the sandy beach of Ulukou to Kapuni, where the surfs roll in.” (‘Ī‘ī 1959:92).

Historically, Hawaiian royalty commonly lived in Waikīkī. Residing ali‘i included Kamehameha the Great, Queen Ka‘ahumanu, King Kamehameha II (Liholiho), Kamehameha IV (Alexander Liholiho) and Queen Emma, Kamehameha V (Lot Kamehameha), King Lunalilo (William C. Lunalilo), Princess Ruth (Ruth Keanolani Kanahohoa Ke‘elikolani), Princess Pauahi (Bernice Pauahi Bishop), King David Kalākaua and Queen Kapi‘olani, Princess Likelike (Miriam Likelike Cleghorn), Archibald Cleghorn, and Princess Ka‘iulani (Victoria Kawekiu Ka‘iulani).

Battles Within Waikīkī

Inter-island warfare as well as local warfare were somewhat common in Hawaiian history. Three accounts of inter-island warfare which ensued from the coast of Waikīkī are presented. An early raid on Oahu is recounted by Fornander (1996) during the reign of Mailikukahi. Several chiefs from Hawai‘i Island and a chief from Maui were emboldened to seize the fertile and prosperous island of O‘ahu.

The invading force landed at first at Waikiki, but for reasons not stated in the legend, altered their mind, and proceeded up the Ewa lagoon and marched inland. At Waikakalaua they met *Mailikukahi* with his forces, and a sanguinary battle ensued. The fight continued from there to Kipapa gulch. The invaders were thoroughly defeated, and the gulch is said to have been literally paved with the corpses of the slain, and received its name, “Kipapa,” from this circumstance. (Fornander 1996:90)

Circa AD 1783, Maui's mō'i Kahekili invaded the shores of Waikīkī. Kamakau (1992:135) described the attack:

Kahekili had come with a fleet of war canoes that reached from Ka'alāwai [area near Diamond Head] to Kawehewehe...[the O'ahu warriors] went to 'Āpuakēhau and fought against the whole host, and when they found themselves surrounded by the Maui warriors they broke through the front lines, only to find their way of retreat bristling with more warriors and no way to turn in all of Kawehewehe. Spears fell upon them like rain, but it was they who slew the warriors of Maui... Three times both sides attacked, and three times both were defeated.

Fornander (1996) describes one of the battles of the AD 1783 siege on O'ahu, at 'Āpuakēhau where eight famous warriors of O'ahu attacked the Maui king Kahekili's army who was encamped, organizing, and preparing to march inland to fight O'ahu's king Kahahana.

The eight Oahu warriors boldly charged a large contingent of several hundred men of the Maui troops collected at the Heiau. In a twinkling they were surrounded by overwhelming numbers, and a fight commenced to which Hawaiian legends record no parallel. Using their long spears and javelins with marvelous skill and dexterity, and killing a prodigious number of their enemies, the eight champions broke through the circle of spears that surrounded them. (Fornander 1996:224).

The warriors were soon captured but were able to kill a Maui chief and escape. The battle ended in the favor of the Maui mō'i, Kahekili. Fornander (1996:225) describes how the O'ahu mō'i Kahahana and his wife and friend Alapai were forced to secretly wander the mountains of O'ahu for upwards of two years "secretly aided, fed, and clothed by the country people, who commiserated the misfortunes of their late king". Kahahana and his companion Alapai were eventually slain upon orders by Kahekili and their corpses were returned to Waikīkī.

In AD 1795, Kamehameha attacked O'ahu via Waikīkī, in what is referred to as the Battle of Nu'uano. Fornander (1996:347-348) describes the attack:

Kamehameha landed his fleet and disembarked his army on Oahu, extending from Wai'alae to Waikīkī. Consuming but a few days in arranging and organising, he marched up the Nuuanu valley, where Kalanikupule [son of Kahekili and regent in his absence] had posted his forces...the superiority of Kamehamehas artillery, the number of his guns, and the better practice of his soldiers, soon turned the day in his favor, and the defeat of the Oahu forces became an accelerated route and a promiscuous slaughter.

Kalanikupule escaped the battle but was caught several months later and was sacrificed on orders of Kamehameha. By AD 1810, all the Hawaiian Islands were unified under Kamehameha the Great.

|Place Names Within and In the Vicinity of the Project APE

Several place names are found on historic maps within and in the near vicinity of the project area and are discussed in mythological and historic accounts in the area. The current APE is largely located within the 'ili (small land division) of Kālia ("waited for", Pukui et al. 1974:77). Kālia extended along the coast from the 'ili of Kewalo in the west to the 'ili of Helumoa in the east and contained the ribboned delta of Pi'inaio Stream. Pi'inaio Stream was an important resource,

containing fresh water from the mountain valleys and marine resources such as fish, octopus, lobsters, eels, crab, and limu or seaweed. The swampy areas adjacent to Pi‘inaio Stream and surrounding marshland and back shore sand dunes provided easily adaptable land for farming and creating fishpond complexes. The APE also includes several other ‘ili. The west side of the APE is between Kālia to the south and Pāwa‘a (“canoe enclosure”) to the north (Pukui et al. 1974:182, Bishop 1881). Additional ‘ili and place names within the APE and vicinity are listed in Table 1 and shown on Figure 10 through Figure 13.

Table 1. Listing of Place Names Within and in the Near Vicinity of the Project APE

Place Name	Translation	Description	Source
‘Au‘aukai	bathe [in the] sea	‘ili kū or ‘ili kūpono (nearly independent ‘ili which paid tribute to ruling chief, not to chief of the ahupua‘a), fort land	Soehren 2019
‘Auwai ‘Alanaio	false sandalwood fragrance canal	flows from Pāwa‘a through the many ponds of Kālia, becomes Kahawai Pi‘inaio (Pi‘inaio Stream) below Kalākaua Avenue; within project APE	Soehren 2019
‘Āpuakēhau Stream	basket of dew	old stream near present Moana Hotel; probably named for a rain	Pukui et al 1974:13
Hamohamo	rub gently (as the sea on the beach)	area near ‘Ōhua Avenue in Waikīkī once belonging to Queen Lili‘uokalani; within project APE	Pukui et al 1974:40
Helumoa	chicken scratch	old land division near present Royal Hawaiian Hotel, ‘ili to the east of Kālia	Pukui et al 1974:44
Hōhē	coward, cowardly	‘ili ‘āina (‘ili which paid tribute to the chief of the ahupua‘a)	Soehren 2019
Ka‘ihikapu	the taboo sacredness		Pukui et al. 1974:68
Kālimoku	island carver	street, a variant name for Kalanimoku, advisor and prime minister for Kamehameha I and Queen Ka‘aahumanu	Pukui et al. 1974:73
Kalamanamana		‘ili ‘āina; within project APE	Soehren 2019
Kālia	waited for	stream and large land section in Waikīkī; within project APE	Pukui et al. 1974:77
Kalokoeli	The dug pond	within project APE	Pukui et al. 1974:78

Place Name	Translation	Description	Source
Kalokoloa	the long pond	within project APE	Pukui et al. 1974:78, Bishop 1881
Kaluaokau		‘ili kū	Soehren 2019, Bishop 1881
Kamoku	the district or the cut-off portion	street, Ala Wai	Pukui et al 1974:82
Kāneloa	tall Kāne		Pukui et al 1974:84
Kanukuā‘ula	the nukuā‘ula (type of fishing net, with mesh so fine that only the very tip [nuku] of the finger could be inserted)	‘ili kū	Soehren 2019
Kapahulu	the worn out soil	avenue	Pukui et al. 1974:87
Kapuni	the surrounding	ancient surfing area, street, former land on ‘Āinahau estate	Pukui et al. 1974:90
Kauamoa		‘ili ‘āina; within the project APE	Soehren 2019, Bishop 1882
Kawehewehe	the removal	reef channel at Grey’s Beach just east of Halekūlani Hotel; the sick were bathed here	Pukui et al. 1974:99
Kekio		‘ili ‘āina, lele in Palolo	Soehren 2019
Kēōkea	the white sand		Pukui et al 1974:107
Keōmuku	the shortened sand		Pukui et al 1974:108
Kewalo	the calling (as an echo)	basin (harbor) and surfing area; ‘ili to the west of Kālia	Pukui et al. 1974:109
Loko Kaheana		pond within LCA 4605; within project APE	Bishop 1881
Loko Ka‘ihikapu	the taboo sacredness	fishpond at Fort DeRussy;	Pukui et al. 1974:109, Bishop 1881
Loko Kaipuni		fishpond at Fort DeRussy	Bishop 1881
Loko Kaohai		fishpond at Fort DeRussy	Bishop 1881

Place Name	Translation	Description	Source
Loko Kapu‘uiki		fishpond at Fort DeRussy;	Bishop 1881
Loko Kuilei	lei stringing pond	lo‘i kalo patch; within project APE	Soehren 2019, Bishop 1881 and 1882
Loko Pāweo I and II	turn aside	fishponds at Fort DeRussy;	Pukui et al. 1974:182, Bishop 1881
Loko Puapuanenei		within project APE	Bishop 1881
Mā‘ulukīkepa		‘ili kū	Soehren 2019
Muliwai Kūkaunahi		stream, former Kālia Stream entered the sea through Muliwai Kūkaunahi approx., between Ohua and Paoakalani Streets; within project APE	Soehren 2019, Bishop 1881
Mo‘okahi (Kamo‘okahi)		‘ili kū, mo‘o; within project APE	Soehren 2019
Niukūkahi	coconut standing alone		Pukui et al 1974:166
Pa‘akea	coral bed, limestone		Pukui et al 1974:173
Pau	finished (canoe races on the Ala Wai Canal finished here)	street near McCully Bridge, named by Bruce Cartwright who subdivided the area; within project APE and area of ground disturbance	Pukui et al. 1974:181
Pāwa‘a	canoe enclosure	it is said canoes were brought here from the sea by canal; within project APE	Pukui et al. 1974:182
Pi‘inaio Stream		former stream to west of Fort DeRussy	Bishop 1881
Pua‘ali‘ili‘i	little pig	beach between ‘Āpuakēhau Stream and Helumoa, Kamehameha I had houses there	Pukui et al. 1974:190
Ulukou	tree grove	where Moana Hotel is located	Pukui et al 1974:215

Place Name	Translation	Description	Source
Uluniu	coconut grove	avenue, Waikīkī	Pukui et al 1974:215
Wai‘a‘ala (Kawai‘a‘ala)	fragrant water	‘ili ‘āina, within project APE	Soehren 2019
Waiaka	reflection water or shadowy water	‘ili kū; within project APE	Pukui et al 1974:219
Waikīkī	spouting water	ahupua‘a where the current project is located	Pukui et al. 1974:223

Early Historic Period to Mid-1800s

Waikīkī was described by early European explorers as bountiful land with large villages, ponds teaming with wildlife, and a high degree of agricultural cultivation (Vancouver 1978, Menzies 1920). The first record of Europeans visiting Waikīkī, which they referred to as “Whitette Bay,” was in 1786 during the voyage of Portlock and Dixon (Fitzpatrick 1987:34). Waikīkī was again visited by Vancouver in 1793. The following early description of Waikīkī was provided by Menzies (1920:23-24) during his voyage on board the H.M.S. Discovery in the 1890s.

The verge of the shore was planted with a large grove of coconut palms affording a delightful shade to the scattered habitations of the natives. Some of those near the beach were raised a few feet above the ground on a kind of stage, so as to admit the surf to wash underneath them. We pursued a pleasing path back into the plantation, which was nearly level and very extensive, and laid out in great neatness in little fields planted with taro, yams, sweet potatoes, and the cloth plant. These in many cases were divided by little banks on which grew the sugar cane and a species of *Draecena* without the aid of much cultivation, and the whole was watered in a most indigenous manner by dividing the general stream into little aquaducts leading in various directions so as to be able to supply the most distance fields at pleasure, and the soil seemed to repay the labor and industry of these people by the luxuriance of its productions. Here and there we met with ponds of considerable size, and besides being well stocked with fish, they swarmed with water fowl of various kinds such as ducks, coots, water hens, bitterns, plovers and curlews.

In 1789, Waikīkī was visited by Captain William Douglas of the ship *Iphigenia*.

He was visited by Kahekili “who arranged to have hogs, kalo root, sweet potatoes and fish sent out. Kahekili cordially showed Douglas his village with its plantations and fishponds, but quite soon the friendly atmosphere was dissipated when Kahekili’s people stole both of Douglas’ anchors. The condition for their return was that Douglas should leave two armorers ashore. The bargain was finally closed with a musket, a pistol, and some ammunition, and a threat from Douglas that the village of Waikīkī would be burned if the anchors were not forthcoming. On return visits

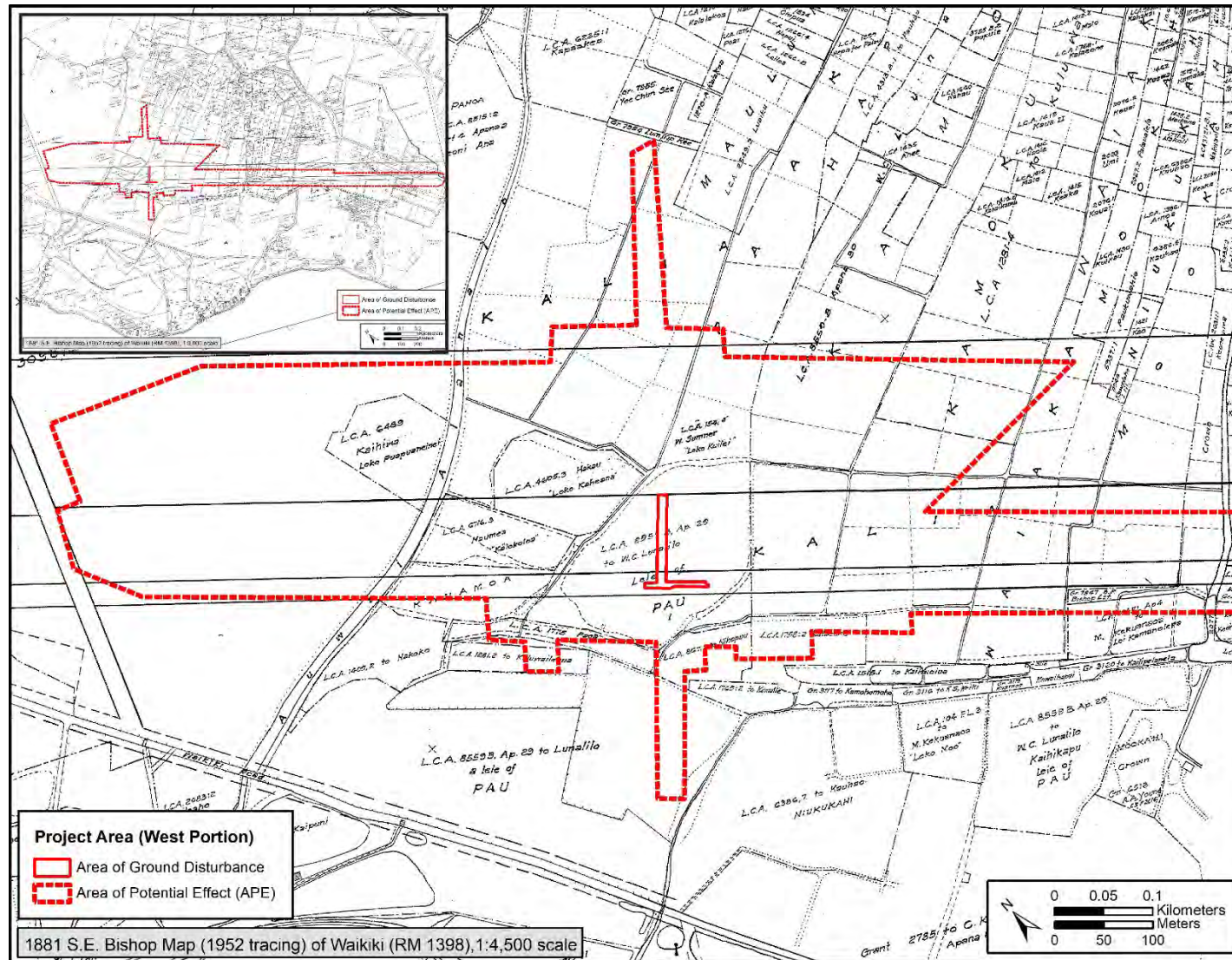


Figure 10. Portion of an 1881 S.E. Bishop map showing the APE (inset) with a close-up of the west portion of the APE showing place names and nearby LCAs and Land Grants (Registered Map [RM] 1398, 1952 tracing)

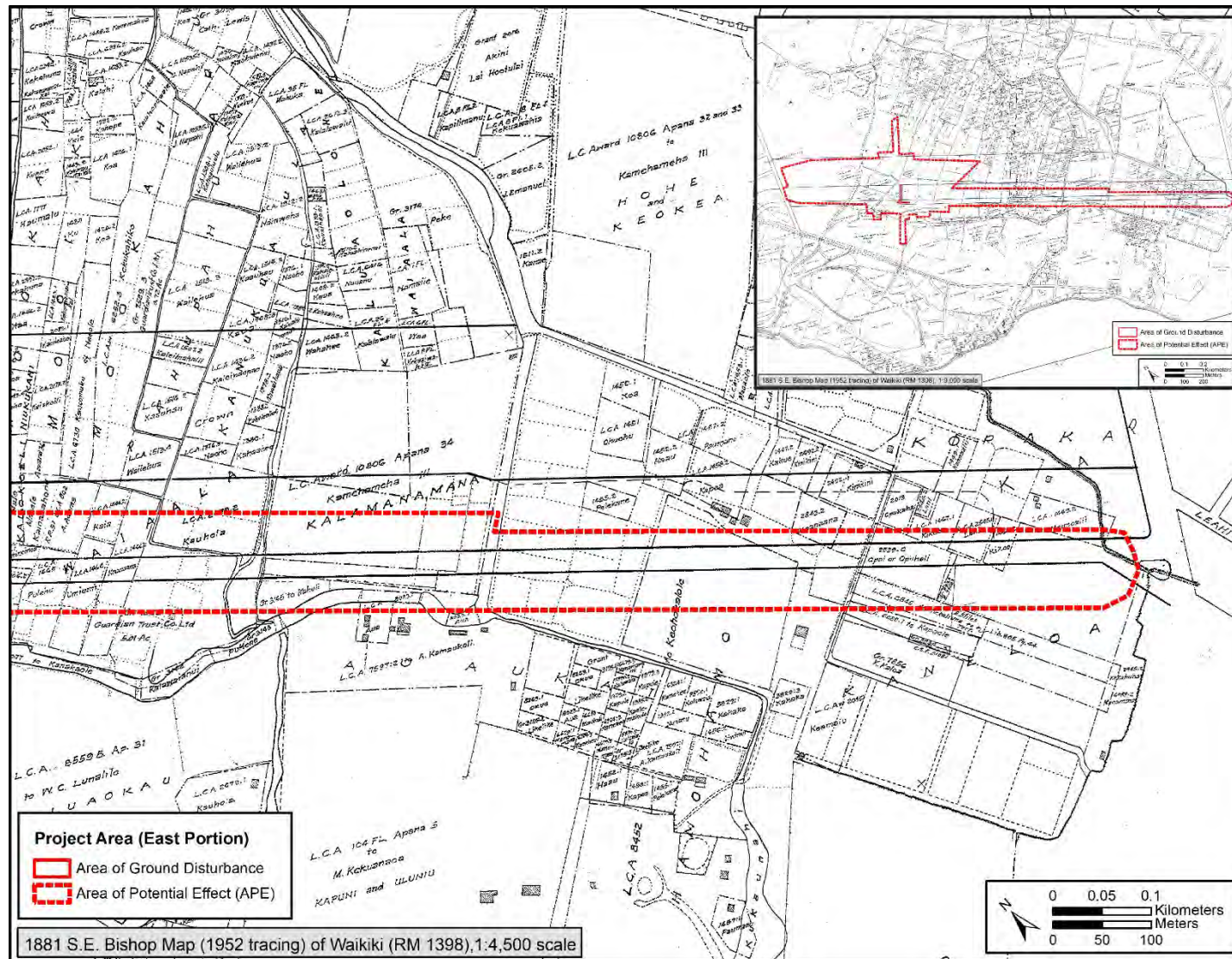


Figure 11. Portion of an 1881 S.E. Bishop map showing the APE (inset) with a close-up of the east portion of the APE showing place names and nearby LCAs and Land Grants (Registered Map [RM] 1398, 1952 tracing)

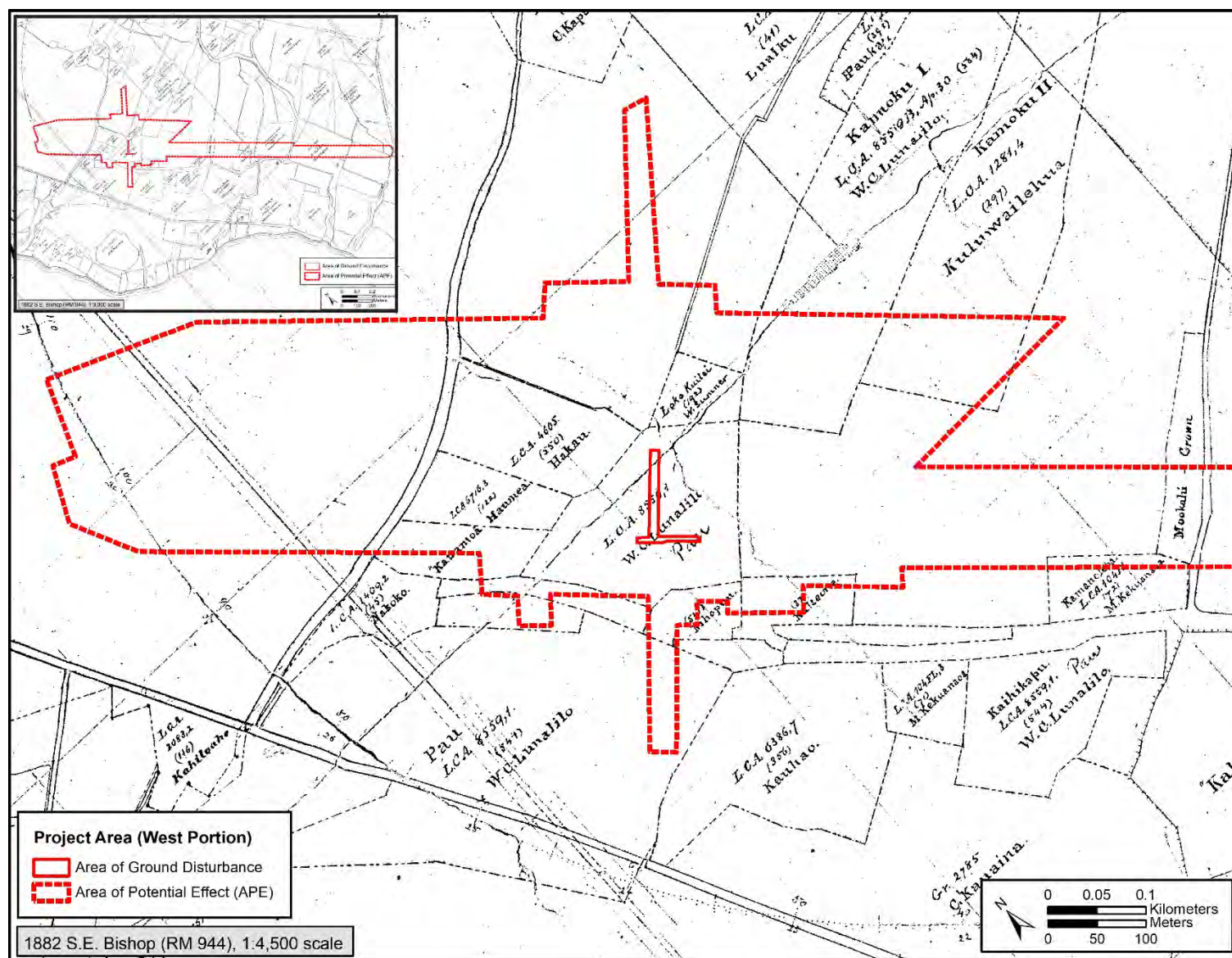


Figure 12. Portion of an 1882 Bishop map showing the APE (inset) with close-up of the west portion of the APE (RM 944)

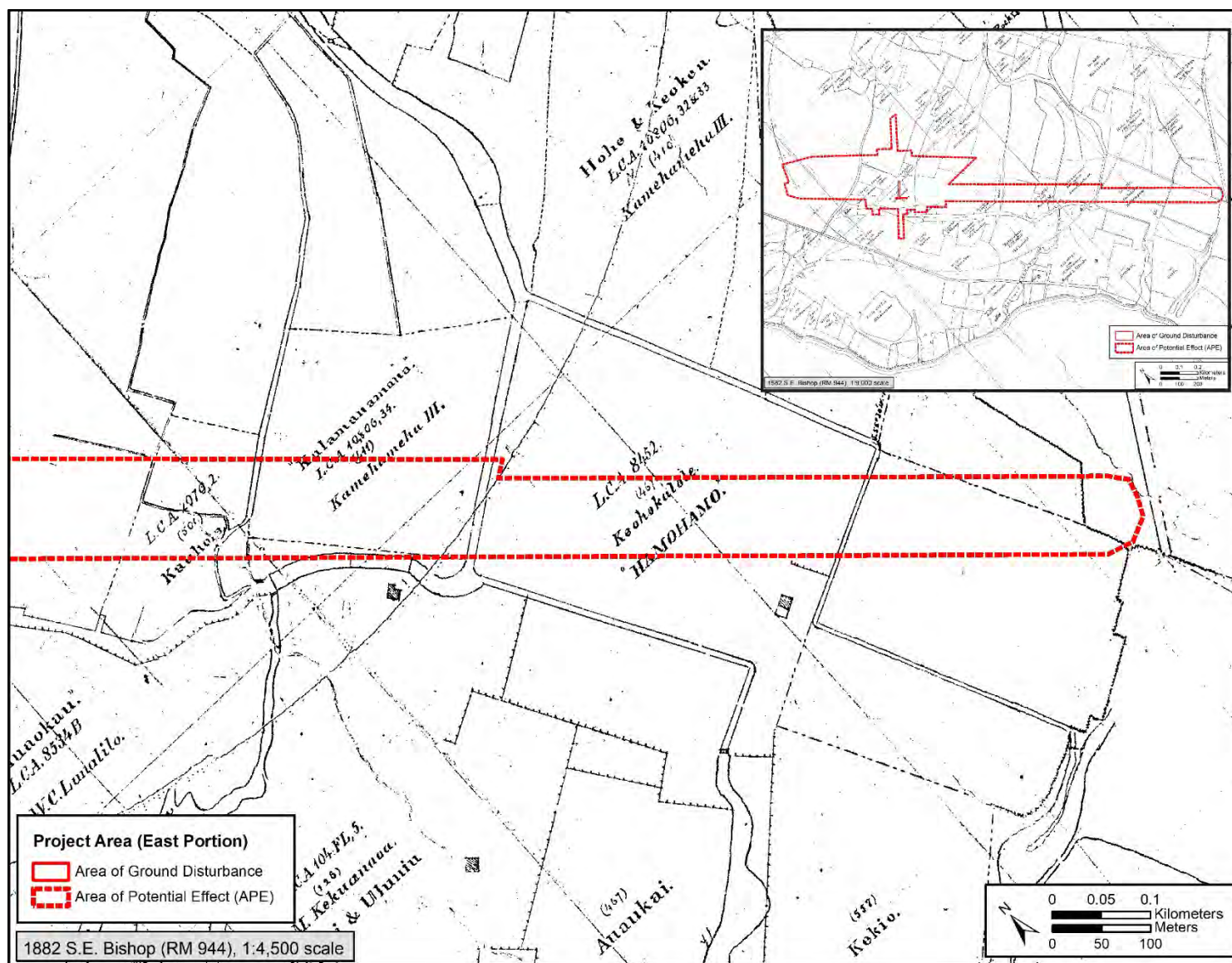


Figure 13. Portion of an 1882 Bishop map showing the APE (inset) with close-up of the east portion of the APE (RM 944)

later in 1789, Douglas was made to pay very high prices for supplies, and to offer powder and shot as well. (Meares 1790, cited in Daws 2006:7)

Waikīkī was often visited by foreign trading vessels in the late-18th and early-19th centuries. In 1809, with the draw of Honolulu Harbor, Kamehameha moved from Helumoa in Waikīkī to Pākākā (“to skim [as stones over the water]”) near the mouth of Nu‘uanu Stream in Honolulu (Pukui et al. 1974:175, Daws 2006). Thereafter, a large portion of the population moved from Waikīkī to Honolulu. Coupled with the decrease in the native Hawaiian population due to the devastating effects of introduced European diseases, the lands of Waikīkī were not being maintained or as well managed as they had once been. Chamberlain (1957) wrote of the neglected state of the agricultural fields in Waikīkī during the early-19th century. In the mid- to late- 1800s, Chinese and Japanese rice farmers revived the use of the old agricultural lands to grow rice and raise certain varieties of fish and ducks (Hibbard and Franzen 1986)

Māhele to Late 1800’s

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 ali‘i (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 (R.P.) 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. Fort Land (FL) was set apart throughout Kalihi, Honolulu, and Waikīkī for the garrison of the Fort of Honolulu. In 1851, the Fort Lands were surveyed and sold in auction as LCAs (Alexander 1891). Land was also granted under two different types of ‘ili (subdivision of an ahupua‘a), ‘ili āina (land inheritance) and ‘ili kūpono or ‘ili kū. ‘Ili kūpono was “nearly independent land held by chief where the transfer of the ahupua‘a to a new chief did not carry with it the transfer of the ‘ili kūpono contained within its limits” (Lyons 1903:28). Large landowners had multiple ‘āpana (land section). These are also often referred to as ‘ili lele (jumps) or separate pieces of non-contiguous pieces of land (Lyons 1903:27).

The 1881 and 1882 S.E. Bishop maps of Waikīkī indicate some 33 LCA and LG are present within the project APE (refer to Figure 10 through Figure 13 and Table 2). The land uses described in the claims include house sites, farming land of kalo (taro, *Colocasia esculenta*), lo‘i (irrigated terraces), kula (pasture land), ‘auwai (irrigation ditches), kahawai (streams), ponds, muliwai (river mouth), fish wells, coconut trees (*Cocos nucifera*), hala trees (*Pandanus odoratissimus*), and hau trees (*Hibiscus tiliaceus*). The APE is well situated between ‘Auwai ‘Alanaio and Muliwai Kūkaunahi, creating a very wet and fertile land which sustained an extensive agricultural complex.

Table 2. Table Listing Land Commission Awards (LCA), Land Grants (LG), and Royal Patents (RP) Awarded Within the Project APE

LCA, Grant, or Royal Patent	Claimant	Location	Acreage	Description
LCA 154: ‘Āpana 4, RP 1619	William Sumner	Kuilei	14.74 acres	kalo (taro), kula (pasture), and a house lot
LCA 802, RP 51	Adams, Alexander	Kawai‘a‘ala	4.13 acres	land called Niu
LCA 867, ‘Āpana 4, RP 2275	Nihopuu	Kālia, Pualinue	1.62 acres, 2 ‘āpana	4 taro patches, 2 sections of irrigation ditch, and a separate house lot on Kālia shore
LCA 1281	Kuluwailehua, Samuel	Kamoku, Kamoku 2	various	2 houses, lo‘i (irrigated terrace), coconut grove, fishery
LCA 1444, RP 2562	Kaia or Kaea	Mo‘oiki	0.68 acres, 2 ‘āpana	2 lo‘i
LCA 1449, RP 2830	Kaumoali	Kāpahulu	1.55 acres, 2 ‘āpana	2 houses
LCA 1455, RP 6435	Pelekane	Hamohamo	0.53 acres, 2 ‘āpana	1 lo‘i and a house lot
LCA 1458, RP 5954	Kapea	Hamohamo	0.92 acres, 2 ‘āpana	1 lo‘i, 2 kula, one bank of an irrigation ditch, and a house lot
LCA 1464, RP 3443	Umiumi	Wai‘a‘ala, Helumoa	0.87 acres	one and one half lo‘i
LCA 1465	Pulehu	Wai‘a‘ala	1 acre	2 lo‘i
LCA 1466	Kaanaana	Helumoa, Wai‘a‘ala	1.2 acres, 2 ‘āpana	2 lo‘i and a house lot
LCA 1467, RP 2579	Kikoo	Kaneloa, Kāpahulu	0.68 acres, 2 ‘āpana	4 lo‘i and two sections of irrigation ditch
LCA 1758, RP 6873	Kalaeone	Kamoku, Kālia	7.14 acres, 3 ‘āpana	2 lo‘i, small section of irrigation ditch, house lot, 2 fish wells, edge of stream, a hala tree
LCA 1775, RP 7033	Paoa or Pawa	Kālia	3.22 acres, 2 ‘āpana	section of irrigation ditch, house lot, 5 hau trees and 4 hala trees

LCA, Grant, or Royal Patent	Claimant	Location	Acreage	Description
LCA 2006, RP 5066	Male	Kalokoeli, Kamoomuu	1.25 acres, 3 ‘āpana	4 lo‘i, the banks of two irrigation ditches, a house lot, and a coconut grove
LCA 2018, RP 2796	Opukaha	Kaneloa	0.32 acres	2 irrigation ditches and a house lot
LCA 2079, RP 723	Kauhola (wahine) and Kika	Kālia, Makiki, Mokahi, Hōhē, Kawai‘a‘ala, Kaluahole	7.25 acres, 2 ‘āpana	7 lo‘i and a house lot
LCA 2084	Keohokahina	Kalokoeli, Kamo‘okahi, Ulukou	1.16 acres, 3 ‘āpana	2 lo‘i, a taro patch, and a house lot
LCA 2492, RP 2795	Kinikini	Hamohamo, Pumaia	1.31 acres, 2 ‘āpana	at least 3 lo‘i
LCA 2539	Upai or Opuhali	Hamohamo	1 acre	half a lo‘i, 13 coconut trees
LCA 2545, RP 2797	Lani	Kāneloa	0.56 acres, 2 ‘āpana	3 lo‘i, one hala tree, and a house lot
LCA 2549, RP 5465	Luaiku	Maulukikepa, Kālia	0.44 acres (Waikīki)	4 lo‘i, section of watercourse, and house site
LCA 2843, RP 6484	Kaanaana	Hamohamo	0.73 acres, 2 ‘āpana	
Grant 3145	Kahuli	Kālia	0.48 acres	
LCA 4605, RP 6426	Hakau (wahine)	Pi‘inaio	4 acres	2 sections of kahawai (stream), Loko Kaheana (Bishop 1881)
LCA 6088. RP 2837	Manamana I, Kapaole (heir)	Kaneoloa	0.66 acres, 2 ‘āpana	13 lo‘i, 3 mo‘o (narrow strip of land), and a house lot
LCA 6489, RP 4519	Kaihiwa	Kauhikio, Honuakaha	1.91 acres	house lot and Loko Puapuaneinei
LCA 6716, RP 5698	Haumea	Keauhou	31.26 acres, 4 ‘āpana	1 house lot and Kalokoloa (“long pond”)

LCA, Grant, or Royal Patent	Claimant	Location	Acreage	Description
Grant 7685	Bishop Trust Company Limited	Kauamoa	0.61 acres	
LCA 8452, RP 5588	Keohokalole, A. (wahine)	Hamohamo	10.5 acres	Muliwai Kukaunahi, fishing privileges at mouth of the muliwai (river mouth)
LCA 8559B, 'Āpana 29, RP 8434	W.C. Lunalilo	“Lele of Pau” and “Ka’ihi‘kapu Lele of Pau”	Unknown	9 lo‘i, within area of ground disturbance
LCA 8559B, 'Āpana 30, RP 7635	W.C. Lunalilo	Kamoku	18 acres	
LCA 10806, 'Āpana 34	Kauikeaouli, Kamehameha III		11.96 acres	A farm at Waikīkī called Kalamanamana

One LCA encompasses the proposed area of ground disturbance. LCA 8559B, 'Āpana 29, was granted to William Charles Lunalilo, the 6th king of Hawai‘i and is depicted on the 1881 S. E. Bishop map as “Kaihi kapu, Lele o PAU” (refer to Figure 10). Ka’ihikapu is translated as “the taboo sacredness” (Pukui et al 1974). Pau (“finished”) is an ‘ili kūpono (independent land division) of King Lunalilo (Soehren 2010) and “lele” translates to “separate or detached”, therefore “Lele o Pau” identifies one of the multiple separated land pieces awarded to Lunalilo. Royal Patent (RP) 8434 was awarded to Lunalilo for this land. Documents which describe this land make mention of 9 lo‘i. All original Boundary Commission documents are included as Appendix A and all available Māhele documentation associated with LCA 8559B 'Āpana 29 are included as Appendix B.

Other LCA’s in the vicinity of the area of ground disturbance provide additional information on land use in the area. LCA 154 'Āpana 4, part of RP 1619, awarded to William Sumner, is located adjacent and to the north and is described as “Loko Kuilei” on the 1881 S.E. Bishop map and in Māhele Award documents and is further described as a “kalo patch, makai in marsh” (Māhele Award Book, Reel 2, Volume 1, pg. 506). Lahilahi, described as the konohiki of the land, gave the following description:

“Lahilahi sworn, I know this land called Kuilei. It consists of kalo land principally, and some kula. I was born near it, and have lived there all my life. I cannot give the exact number of kalo patches. It (the LCA) consists of 4 distinct pieces, and one of sea, called Ele, beyond Diamond Hill. I went with Kalanikahua (surveyor) when he surveyed it, and the bounds were given in these surveys are correct, which I can point out at any time. There are several tenants living on this land and having rights therein.

Mr. Sumner got this land in the time of Kamehameha II in 1822 or 1823, and he and his heirs have held them ever since in peace and quietness. I am headman of this land.

Mr. Sumner on part of the heirs, said he did not wish to disturb the right of the tenants there, he fully recognized their rights” (Foreign Testimony, Reel 2, Volume 2, pg. 509-510).

That may not have necessarily been the case, as a later testimony by Nameakauu disputes the previous claim:

“Nameakauu sworn, I am a resident and kamaaina of Kuilei. I know the land in dispute it was given by Old Captain Sumner toaho in time of Kaahumanu, who held it till he died in 1828 and gave to Kaai his last heir when Kohou died. Kaai took the land and did the poalima [pō‘alima, work on the chief’s plantation] of the Konohiki lele February last when Lahilahi the konohiki who is under W. Sumner took away the land and houselot. I know of no reason for it” (Foreign Testimony, Reel 2, Volume 3, pg 286).

LCA 867 ‘Āpana 2, part of RP 2275 awarded to Nihopuu, is located adjacent and to the south of the area of ground disturbance and is described by Nihopuu in the native testimony as “...four small taro patches and two sections or irrigation ditch from which I gain my livelihood” (Native Testimony, Reel 2, Volume 2, pg. 487). A house lot is described on the property by Kamainui in the native and foreign testimonies (Native Testimony, Reel 2, Volume 3, pg.10). He describes the LCA overall as “... a house lot and kalo land with some other land in 3 distinct lots” and further describes ‘Āpana 2 as:

“Bounded Waititi by my land, makai by Peleuli’s place, Honolulu by Makuahine’s, mauka by Kuluwailehua’s, it is fenced and claimant has 1 house, it includes a strip that bisects it. Claimant got this piece from Peleuli in the time of Kaahumanu” (Foreign Testimony, Reel 1, Volume 2, pg. 577-578).

LCA 1775 ‘Āpana 2, part of RP 7033 awarded to Paoa (Pawa), is located adjacent and to the southwest of the area of ground disturbance and is described as a paukū (irrigation ditch) and taro land. The claim made by Pawa is recorded in the Native Register as follows:

“To the Land Commissioners, Greetings: I hereby state my claim for a section of irrigation ditch (‘āpana 2). I do not know its length – perhaps it is two fathoms or less. The length of my interest at this place is from the time of Kaahumanu I, which was when my people acquired this place, and until this day when I am telling you, no one has objected at this place where I live. The house lot (‘āpana 1) where I live is on the north of the government fence at Kalia. Some planted trees grow there – five hau and four hala. There is a well which is used jointly.

With thanks,

Pawa”

The land tenure of the property is further explained by Kalaione as follows:

“Land to Pawa from his mother, Makuahine. Makuahine had received it from Naliikipi after the death of Kinau in 1839, because Makuahine is Naliikipi’s sister. Makuahine had bequeathed it

permanently to Pawa, their son. Makuahine, Pawa's parent has died and Pawa has been living there to the present time peacefully."

LCA 4605, 'Āpana 3, part of RP 6426 awarded to Hakau (Kahau) is located adjacent and to the west-northwest of the area of ground disturbance and is labeled as "Loko Kaheana" on the 1881 S.E. Bishop map. It is described in the Māhele Book documentation and accompanying map as "Loko Kaheina" with Haumea's (LCA 6716) property to the south and government land encircling the rest of the claim. A square structure, likely a house site, is depicted in the northeast corner of the property near the boundary with LCA 8559B, 'Āpana 29 (Māhele Award Book, Reel 9, Volume 7, pg. 394). In the Native Register the property is described by Hakau as part of "...two sections of kahawai (stream) at Waikiki kai" (Native Register, Reel 3, Volume 4, pg. 317). The land tenure of the property is further explained by Luaiku as follows:

"Ieki, Kahau's first husband, received all of these sections of Land from Kaahumanu I before 1832 and Ieki had lived comfortably until his death in 1844. He had bequeathed these places to his wife and she has been living comfortably to the present time. No one has objected." (Native Testimony, Reel 2, Volume 3 pg. 684).

LCA 6716, 'Āpana 3, part of RP 5698 awarded to Haumea, is located adjacent and to the west and is labeled as "Kalokoloa", meaning the "long pond", on the 1881 S.E. Bishop Map and in Māhele documentation. The accompanying map shows an 'auwai (ditch) between the property and LCA 8559, 'Āpana 29 (Māhele Award Book, Reel 12, Volume 10, pg. 518). The foreign testimony provides additional information and describes the land as "2 pastures called Kalokoloa" and indicates "the claimant received the land from Liholiho" (Foreign Testimony, Reel 4, Volume 14, pg. illegible). Additionally, the land is referred to as "Keauhou 'ili" in the Native Register documentation (Native Register, Reel 3, Volume 5, pg. 392).

Grant 7685 awarded to the Bishop Trust Company Limited is located to the west of the proposed area of ground disturbance and is labeled as "Kauamoa" on the 1881 S.E. Bishop map. A 1920 grant survey document indicates the area measured 0.61 acres and was government land prior to being turned over to the Bishop Trust Co. Ltd. during construction associated with the Waikīkī reclamation project and Ala Wai Canal.

During the latter portion of the 19th century Waikīkī became an increasingly popular place for Americans and foreigners. This was due to increased access facilitated by improvements to the Waikīkī Road in the 1860's (which would eventually become Kalākaua Avenue), the opening of a tram line between Honolulu and Waikīkī, and the opening of Kapi'olani Park in 1877 (Hibbard and Franzen 1986:22). The influx of foreigners and foreign interests coupled with the decline of the native Hawaiian population due to introduced diseases led to the majority of the over 45 fishponds and numerous lo'i present in the Waikīkī area to be either abandoned or left in a state of disrepair.

The introduction of Chinese laborers in the middle of the century to support the sugar industry and emerging markets in the United States shifted the agricultural focus away from traditional Hawaiian crops such as taro and sweet potato to rice and bananas, a trend seen throughout the Hawaiian Islands. Rice and bananas were well suited for the area and it was grown principally in the marshes and former lo'i patches within the existing Waikīkī agricultural system. The extent of the rice/marsh lands and the project APE are shown on an 1893 map of Honolulu by W.E. Wall (Figure 14).

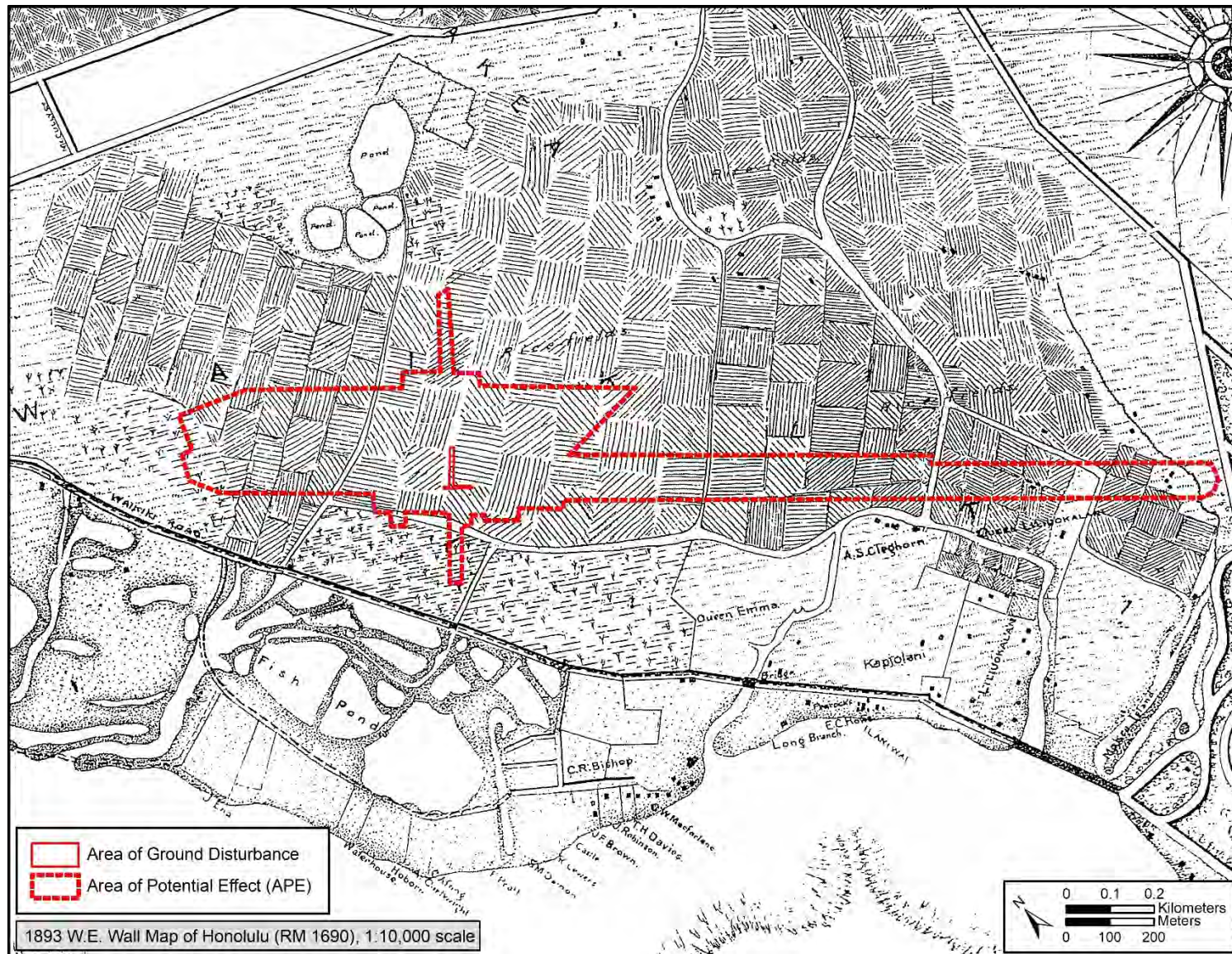


Figure 14. 1893 W.E. Wall map showing the project APE within marshlands (RM 1690)

1900 to the Present

The early 1900s saw great development of Waikīkī with grand residential houses, bathhouses, and hotels, starting with the Moana and Seaside Hotels. However, the extensive ponds throughout Waikīkī proved to be a menace as breeding grounds for mosquitoes. It was estimated approximately 85% of modern Waikīkī, west of Lewers Street and inland of Kalākaua Avenue was under water.

The natural environment of Waikīkī changed drastically in the early-twentieth century, as the extensive ponds and wetlands proved to be a menace as breeding grounds for mosquitoes. It was estimated approximately 85% of modern Waikīkī, west of Lewers Street and inland of Kalākaua Avenue was under water.

The property was used as duck or fish ponds, and for the cultivation of rice and taro. These well-established agricultural and aquacultural systems continued to exist side by side with the more urban, resort oriented aspirations of Waikīkī until the 1920s when the wetlands were eliminated (Hibbard and Franzen 1986:86).

A pre-1900 aerial photo (Figure 15) looking from Diamondhead over the Waikīkī plains shows the wetland environment. Due to continued threat of disease from mosquitoes, the Territorial Board of Health decided that an area well over 600-acres in size throughout Waikīkī be filled and the Ala Wai Canal be built to drain the area as part of a Waikīkī Land Reclamation project (Pinkham 1906, Feeser 2006) A 1906 map showing the location of the Waikīkī Land Reclamation project, outlined in blue, indicates that the current project APE is located within the reclamation area (Figure 16).



Figure 15. Circa 1890s aerial photo overlooking the plains of Waikīkī from the top of Diamondhead (Hawai‘i State Archives)

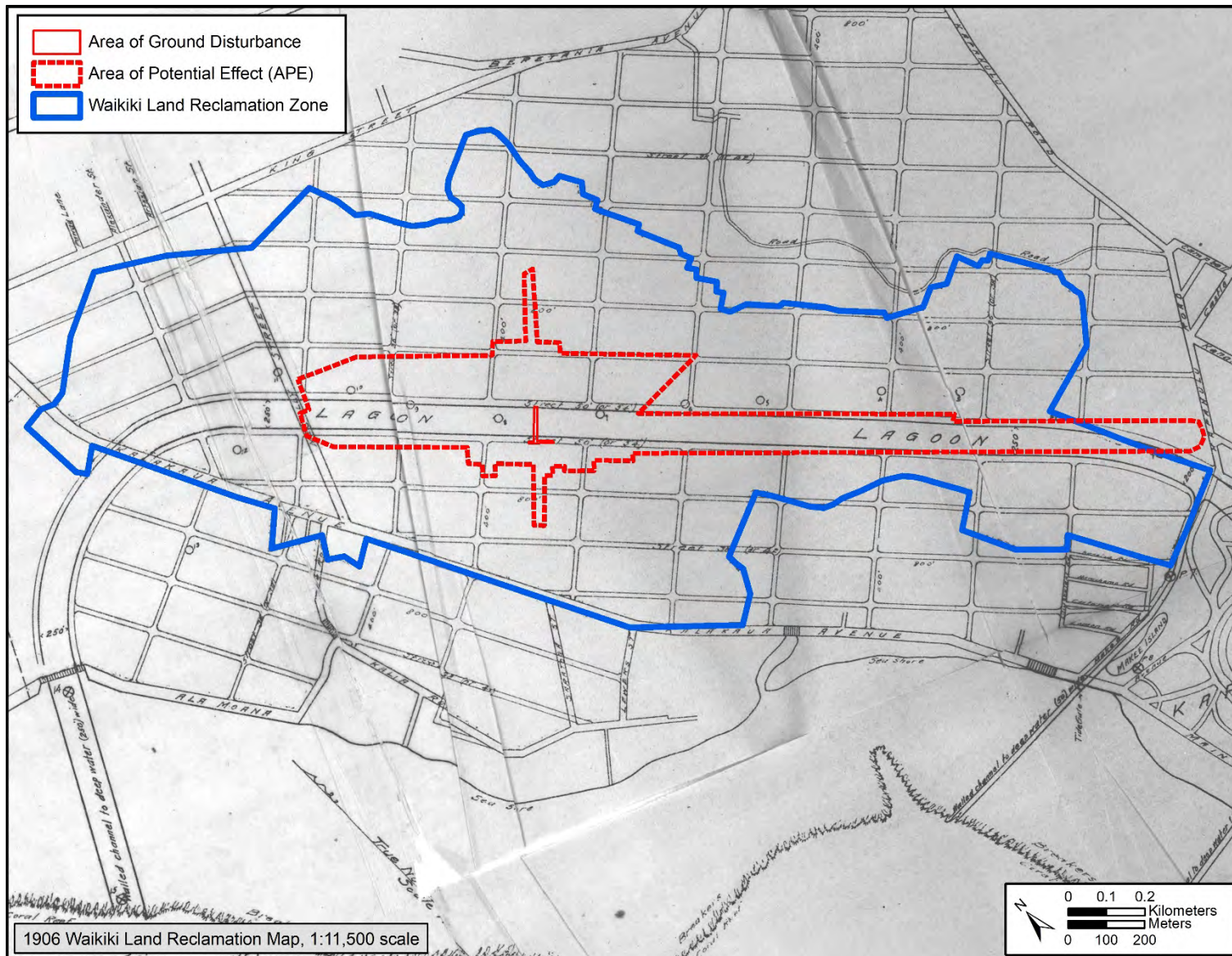


Figure 16. 1906 Waikīkī Land Reclamation map with the Reclamation District outlined (in blue) (Pinkham 1906:6, Map A)

In 1906, Lucius E. Pinkham, the president of the Board of Health wrote a report stating:

Whenever in the opinion of the Board of Health any tract or parcel of land situated in the District of Honolulu, island of O‘ahu, shall be deleterious to the public health in consequence of being low, and at times covered or partly covered by water, or of being situated being high and low water mark, or of being improperly drained, or incapable by reasonable expenditure of effectual drainage, or for other reasons in an unsanitary or dangerous condition, it shall be the duty of the Board of Health to report such fact to the Superintendent of Public Works together with a brief recommendation of the operation deemed advisable to improve such land. (Pinkham 1906:3)

The 1906 report goes on to say that Waikīkī is “deleterious to the public health,” “is low, covered and partly covered with water,” “is not drained at all,” “is incapable of effectual drainage,” and is “in an unsanitary and dangerous condition” (Pinkham 1906:3). Another description stated “the Waikīkī flats are a nuisance and menace and must be ultimately abated...They now yield some agricultural income that can never increase materially” (Pinkham 1906:30). It was therefore proposed to “transform it into an absolutely sanitary, beautiful, and unique district. One that will add immensely to the Reputation of Honolulu at home and abroad” (Pinkham 1906:4). The proposed plan called to:

...install an adequate sewer system and proper surface drainage. The entire Waikīkī district, and some adjacent land, under consideration, requires to be raised to a grade ranging from 5-7’ above sea level. Neither the hills mauka [inland] nor the beach can physically or economically furnish the material. (Pinkham 1906:10)

In order to acquire filling material several ideas were raised. “It occurred to seek the material in the rice and banana fields and swamps themselves” (Pinkham 1906:12). Another option was “in order to secure filling material a great lagoon would, as a consequence, be formed” and it “would give the opportunity to create a quite marvelously beautiful, unique district, a Venice in the midst of the Pacific. Within such a lagoon might be anchored the pleasure yachts of our great neighbors...The lagoon would furnish the best boat racing course in the world” (Pinkham 1906:12). Material used to fill in the lowlands of Waikīkī ultimately was secured from “Kapi‘olani Park Lagoon, from Waikīkī Reclamation District Lagoon, and from the Ala Moana Channel” (Pinkham 1906:26). A 1909 M.D. Monsarrat map of O‘ahu Fisheries shows the project APE in relation to Kalākaua Avenue and the Kālia Fishponds (Figure 17).

Pinkham was appointed as 4th Territorial Governor of Hawai‘i by President Woodrow Wilson in 1913 and served until 1918. During this time, he used his political power to facilitate the construction of the reclamation district. In 1917 Act 102 was passed which appropriated \$5,000 dollars to conduct a survey and produce maps and plans of the reclamation district. Later that same year, Act 231 was passed which appointed a commission to create a plan for the district and associated improvements. In 1918, \$100,000 dollars was appropriated for construction of the canal and Act 14 was passed which authorized the Superintendent of Public works to acquire the land for the canal through exchange, purchase, or condemnation. Act 14 and an 1896 law which required property owners to make improvements to their land based on whether it was deemed sanitary by the Hawaii Board of Health led to much of property for the canal being acquired through the practice of condemning land and placing liens on property if the land was not improved

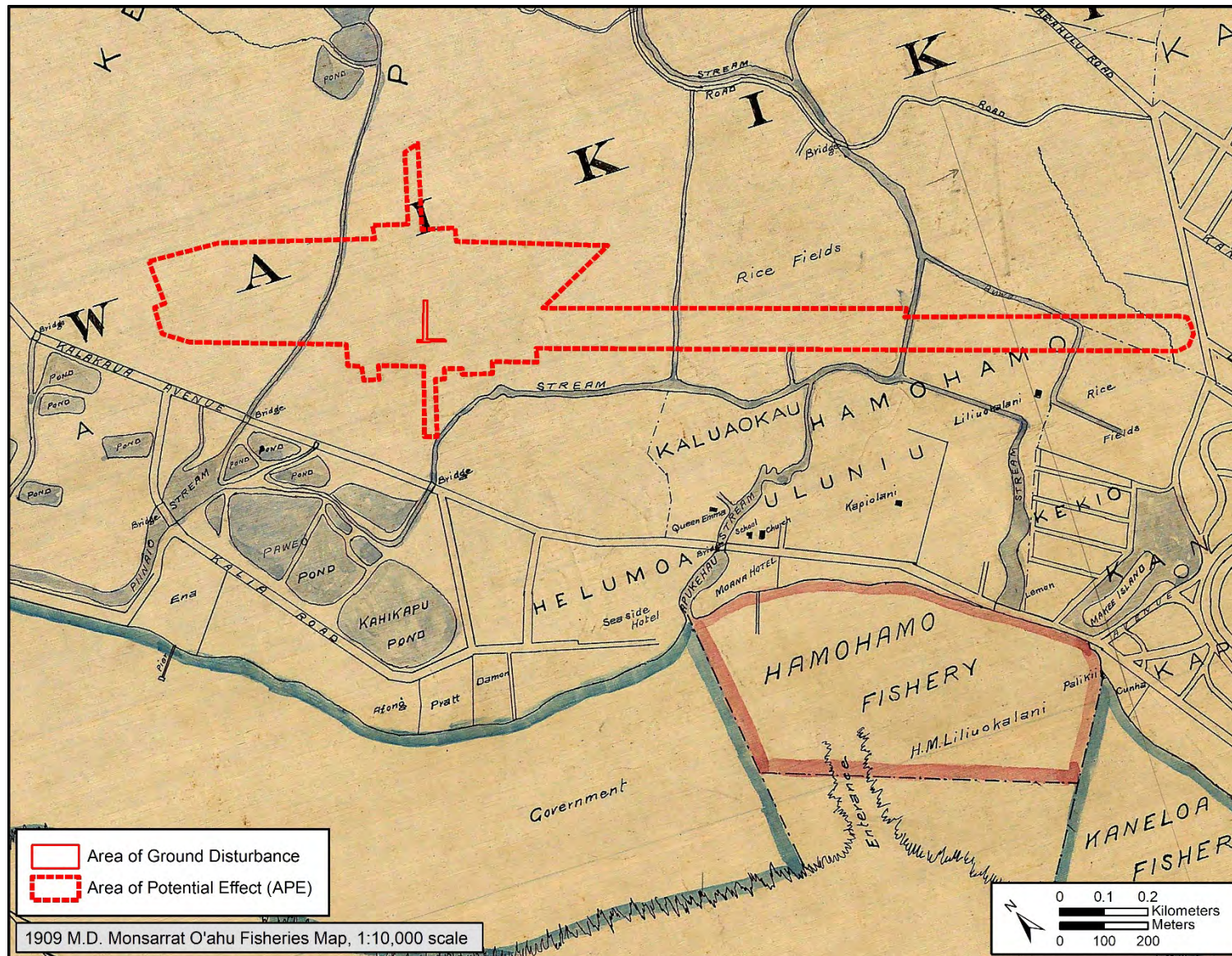


Figure 17. 1909 M.D. Monsarrat map of O'ahu showing the location of the project APE

and filled as requested (Steele 1992:5). This essentially ended wetland agriculture in Waikīkī and uprooted and ruined the livelihoods of wetland farmers, many of whom were Chinese banana and rice farmers and Hawaiians living on ancestral lands.

In 1920, the contract to build the Ala Wai Canal was awarded to Walter F. Dillingham's Hawaiian Dredging Company. Act 221, passed that same year, appropriated \$600,000 dollars for construction of the drainage canal, confirmed the boundaries of the reclamation project, and funded a commission to plan the district (Steele 1992:5). The Ala Wai Canal, an approximately 2 mile long, 250 foot wide, and 10-25 foot deep drainage canal was constructed between 1921 and 1928 in two sections, one from the Ala Moana beach to Kalākaua and from Kalākaua to Kapahulu. The canal was initially known as the Waikīkī drainage canal until 1925 when it was renamed the Ala Wai Canal, "ala wai" being Hawaiian for waterway. The area of ground disturbance for the project was likely filled between 1924 and 1927. Initially, temporary crossings were erected to cross the canal but eventually 3 bridge crossings were constructed. The first is the Kalākaua Bridge crossing constructed by R.E. Woolley in 1929, the Ala Moana Boulevard Bridge crossing in 1939, and although a more rudimentary bridge was in place in the 30's and 40's the McCully Bridge as it is today was constructed in 1959 (Steele 1992:1). Recreational areas including the Ala Wai Community Park and the Ala Wai Golf Course were completed in the early 1930's and the Ala Wai Park Clubhouse was completed in 1937. With increased access and more recreational opportunities land values skyrocketed and development quickly ensued which changed the landscape of Waikīkī suddenly and dramatically from a pastoral agricultural community to one of commercial and residential use.

The United States military also played a role in the development of eastern Waikīkī with the construction of Fort DeRussy in 1909 on the site of several LCA's and a traditional Hawaiian fishpond complex known as the Kālia fishponds. Fort DeRussy included approximately 72 acres of coastal Waikīkī and was built as part of the Artillery District of Honolulu, which also included Forts Ruger, Kamehameha, and Armstrong (Char 1983). Sometime between 1911-1913 the district was renamed to Headquarters Coast Defense of Oahu with batteries at Fort DeRussy and Fort Ruger "... responsible for the defense of Honolulu Harbor" (Char 1983:3). Two batteries were present at Fort DeRussy. Battery Randolph had two 14-inch guns and was constructed to be permanent and invulnerable from the coast, made of reinforced concrete "as much as twenty feet thick behind 30 or more additional feet of earth" and was designed to blend into the surrounding landscape (Char 1983:4). Battery Dudley was smaller and had two 6-inch guns. The last of the Kālia fishponds at Fort DeRussy were filled by the early 1920's. Following the bombing of Pearl Harbor in 1941, martial law was enacted in the islands for a three year period. Due to this, and restrictions on tourist travel, Waikīkī was utilized entirely as a military reservation for the duration of the war. The Ala Wai Park Clubhouse was used as a Navy officers club during the war up until 1951 when it was returned to the City and County of Honolulu.

In the 1950's, 60's, and 70's Waikīkī experienced unprecedented growth due to increased tourism and commercial air travel. Hotels, walk up apartment buildings, and the first mid-rise residential buildings began to be constructed in place of the single family homes that once dominated the area. From the 1980's until today growth has accelerated, and the district is packed with high-rise hotels, multi-story commercial shopping complexes, and high and mid-rise residential buildings (Figure 19 and Figure 20). Today the Waikīkī district is a world class tourist destination which provides large amounts of tourist and tax revenue making it a driving force of the state economy.

Although much change has occurred in Waikīkī, little has changed along the portion of the Ala Wai comprising the project APE aside from dredging and periodic repairs to the canal walls and drainages (Figure 18). The Ala Wai Canal, the Ala Wai Community Park and Clubhouse, the Ala Wai Golf Course, and the Waikīkī War Memorial Natatorium are some of the last remnants of early 20th century Waikīkī and currently serve as recreational facilities that host a range of different physical activities including golfing, jogging, paddling, and swimming.



Figure 18. Photo taken from the vicinity of the north landing of the proposed Ala Wai pedestrian bridge looking south toward Diamondhead (Hawai'i State Archives n.d.)

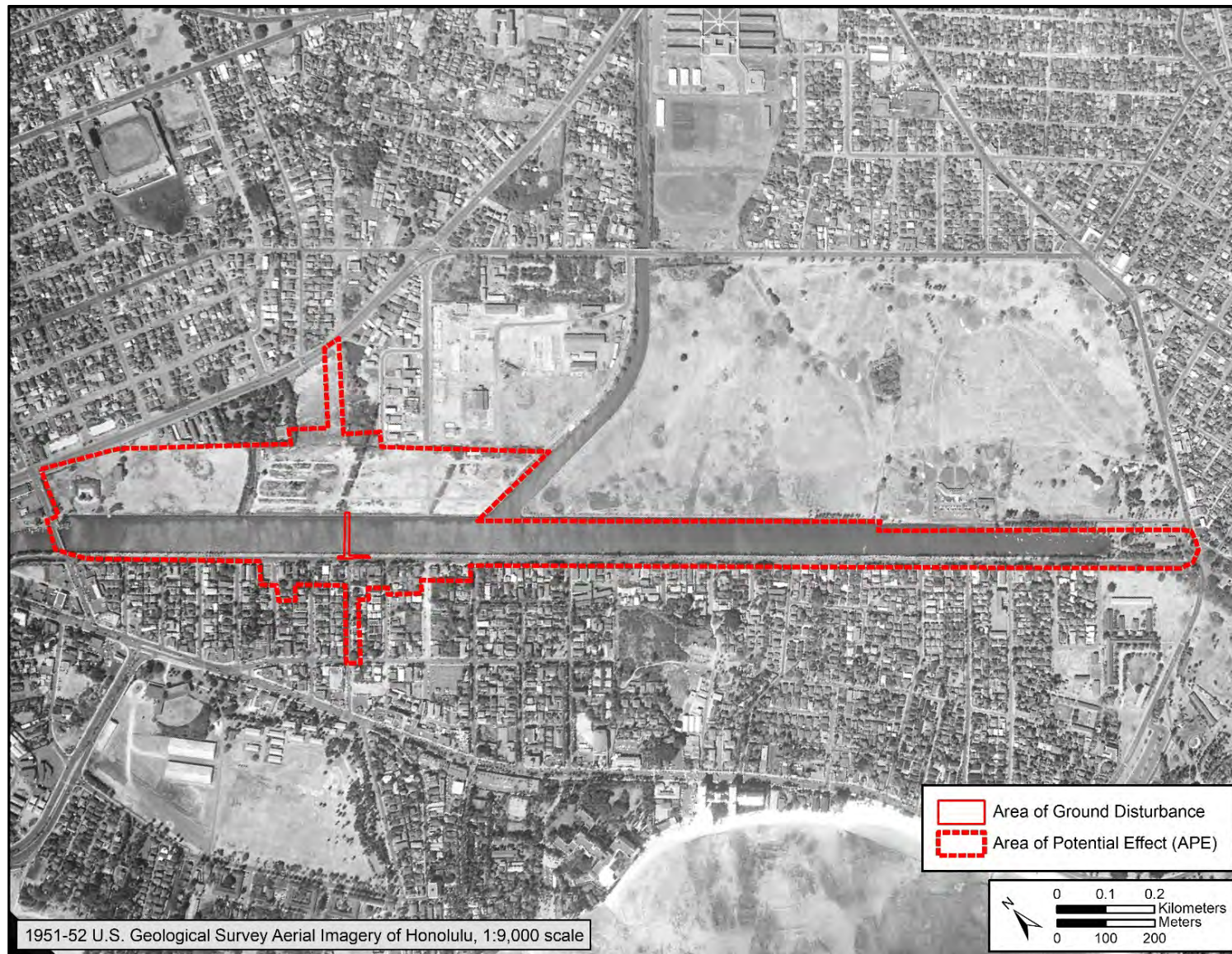


Figure 19. Portion of a 1951-52 aerial photo showing development within the APE (USGS Orthoimage)

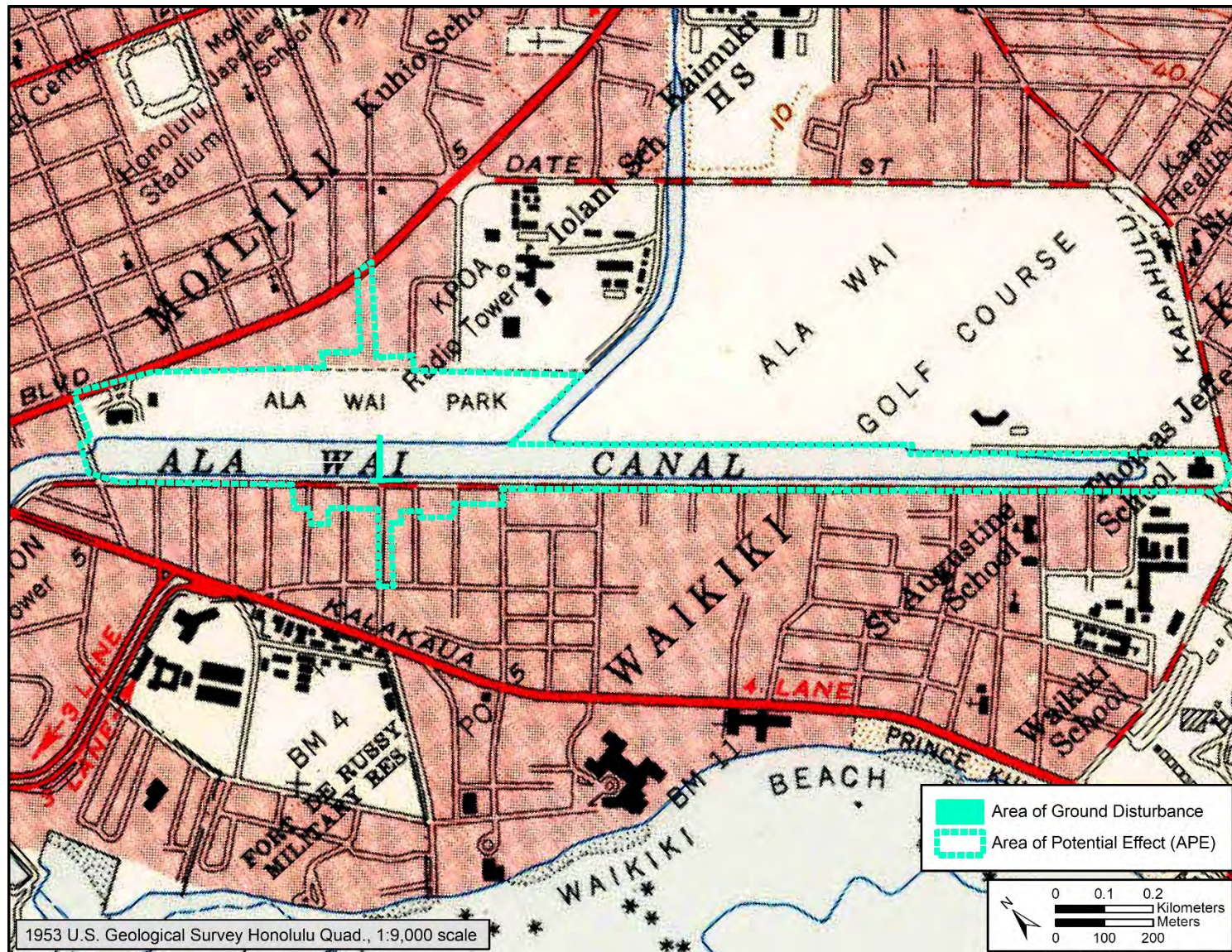


Figure 20. Portion of a 1953 Honolulu USGS showing the APE and general vicinity

4. Previous Archaeological Studies

Waikīkī is dense with archaeological sites and one of the most heavily developed areas on the island. Due to this, it has been the subject of intensive archaeological study. Human burials, disarticulated human remains, and traditional Hawaiian artifacts have been encountered in Waikīkī as early as 1901 and the Bishop Museum documented many more instances of inadvertent discoveries of human remains in Waikīkī through the 1980's. Aside from the McAllister (1933) study, archaeological research began in the late 1970's and 1980's with the development of several hotels and Fort DeRussy which uncovered large amounts of human burials, prehistoric and historic cultural deposits, and fishpond sediments associated with the Kālia fishponds among others. The studies from the 1990's to the present have been in support of commercial, residential, and resort developments and various other infrastructure and development projects and have documented similar sites including the original Waikīkī wetland surface. Archaeological review became commonplace in Waikīkī starting in the 2000's and continues to play a large role in its modern development. Several archaeological studies have been conducted within the project APE and numerous studies have been completed in the vicinity.

Previous Archaeological Studies Within the Project APE

A total of 6 previous archaeological studies have been conducted within the project APE and include an archaeological inventory survey (AIS) within the area of ground disturbance. Figure 21 shows studies and documented historic properties within and adjacent to the APE. The studies have been in support of improvements and infrastructure upgrades to utilities, the Ala Wai Canal, and the Waikīkī -Kapahulu Public Library. They have mostly had negative results and documented modern and land reclamation fill materials associated with the construction and development of the Ala Wai Canal. A single study documented SIHP #50-80-14-5796, the original Waikīkī wetland surface recorded as a discontinuous and widespread site consisting of deposits of agricultural wetland sediments, non-agricultural wetland sediments, peat sediments, pond sediments, and pond berms dating from the pre-contact era to the early 1900's and has been documented in multiple separate locations. The site has generally been encountered below 4 to 6 ft of modern and historic land reclamation fills. It was documented in three locations in the southern portion of the project APE along Ala Wai Boulevard and Kaliamoku Street.

Esh and Hammatt 2004 and 2006b

In 2004, Cultural Surveys Hawai'i (CSH) conducted archaeological monitoring for improvements to Ala Wai Boulevard, which comprises much of the southern boundary of the current project APE. The only finding of note during the project was a cow skeleton encountered at the intersection of Ala Wai Boulevard and Seaside Avenue. Otherwise only fill materials were documented and no artifacts, features, or significant cultural deposits were encountered (Esh and Hammatt 2004 and 2006b).

Petrey et al. 2008

In 2008, CSH conducted archaeological monitoring for the Honolulu Emergency Bypass project which extends along the Ala Wai Canal to Magic Island. The portion of the project along the Ala Wai Community Park and the Ala Wai Canal was within the current APE and encountered

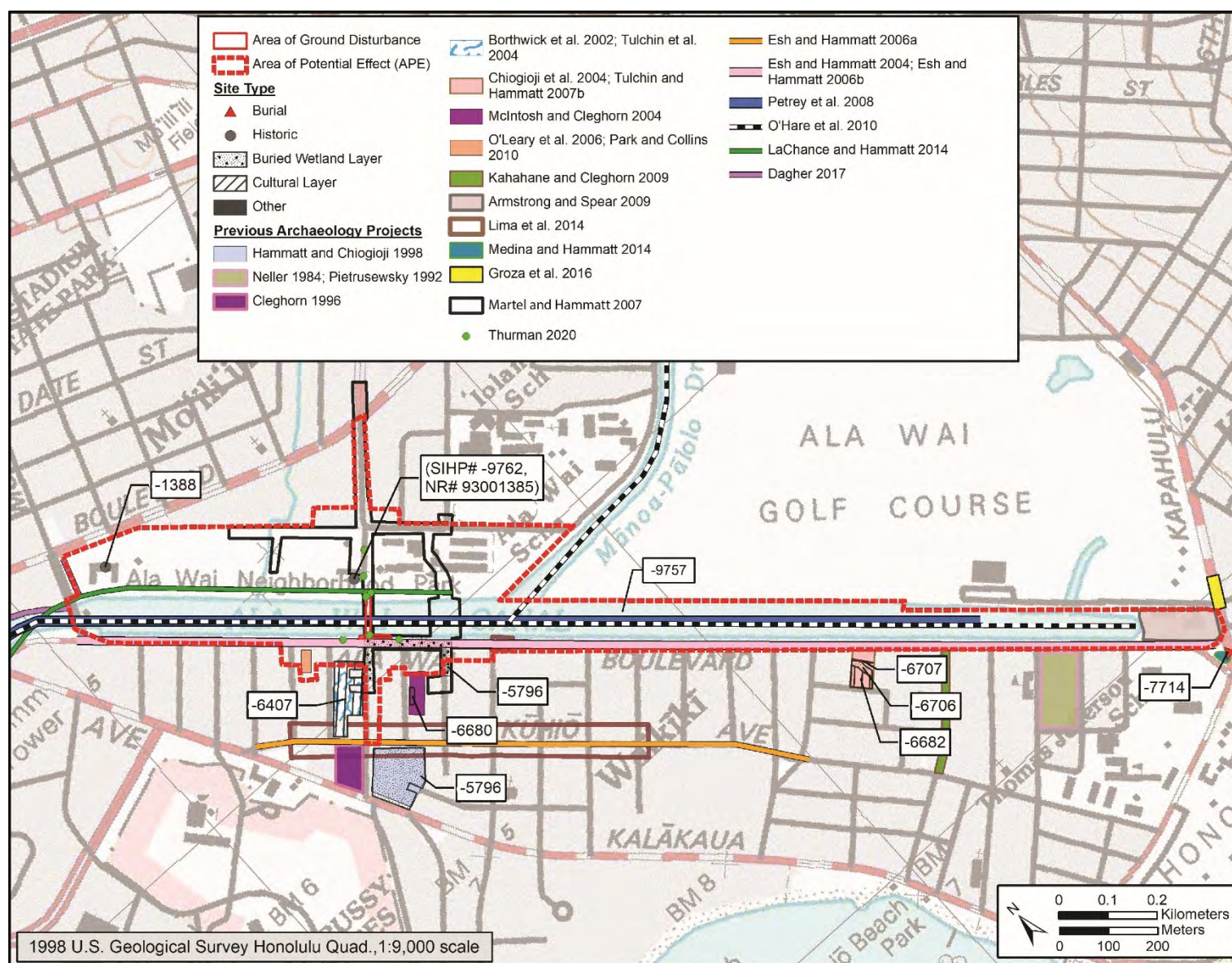


Figure 21. Portion of a 1998 Honolulu USGS showing previous studies and historic properties within and adjacent to the project APE
 Ala Wai Pedestrian Bridge LRFI

mostly fill sediments, while the Ala Moana Park Drive portion encountered fill materials over natural shoreline deposits. No cultural materials or cultural deposits were documented during the project (Petrey et al. 2008).

|Armstrong and Spear 2009

In 2009, Scientific Consultant Services (SCS) conducted archaeological monitoring for improvements to the Waikīkī -Kapihulu Public Library located at the eastern-most end of the current project APE. Stratigraphy consisting of fills and secondarily deposited soil was encountered throughout the project area. A single modern bottle was found at the base of excavation in one of the trenches and was the artifact documented during the project (Armstrong and Spear 2009).

|O'Hare et al. 2010

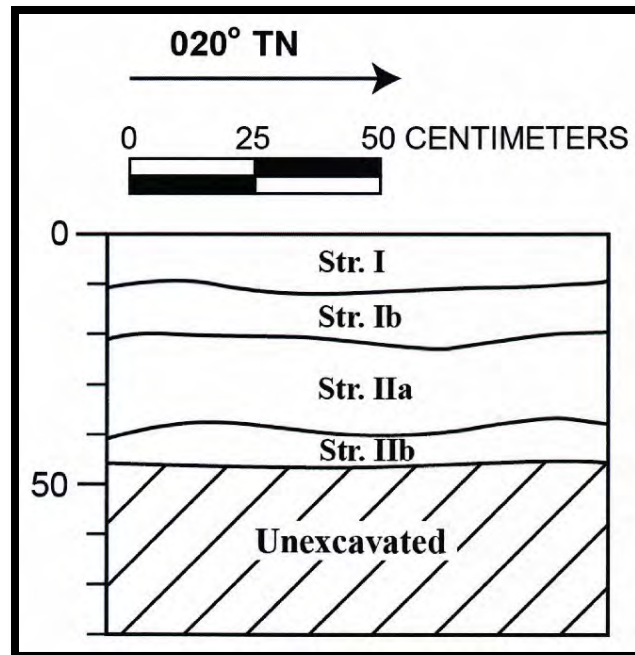
In 2010, CSH conducted a cultural resources and ethnographic study for the Ala Wai Watershed project which contained the current project APE. The study presented background research on Waikīkī and the Ala Wai Canal as well as the results of a surface survey which included Fort DeRussy, Ala Wai Park, and both banks of the Ala Wai Canal. No new historic properties were documented during the project (O'Hare et al. 2010).

|LaChance and Hammatt 2014

In 2014, CSH conducted archaeological monitoring for the Ala Moana Sewer project which extended from the Ala Wai Community Park along Ala Wai Boulevard to its termination at Ala Moana Beach Park. Documented stratigraphy consisted primarily of various fill deposits with intermixed basalt and coral cobbles. A single stratigraphic profile, Profile 8, was documented in the Ala Wai Community Park, within the current APE. The excavation consisted of asphalt with underlying base course material over various fill layers to approximately 50 cm (1.6 ft.). The photo, stratigraphic profile drawing, and stratigraphic information for Profile 8 are included as Figure 22 and Figure 23. No significant cultural deposits, artifacts, or historic properties were identified during the project (LaChance and Hammatt 2014).



Figure 22. Photo of Profile 8 of the Ala Moana sewer project monitoring (LaChance and Hammatt 2014:77, Figure 41)



Stratum	Depth Below Surface (cm)	Description	Interpretation
I	0-15	Asphalt	Existing Street
Ia	15-20	Fill; 10YR 3/2, very dark grayish brown; very gravelly loam; structureless (single-grain); moist, very friable consistency; non-plastic; terrigenous origin; clear, smooth lower boundary, gravel base course	Fill
IIa	20-40	10YR 3/1, very dark gray; clay; moderate grade, medium, crumb structure; moist, firm consistency; very plastic; marine origin; very abrupt lower boundary; irregular topography; backfilled lagoonal sediments containing construction debris	Fill
IIb	40-45	10YR 7/4, very dark brown; sand, single grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; backfilled sandy material	Fill

Figure 23. Stratigraphic profile and stratigraphy for Profile 8 of the of the Ala Moana sewer monitoring project, documented in the Ala Wai Community Park within the current APE (LaChance and Hammatt 2014:78, Figure 42)

|Martel and Hammatt 2017, Beauchan et al. 2016

In late 2015 and early 2016, CSH conducted an archaeological inventory survey (AIS) and cultural impact assessment (CIA) for the Ala Wai 46kV underground cables relocation project which included the area of ground disturbance within the current project APE (Martel and Hammatt, Beauchan et al. 2016). A 100% percent pedestrian survey of the project area identified a portion of the Ala Wai Canal, SIHP #50-80-14-9757, within the project area. Subsurface excavations consisted of five hand excavated shovel test pits (STPs) and 5 backhoe trench excavations. The general stratigraphy documented during the project consisted of the modern asphalt surface and base course over fill materials and early 20th century land reclamation fills over a buried A-horizon, and natural C-horizon.

The buried A-horizon was documented as a portion of previously recorded SIHP #50-80-14-5796, a buried prehistoric to historic wetland surface documented in several studies south of the project APE (LeSuer et al. 2000, Yucha et al. 2009, Sroat et al. 2011, Pammer et al. 2014, and Morriss and Hammatt 2015). The site was identified in backhoe trenches T-1, T-2, and T-5, extending from approximately 78-140 cm (2.5-4.6 ft.). Each of these trenches were located in the southern portion of the current project APE, within the city streets south of the area of ground disturbance. Trench T-1 was located within the middle of the right-of-way for Kalaimoku Street, Trench T-2 was located in the middle of Ala Wai Boulevard northwest of Kaiolu Street, and Trench T-5 was located in the southeastern portion of the intersection of Ala Wai Boulevard and Kalaimoku Street. Photos, profiles, and stratigraphy are presented for each of these trenches below (Figure 24 to Figure 29 and Table 3 to Table 5).

Column samples were collected for pollen and radiocarbon analysis from trenches T-1 and T-2 and consisted of three samples of organically-enriched sediment from each trench. Pollen analysis indicated that the area was formerly a marsh dominated primarily by sedge and grasses. Interestingly, no taro pollen was identified. Additionally, six organic samples were sent in for radiocarbon dating. Although significant mixing was present in the upper samples, the lowest samples returned radiocarbon dates around the 16th century and were interpreted to date to the pre-contact era. It should be noted that no cultural modification or artifacts of any kind were documented in association with the site. Following the survey, archaeological monitoring was recommended for the project.



Figure 24. Photo of the stratigraphic profile of trench T-1 of the Ala Wai 46kV underground cables relocation project AIS (Martel and Hammatt 2017:58, Figure 34)

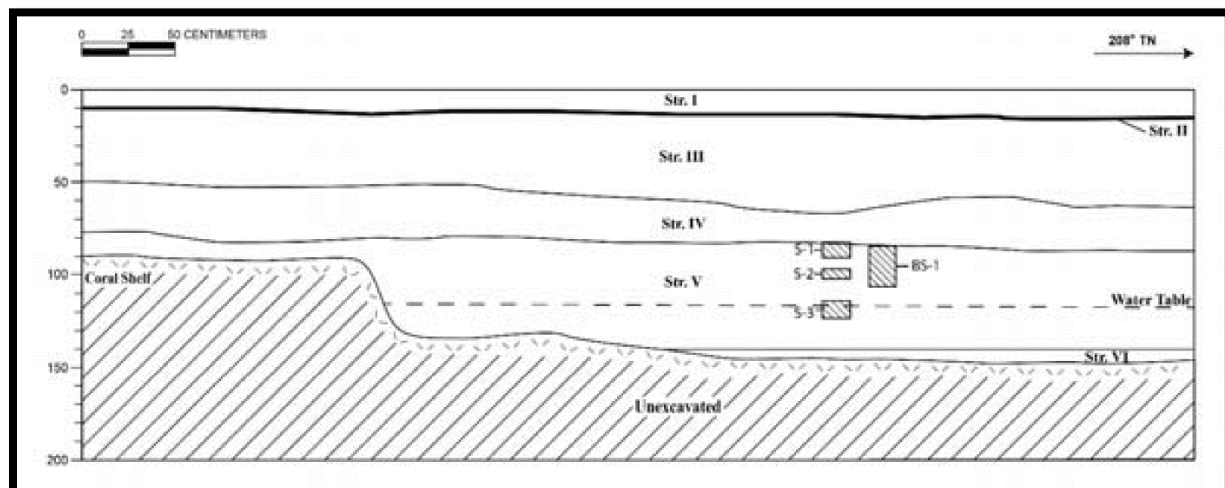


Figure 25. Stratigraphic profile drawing for trench T-1 of the Ala Wai 46kV underground cables relocation project AIS (Martel and Hammatt 2017:59, Figure 35)

Table 3. Stratigraphic profile information for trench T-1 of the of the Ala Wai 46kV underground cables relocation project AIS (adapted from Martel and Hammatt 2017:59, Table 3)

Stratum	Depth Below Surface (cm)	Description	Interpretation
I	0-10	Asphalt	Existing Street
II	10-12	Base course; 2.5Y 2/1, black; very gravelly sand; structureless (single-grain); moist, loose consistence; non-plastic; no cementation; terrigenous origin; clear, irregular, lower boundary	Fill
III	10-64	Fill; 10YR 5/4, yellowish brown; extremely cobbly fine sand; structureless (single grain); dry, loose consistence; non-plastic; no cementation; marine origin; abrupt, wavy lower boundary; sand with crushed coral, consistent with crushed coral land reclamation fill	Fill
IV	50-82	Hydraulic fill; 10YR 3/1, very dark greenish gray; silty clay; structureless (massive); wet, slightly sticky consistence; very plastic; no cementation; mixed origin; very abrupt, smooth lower boundary; hydraulic (dredged) silty clay fill material consistent with land reclamation	Fill
V	78-140	O Horizon; 10YR 2/1, black; clay loam; structureless (massive); wet, slightly sticky consistence ; very plastic; no cementation; mixed origin; lower boundary not visible; common, fine roots, decomposed organic material, black humus; marine shell and inclusion, one kukui nut fragment	Natural Wetland Surface, SIHP # -5796
VI	140-145 (BOE)	C-Horizon; 2.5Y 3/1, very dark gray; sandy clay; weak, medium, blocky structure, wet, non-sticky consistence; no cementation; slightly plastic; marine origin; lower boundary not visible, few fine roots, marine sand underlying thick organic horizon	Natural Sand



Figure 26. Photo of the stratigraphic profile of trench T-2 of the Ala Wai 46kV underground cables relocation project AIS (Martel and Hammatt 2017:60, Figure 36)

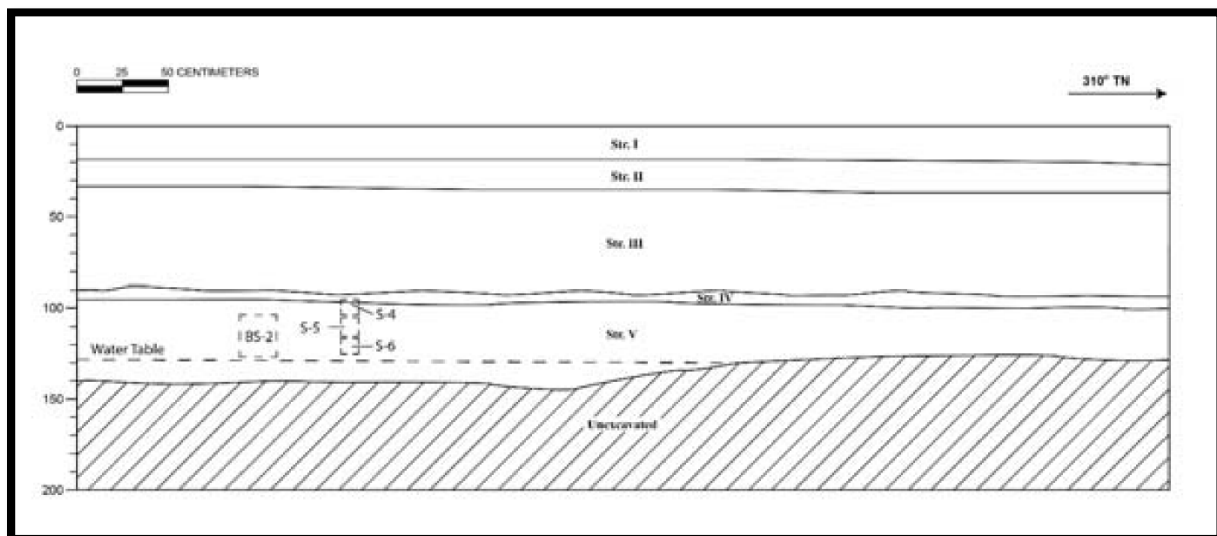


Figure 27. Stratigraphic profile drawing for trench T-2 of the Ala Wai 46kV underground cables relocation project AIS (Martel and Hammatt 2017:61, Figure 37)

Table 4. Stratigraphic profile information for trench T-2 of the of the Ala Wai 46kV underground cables relocation project AIS (adapted from Martel and Hammatt 2017:61, Table 4)

Stratum	Depth Below Surface (cm)	Description	Interpretation
I	0-20	Asphalt	Existing Street
II	20-35	Base course; 10YR 4/2, dark grayish brown; extremely gravelly sand; structureless (single-grain); moist, loose consistence; non-plastic; no cementation; terrigenous origin; abrupt, smooth, lower boundary	Fill
III	35-90	Fill; 10YR 5/3, brown; sandy loam; structureless (single grain); moist, loose consistence; non-plastic; no cementation; marine origin; abrupt, smooth lower boundary; sand with crushed coral, consistent with crushed coral land reclamation fill	Fill
IV	90-97	Hydraulic fill; 10YR 5/1, greenish gray; silty clay loam; structureless (massive); wet, slightly sticky consistence; non-plastic; no cementation; mixed origin; abrupt, smooth lower boundary; hydraulic (dredged) silty clay material consistent with land reclamation fill	Fill
V	97-140	O Horizon; 10YR 2/1, black; clay loam; structureless (massive); wet, sticky consistence ; slightly plastic; no cementation; mixed origin; lower boundary not visible; few, fine roots, decomposed organic material, black humus; rocks and rootlets, snail shells present	Natural Wetland Surface, SIHP # -5796



Figure 28. Photo of the stratigraphic profile of trench T-5 of the Ala Wai 46kV underground cables relocation project AIS (Martel and Hammatt 2017:68, Figure 43)

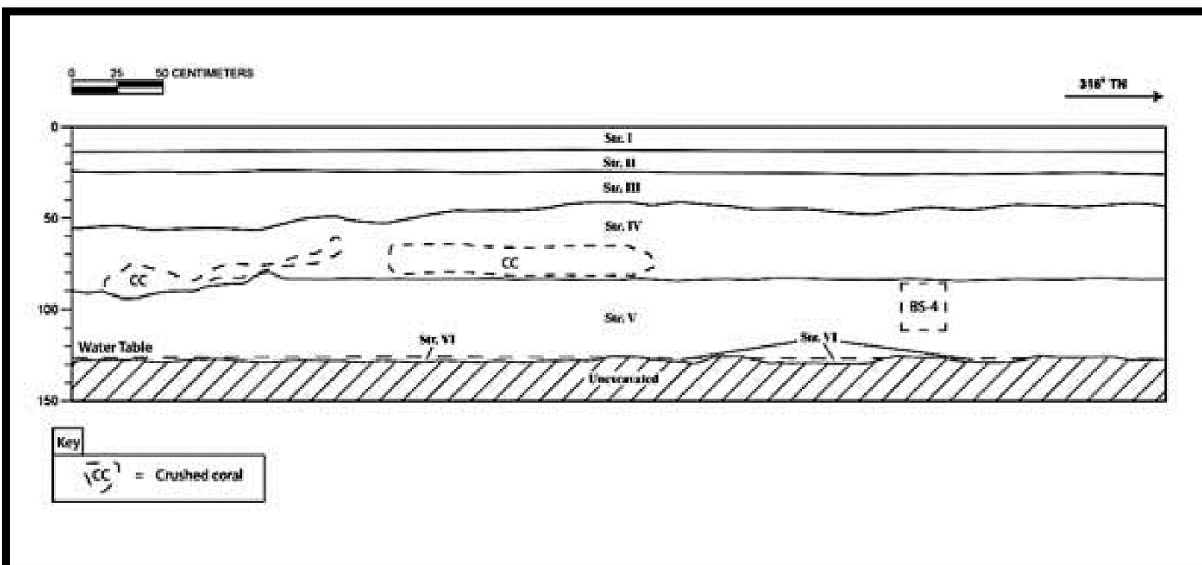


Figure 29. Stratigraphic profile drawing for trench T-5 of the Ala Wai 46kV underground cables relocation project AIS (Martel and Hammatt 2017:68, Figure 44)

Table 5. Stratigraphic profile information for trench T-5 of the of the Ala Wai 46kV underground cables relocation project AIS (adapted from Martel and Hammatt 2017:69, Table 7)

Stratum	Depth Below Surface (cm)	Description	Interpretation
I	0-14	Asphalt	Existing Street
II	14-25	Base course; 10YR 4/3, brown; extremely gravelly sand; structureless (single-grain); moist, loose consistence; non-plastic; no cementation; terrigenous origin; abrupt, smooth, lower boundary	Fill
III	25-56	Fill; 10YR 6/3, pale brown; sand; structureless (single grain); moist, loose consistence; non-plastic; no cementation; marine origin; abrupt, wavy lower boundary; sand with crushed coral, consistent with crushed coral land reclamation fill	Fill
IV	40-90	Hydraulic fill; 10YR 6/4, light yellowish brown; sandy clay; structureless (massive); wet, slightly sticky consistence ; non-plastic; no cementation; mixed origin; abrupt, irregular lower boundary; hydraulic (dredged) sandy clay fill material consistent with land reclamation with crushed coral inclusions; sand transitions to more sandy clay consistence at lower depths, 10YR 5/2 grayish brown	Fill
V	80-125	O Horizon; 10YR 2/1, black; sandy clay loam; structureless (massive); wet, slightly sticky consistence ; slightly plastic; no cementation; mixed origin; lower boundary not visible; few, fine roots, decomposed organic material, black humus; rocks and rootlets, one kukui nut fragment	Natural Wetland Surface, SIHP # -5796
VI	125-127 (BOE)	Natural sediment; 10YR 4/1, dark gray; sand; wet, non-sticky consistence; no cementation; non-plastic; marine origin; lower boundary not visible, lagoonal sand underlying thick organic horizon	Natural Sand

Thurman 2020

In 2020, Honua Consulting conducted archaeological monitoring for geotech boring within the northern and southern landings of the proposed Ala Wai bridge (Thurman 2020, End of Field Letter in progress). Seven bore holes were excavated, removed, and filled back in. Three bore holes (B-1 through B-3) were excavated in the vicinity of the southern landing, with two in Ala Wai Boulevard and one at the proposed bridge location. Four bore holes (B-4 through B-7) were excavated in the vicinity of the northern landing, with two at the proposed bridge location, one in a grassy area of park near the canoe hale, and one in the parking lot. The bore holes measured 6 inches (15 cm) in diameter (Figure 30). B-1 and B-3 were excavated to 6.5 ft., B-2 to 152 ft., B-4 to 101.5 ft., B-5 to 86.5 ft., B-6 to 8 ft., and B-7 to a depth of 162.5 ft. All cores removed from the bore holes were taken off site. Due to the small size of the bore holes and the lack of spoils to investigate, nothing of archaeological note was observed or collected during monitoring.

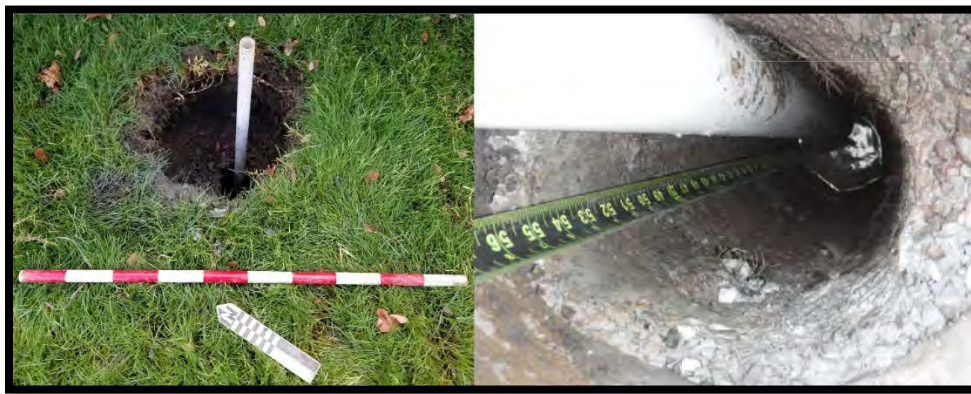


Figure 30. Representative photo of the size and diameter of geotechnical borings excavated within the area of ground disturbance

Mason Architects 2020

Mason Architects recently conducted an Identification of Historic Properties report for the proposed Ala Wai Bridge project (Mason Architects 2020). Their study identified 30 resources within the project APE, of which 12 were already listed or found eligible for the State and/or National Register and 18 were evaluated as not eligible (Figure 31). Identified sites included the Ala Wai Canal (SIHP # -9757), Ala Wai Park Clubhouse (SIHP # -1388), the *Malia* Canoe (SIHP # -9762, NRHP #93001385), McCully Street Bridge (eligible), Ala Wai Community Park (not eligible) including Ala Wai Neighborhood Park North Comfort Station (not eligible), South Comfort Station (eligible), Ballfield Improvements (not eligible), University Halau (not eligible), and Bike Path/Trail (not eligible), Ala Wai Plaza Condominium (eligible), Ala Wai Cove Condominium (not eligible), Ala Wai Elementary School (eligible), Waikiki-Kapahulu Library (eligible), Aston Coconut Plaza (not eligible), 2169 Ala Wai Blvd. (not eligible), 2167 Ala Wai Blvd. (not eligible), 2163 Ala Wai Blvd. (not eligible), 2153 Ala Wai Blvd. (eligible), Rosalei Apartments (eligible), 2121 Ala Wai Blvd. (not eligible), 2115 Ala Wai Blvd. (not eligible), 2107 Ala Wai Blvd. single-family residence (eligible) and 3-story apartment (not eligible), 2103 Ala Wai Blvd. (not eligible), 441 Kālainmoku St. (eligible), 445 Kālainmoku (not eligible), 2085 Ala Wai Blvd. (not eligible), 2067 Ala Wai Blvd. (not eligible), and 2055 & 2061 Ala Wai Blvd. (not eligible).

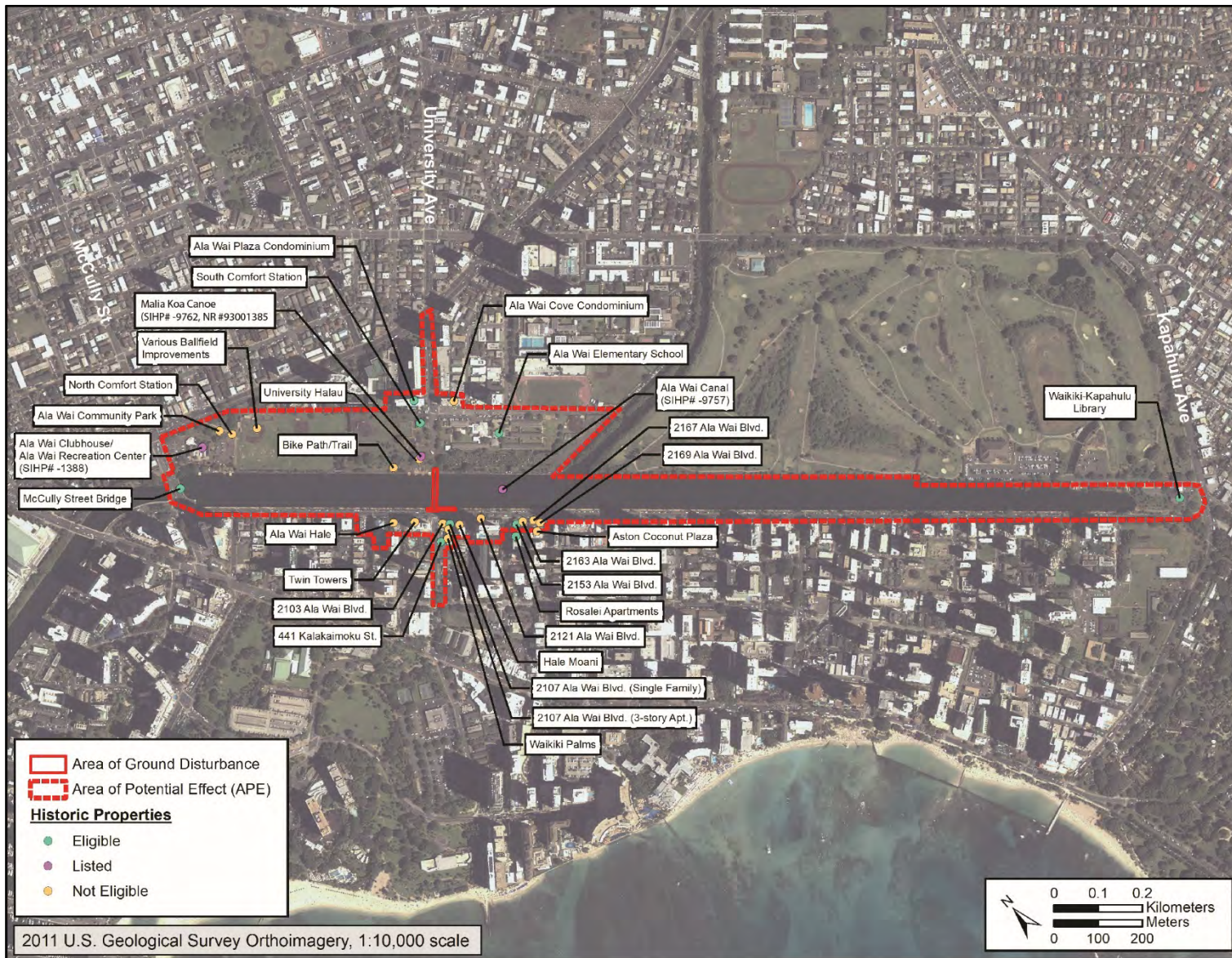


Figure 31. Aerial photo showing historic properties identified by Mason Architects (2020)

Nearby Archaeological Studies

Multiple archaeological studies have been conducted within Waikīkī and numerous sites have been documented. Documented sites within Waikīkī include multiple human burials, ‘auwai (irrigation ditch), agricultural sediments, wetland and pond sediments, previously disturbed and intact buried land surfaces characterized as cultural layers or A Horizons (not heavily culturally-enriched), historic trash pits, historic foundation remnants, historic trolley rails, and animal burials. Previous archaeological studies and documented historic properties within 0.5 miles of the project APE are shown in Figure 32 and Figure 34. Table 6 lists all of these studies and provides a condensed summary of documented finds. Previous archaeological studies are also summarized below.

Heiau of Waikīkī, Thrum (1906a)

As Waikīkī was a place where ali‘i resided, several high ranking heiau (traditional places of worship) were constructed in the area. According to Thomas G. Thrum (1906a), there were four luakini or sacrificial heiau near the coastline of Waikīkī, each are briefly described in Table 7. The four heiau include Helumoa, Pap‘ena‘ena, Kupalaha, and Kapua. Little is known regarding Kupalaha and Kapua Heiau.

Pukui et al. (1974:44) defines Helumoa as a “division near the Royal Hawaiian Hotel at Helumoa Street, Waikīkī, and site of a heiau where Kahahana was sacrificed. Lit. [translation], chicken scratch. (Chickens scratched to find maggots in the victim’s body)”. Thrum (1927:34) later discussed Helumoa Heiau in more detail, noting “this temple was long ago demolished, not a stone being left to mark the site, which was doubtless near, if not the actual spot now graced by the new Royal Hawaiian hotel.”

Regarding Papa‘ena‘ena Heiau and Helumoa Heiau, Thrum (1925: 109, 114) describes:

The time of Papaenaena’s construction, or to which of Oahu’s rulers it is to be accredited is nowhere shown in the native accounts ; nor when it succeeded the activities of the Apuakehau (Waikiki) temple, Helumoa, on whose altar Kauhi-a-Kama, a high chief of Maui, was offered in sacrifice with great indignities by the Oahu chiefs, about the middle of the 16th century. Many years later, Kahekili, a noted descendant and king of Maui, with an invading army avenged this outrage in a sanguinary battle of Niuwelewai, Kapalama, defeating King Kahahana and conquering the island. This was in 1783, and it is not unlikely that the heiau of Papaenaena was erected by Kahekili in recognition of his victory, and ignoring the hitherto important and prominent temple of Helumoa, at Apuakehau, whose altar was so defiled by the ignominious treatment of his illustrious ancestor...The Italian villa, “La Pietra,” of Mr. Walter F. Dillingham now occupies the site of this famous temple.

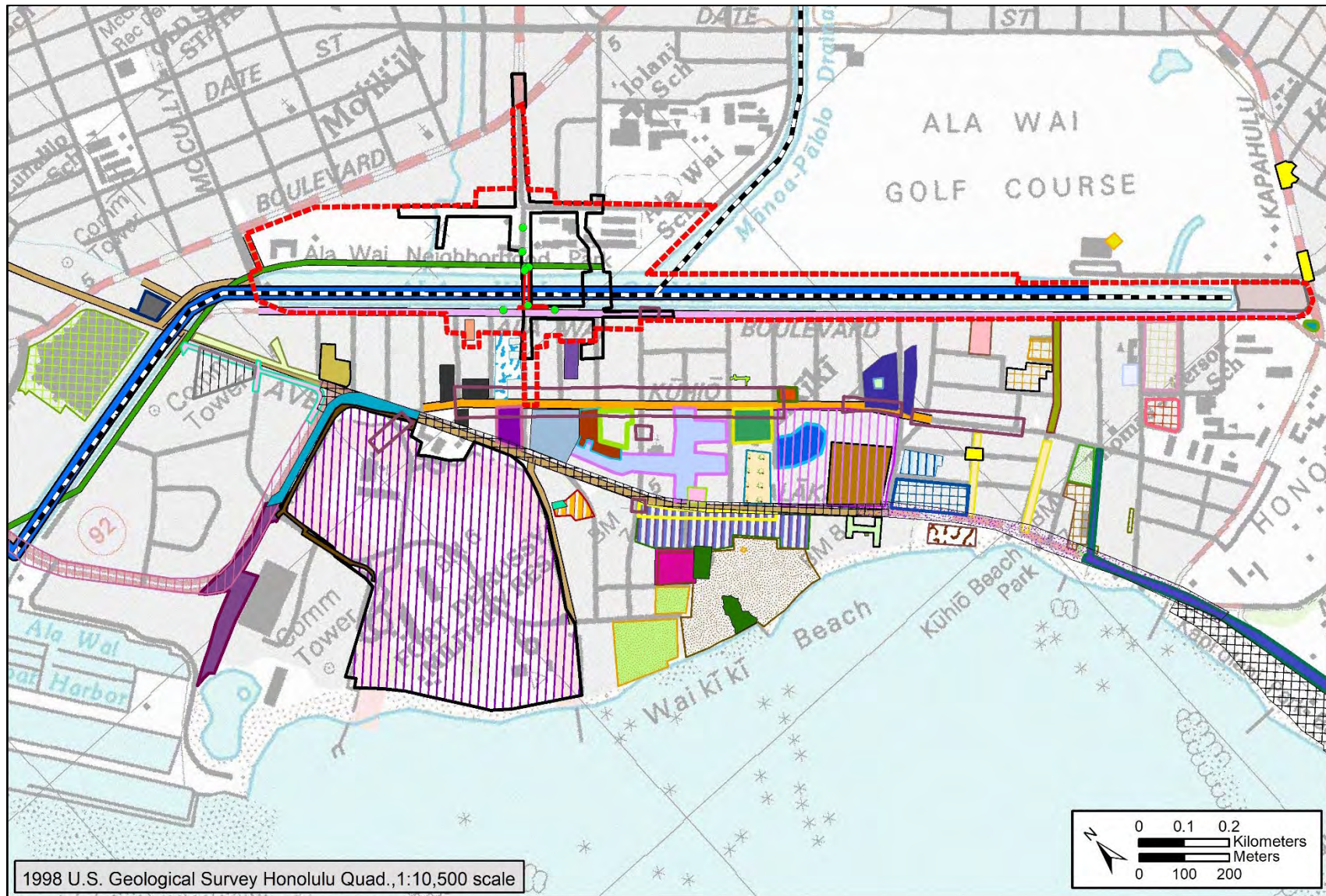


Figure 32. Portion of a 1998 USGS showing previous archaeological studies within approximately 0.5 miles of the APE (no legend)

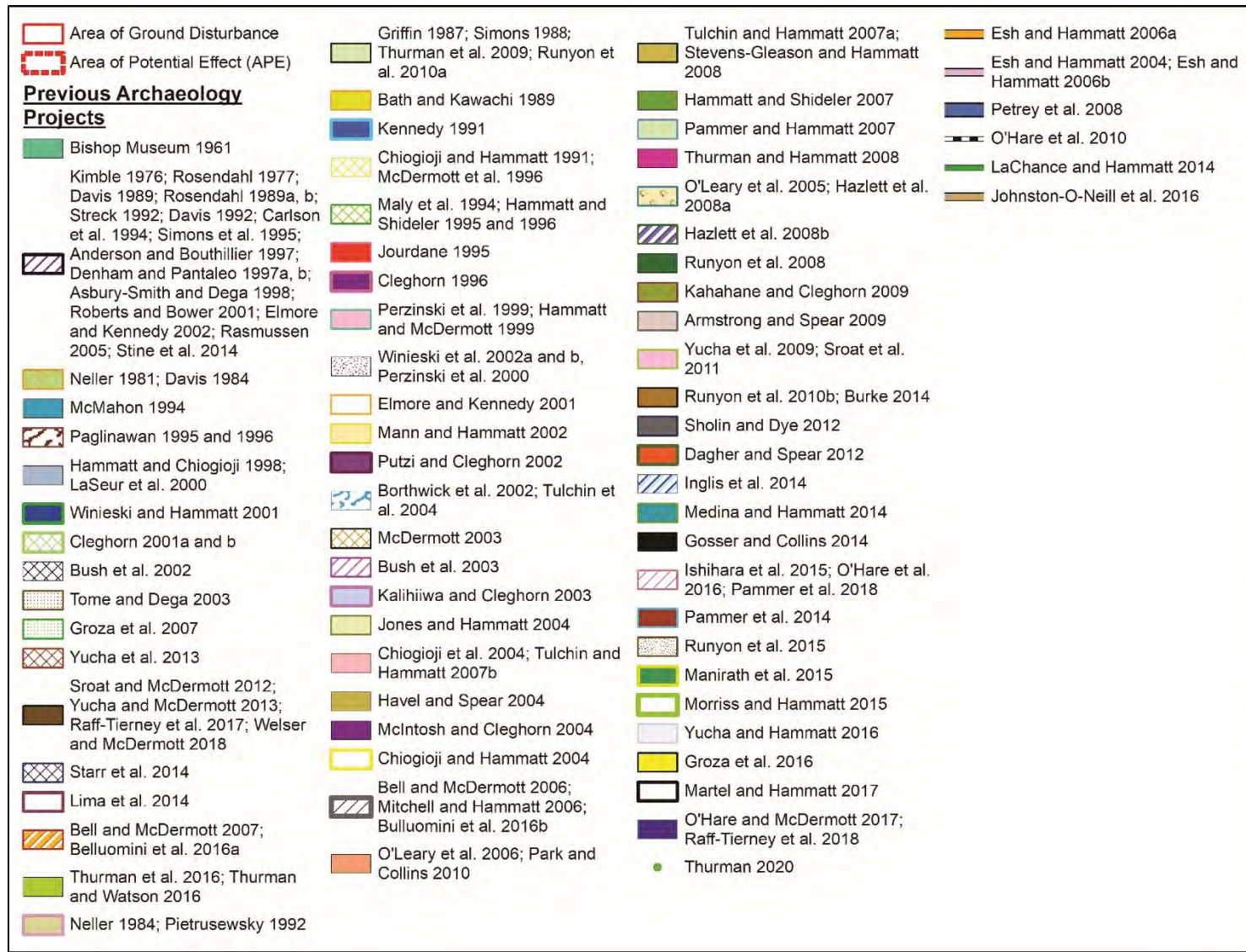


Figure 33. Legend corresponding with the 1998 USGS showing previous archaeological studies near the project APE (Figure 32)

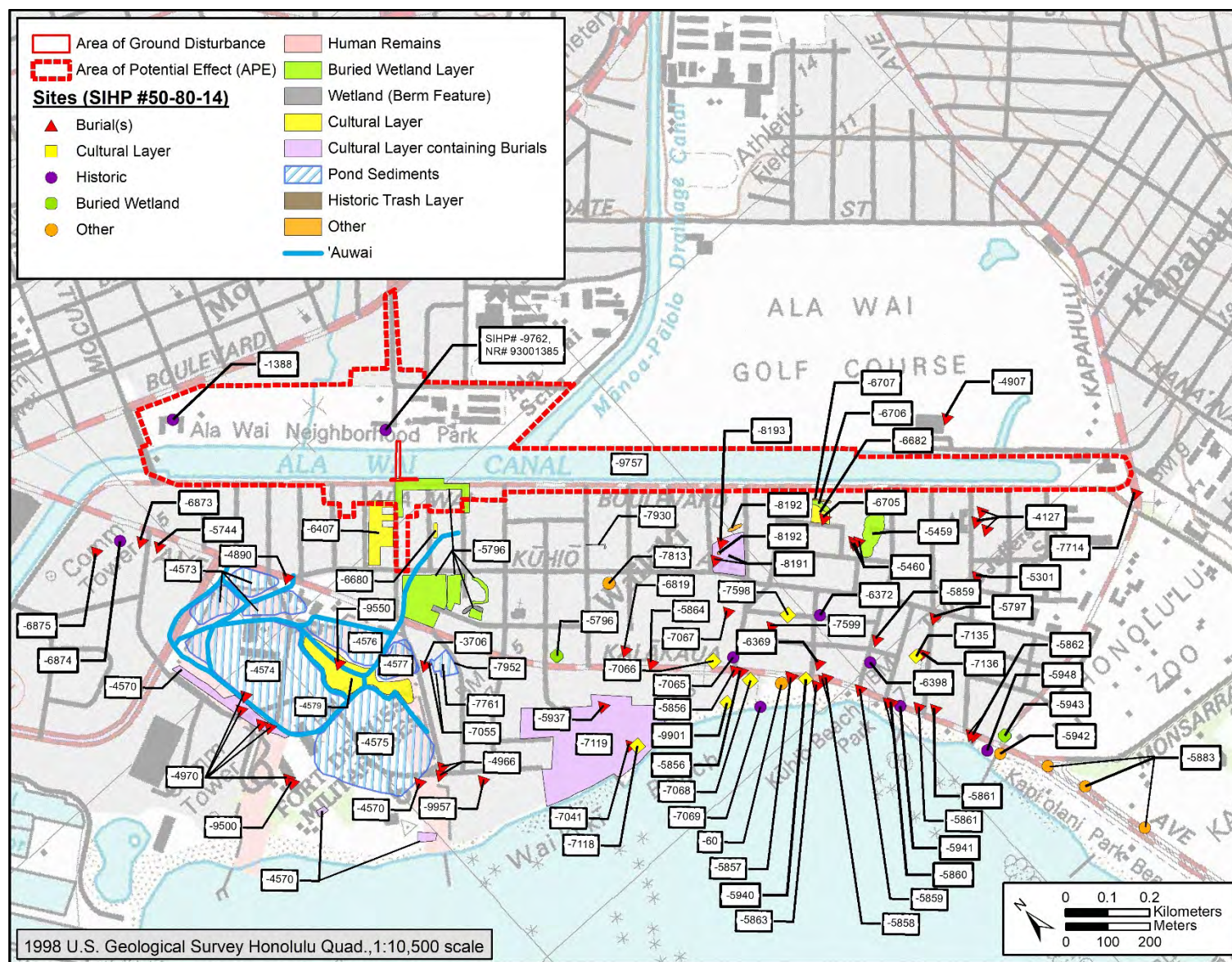


Figure 34. Portion of a 1998 USGS showing historic properties within an approximately 0.5 mile radius of the project APE

Table 6. Table listing previous archaeological studies in the vicinity of the project APE

Author(s)	Type of Study	Location	Findings (SIHP #50-80-14)
Thrum (1906a) (not shown in Figure 32)	Site Description	Waikīkī	4 heiau near the coast of Waikīkī, including Helumoa, Pap'ena'ena, Kupalaha, and Kapua (not shown on Figure 34)
McAllister 1933 (not shown in Figure 32)	Island-Wide Survey	Island of O'ahu	Waikīkī recorded as Site 60
Bishop Museum 1961	Field Inspection	331 Saratoga Rd.	Human mandible and historic-era trash deposit, SIHP # -3706
Kimble 1976	Burial Report	Hale Koa Hotel, construction of hotel	6 human burials recorded as SIHP # -9500
Rosendahl 1977	Archaeological Inventory and Evaluation	U.S. Army Facilities in Hawai'i, Fort DeRussy	No sites recorded
Neller 1981	Archaeological Reconnaissance	Halekūlani Hotel, 2199 Kālia Rd	Recorded 4 disarticulated human burials and 2 historic trash concentrations designated SIHP # -9957
Davis 1984	Archaeological and Historical Investigation	Halekūlani Hotel, 2199 Kālia Rd	48 prehistoric and historic features, includes 6 human burials and 4 animal burials, added to SIHP # -9957
Neller 1984	Burial Report	Lili'uokalani Gardens Apartments; TMK: [1] 2-6-28:049	Documented the remains of at least seven individuals and a deeply buried cultural deposit later recorded as SIHP # -4127
Griffin 1987	Investigation of an Inadvertent Burial	Kalākaua Avenue, TMK: [1] 2-6-001:013	Documented a single burial, no SIHP number assigned
Simons 1988	Archaeological Monitoring and Data Recovery	Moana Hotel, TMK: [1] 2-6-001:013	Documented 8 human burials and a cultural layer containing features and traditional and historic artifacts (SIHP # -9901)

Author(s)	Type of Study	Location	Findings (SIHP #50-80-14)
Bath and Kawachi 1989	Burial Report	Ala Wai Golf Course	Documented two human burials recorded as SIHP # -4907, one was heavily disturbed and the other was in a supine flexed position, both were assessed as traditional Hawaiian
Davis 1989	Archaeological Reconnaissance	Fort DeRussy	Recorded SIHP # -4570 (cultural layer) and several fishponds: SIHP # -4573 (Loko Kaipuni [3 ponds]); SIHP # -4574 (Loko Paweo I); SIHP # -4575 (Loko Ka'ihikapu); SIHP # -4576 (Loko Paweo II); SIHP # -4577 (Loko Kapu'uiki); and, SIHP # -4970 ('Auwai O Pau)
Rosendahl 1989a	Archaeological Inventory Survey (AIS)	Hale Koa Hotel, Pool	Historic-era bottle glass fragments, ceramics, and milled wood fragments; no SIHP assigned
Rosendahl 1989b	AIS	Hale Koa Hotel, Lū'au Grounds	Disturbed cultural deposit containing 19 th century artifacts; no SIHP assigned
Chiogioji and Hammatt 1991	AIS	2 parcels, one being on 'Āinahou Estate; TMK: [1] 2-6-024:065-068 and 080-083, and [1] 2-6-024:043-040 and 042-045	Background research indicated that a portion of the parcel was within the former 'Āinahau (Cleghorn) estate and the presence of a former 'auwai, taro, and rice field in the area
Kennedy 1991	Archaeological Monitoring Report (AMR)	IMAX Theater, TMK: [1] 2-6-022:014	No sites recorded
Pietrusewsky 1992	Osteological Analysis	Lili'uokalani Gardens Apartments; TMK: [1] 2-6-28:049	Conducted an osteological analysis of the human remains from SIHP # -4127, determined the remains represented at least nine individuals and a fetus

Author(s)	Type of Study	Location	Findings (SIHP #50-80-14)
Davis 1992	Archaeological Monitoring Report (AMR)	Fort DeRussy, LCA 1515 (‘Āpana 2), South of Battery Randolph/ Army Museum	Recorded 40 features including hearths, pit features, post holes, and a burial, SIHP # -4570, preserved in place
Streck 1992	Data Recovery	Fort DeRussy	Recorded ‘auwai, pond sediments, and occupational features, documented a pre-contact human burial, SIHP # -9550, preserved in place
Maly et al. 1994	Archaeological and Historical Assessment	Hawai‘i Convention Center, TMK: [1] 2-3-35 and [1] 2-3-36:018, 024, 025	Identified a Land Commission Award, a fishpond, a Grant, and several ponds and dryland parcels throughout the project area and recommended an AIS be conducted prior to construction
McMahon 1994	Inadvertent Burial Discovery Report	Near the intersection of Kalākaua and Kuamo‘o Streets	Documented disarticulated human remains in a spoil pile as SIHP # -4890
Hammatt and Shideler 1995	AIS	Hawai‘i Convention Center; TMK: [1] 2-3-35:001	No sites recorded
Jourdane 1995	Inadvertent Burial Discovery Report	229 Paokalani Avenue; TMK: [1] 2-6-28:013	Documented a single human burial, SIHP # -5301, fronting the Waikiki Sunset Hotel
Paglinawan 1995, 1996	Information on the “Wizard Stones”	TMK: [1] 2-6-001:008	Wizard Stones of Waikīkī recorded as SIHP # -60
Cleghorn 1996	AIS	King Kalākaua Plaza	No sites recorded
Hammatt and Shideler 1996	Data Recovery	Hawai‘i Convention Center; TMK: [1] 2-3-35:001	No evidence of fishpond sediments associated with Loko Kūwili were found, no sites recorded
McDermott et al. 1996	AIS	[1] 2-6-024:065-068 & 080-083 and [1] 2-6-024: 034-040 and 042-045	Documented remnants of an ‘auwai and lo‘i as SIHP # -5459, and one likely Hawaiian burial as SIHP # -5460

Author(s)	Type of Study	Location	Findings (SIHP #50-80-14)
Anderson and Bouthillier 1997	HABS Documentation	Fort DeRussy, Maluhia Hall	No sites recorded
Denham and Pantaleo 1997a, Carlson et al. 1994	Archaeological Monitoring, Burial Report	Fort DeRussy, Realignment of Kālia Rd	Documented portions of 3 sites: SIHP # -4574 (Loko Paweo I), which includes 3 historic trash pits and 2 burials; SIHP # -4570 (historic trash pit, 4 fire pits, an ash lens, and human burials and a large burial pit); and SIHP # -4966 (pre-contact features and human burials); 2 additional sites documented (no SIHP #'s assigned): Burial 6 area contained 27-34 individuals in one large pit feature; Burial 7 area included a cultural layer and 4 individuals
Denham and Pantaleo 1997b, Simons et al. 1995	Data Recovery, Data Recovery	Fort DeRussy	Documented portions of 6 previously identified sites: SIHP # -4570 (cultural layer); SIHP # -4574 (Loko Paweo I); SIHP # -4575 (Loko Ka'ihikapu); SIHP # -4576 (Loko Paweo II); SIHP # -4579 (cultural layer associated with LCA 1758:3); and SIHP # -4970 ('Auwai O Pau)
Asbury-Smith and Dega 1998	AMR	Fort DeRussy, Landscaping in NW Portion	No sites recorded
Hammatt and Chiogioji 1998	AIS, Archaeological Assessment (AA) Report	King Kalākaua Plaza	No sites recorded
Hammatt and McDermott 1999, Perzinski et al. 1999	AMR, Burial Disinterment Plan/Report	Ala Wai Blvd., Kalakaua Ave., Ala Moana Blvd., & Ena Rd	Documented 2 human burials recorded as SIHP # -5744

Author(s)	Type of Study	Location	Findings (SIHP #50-80-14)
LeSuer 2000	AIS	King Kalākaua Plaza (Phase II), TMK: [1] 2-6-18:010, 036, 042, 052, 055, 062, 063, 064, 073 and 074	Documented a buried wetland surface recorded as SIHP # -5796 and a portion of ‘Auwai O Pau recorded as SIHP # -4970
Cleghorn 2001a and b	Burial Mitigation	Burger King on Ōhūa St and Kalākaua Ave, 2-6-026:013	Two in situ and two previously disturbed burials recorded as SIHP # -5861
Roberts and Bower 2001	AMR	Fort DeRussy, Asia-Pacific Center, Security Fence	No sites recorded
Elmore and Kennedy 2001	AMR	Royal Hawaiian Hotel, 2-6-002:005	Recorded in situ human remains as SIHP # -5937
Winieski and Hammatt 2001	AMR	Public Baths Waste Water Pumping Station, TMK: [1] 2-6-025-027 and 3-1-031 and 043	Recorded SIHP # -5883, a discontinuous A horizon, and SIHP # -5797, a previously disturbed human burial, as well as a historic dog burial and imu pit (No SIHP recorded)
Borthwick et al. 2002	AIS	71,000 sq. ft parcel, TMK: [1] 2-6-016:002	Recorded SIHP # -6407, a subsurface cultural layer interpreted as agricultural soils and an associated paukū/kuāuna (bank of taro patch)
Bush et al. 2002	AMR	Anti-crime lighting; Kalākaua Ave. from Ala Moana Blvd to Kapahulu Ave	Documented a single in-situ burial recorded as SIHP # -5864, Feature C of previously recorded SIHP # -5856 (two burials), as well as SIHP # -5860, a buried cultural deposit containing numerous pre-contact and historic era features and two human burials, and pond sediments associated with previously recorded SIHP # -4573 (Loko Kaipuni)
Elmore and Kennedy 2002	AMR	Fort DeRussy, Asia-Pacific Center, Security Fence	No sites recorded

Author(s)	Type of Study	Location	Findings (SIHP #50-80-14)
Mann and Hammatt 2002	AMR	Uluniu Avenue and Lil'uokalani Ave.; TMKs: [1] 2-6-023 and [1] 2-6-026	Inadvertent discovery of 5 human burials recorded as SIHP # -5859 and -6369, and two historic trash pits, SIHP #'s -6372 and -6398
Putzi and Cleghorn 2002	AMR	Hilton Hawaiian Village, Sewer Connections; Ala Moana Blvd. and Kalākaua Ave.	Documented fishpond sediments and a basalt stone alignment associated with SIHP # -4573, Loko Kaipuni
Winieski et al. 2002a and b, Perzinski et al. 2000	AMR, Burial Findings Report	Kuhio Beach Extension/Kalakaua Promenade project, TMK: [1] 2-6-001, [1] 2-6-002, [1] 2-6-023, [1] 2-6-027, [1] 3-1-043	Buried cultural layer (SIHP #50-80-14-5940), historic trash pit (SIHP #50-80-14-5941), light gauge trolley rail (SIHP #50-80-14-5942), alluvial sediments associated with Muliwai Kukaunahi (SIHP #50-80-14-5943), a historic seawall (SIHP #50-80-14-5948), and humans remains from 44 individuals (SIHP #50-80-14-5856 through -5863)
Bush et al. 2003	AMR	International Marketplace, TMK: [1] 2-6-002:038	Encountered cow bone and modern trash, no SIHP number assigned
Kailihiwa and Cleghorn 2003	AMR	Water System Improvements, TMK: [1] 2-6-018:019 and 022	No sites recorded
McDermott 2003	Burial Report	Vacant Lot bounded by Lili'uokalani Ave., Cleghorn St., Tusitala St., and Kapili Street; TMK: [1] 2-6-24:34-40 and 42-45	Status report on inadvertently discovered human remains representing 4 individuals
Tome and Dega 2003	AMR	Waikīkī Marriot Hotel, 2-6-26:35-38	No sites found

Author(s)	Type of Study	Location	Findings (SIHP #50-80-14)
Esh and Hammatt 2004 and 2006b	AMR	Ala Wai Blvd. Improvements, TMK: [1] 2-6-014, -015, -016, -017, -020, -021, -024, -025, -028, and -029; within project APE	No sites recorded
Chiogioji and Hammatt 2004	AIS (AA Report)	Royal Hawaiian Shopping Center, [1] 2-6-002:018	No sites recorded
Chiogioji et al. 2004	AIS	Between Ala Wai and Tusitala St.; TMK: [1] 2-6-024:070 and 071	Recorded 4 historic properties, SIHP # -6682 (buried A-Horizon associated with the 'Āinahau (Cleghorn) Estate, SIHP # -6705 (disarticulated human remains in fill), SIHP # -6706, (segment of 'Āpuakēhau Stream), and SIHP # -6707, (a buried stone retaining wall)
Havel and Spear 2004	AMR	ABC Store No. 21; TMK: 2-6-021:101	No sites recorded
Jones and Hammatt 2004	AMR	Anti-Crime Street Lighting Kalākaua Ave from Ala Wai Blvd to Pau St, TMK: [1] 2-6-007 and -013	Documented possible pond or lo'i sediments near the intersection of Kalākaua Ave and McCully Street (No SIHP given)
McIntosh and Cleghorn 2004	AIS	Urban Loft Development, Launiu St., TMK: [1] 2-6-017:068, 070, 071, 072, and 073	Recorded SIHP # -6680 (pond field or lo'i sediments)
Tulchin et al. 2004	Archaeological Data Recovery	71,000 sq. ft parcel, TMK: [1] 2-6-016:002	Conducted data recovery at Feature A (paukū/kuāuna) of SIHP # -6407, confirmed use of feature in pre-contact era
O'Leary et al. 2005	AIS	2284 Kalākaua Ave	Recorded a single in-situ human burial as SIHP # -6819
Rasmussen 2005	AMR	Fort DeRussy, Asia-Pacific Center, Perimeter Wall	No sites recorded

Author(s)	Type of Study	Location	Findings (SIHP #50-80-14)
Bell and McDermott 2006, Mitchell and Hammatt 2006	AIS / CIA	Allure Waikīkī, TMK: [1] 2-6-013: 001, 003, 004, 007, 008, 009, 011, and 012	Recorded 3 historic properties, SIHP # 's -6873 and -6875 were each single, flexed, primary traditional Hawaiian burials, SIHP # -6874 was a cluster of eight historic refuse pit features
Esh and Hammatt 2006a	AMR	Kūhio Ave, TMK: [1] 2-6-015 to 022: various parcels	In-situ dog remains documented (No SIHP)
O'Leary et al. 2006	AIS (AA Report)	Royal Kahili Condominiums (Ala Wai Garden Plaza)	No sites recorded
Bell and McDermott 2007, Gollin et al. 2007	AIS (AA Report), CIA	280 Beach Walk Retail Development, TMK: [1] 2-6-003:026, 027, 048, 049, and 058	No sites recorded
Groza et al. 2007	Literature Review & Field Inspection	Waikīkī Marriot, TMK: [1] 2-6-026:009	No sites recorded
Hammatt and Shideler 2007	AMR	Sheraton Moana Surfrider Hotel, TMK: [1] 2-6-001:012	No sites recorded
Pammer and Hammatt 2007	AMR	Perry's Smorgy Restaurant; TMK:[1] 2-6-021:114	No sites recorded
Tulchin and Hammatt 2007a, Stevens-Gleason and Hammatt 2008	AIS (AA Report), CIA	1944 Kalākaua Ave; TMK: [1] 2-6-014: 001, 004, 006, 007, 008, 019, and 058	No sites recorded

Author(s)	Type of Study	Location	Findings (SIHP #50-80-14)
Tulchin and Hammatt 2007b	Archaeological Data Recovery	Tusitala Vista Elderly Apartments; TMK: [1] 2-6-024:070, 071, & 089	Conducted data recovery excavations for SIHP # -6707, a retaining wall, confirmed the presence of pre-contact taro cultivation and determined that the retaining wall was a pre-contact lo'i wall, radiocarbon dates from the upper portion of the lo'i deposit dated between 1380-1450 A.D
Hazlett et al. 2008a	AMR	Kalākaua Avenue; TMK: [1] 2-6-22:009	No sites recorded
Hazlett et al. 2008b	AMR	Royal Hawaiian Shopping Center, TMK: [1] 2-6-002:018	No sites recorded
Petrey et al. 2008	AMR	Emergency Sewer Bypass, Ala Wai to Magic Island; TMKs: [1] 2-3-34, -36, -37; [1] 2-6-17, -18; [1] 2-7-36; within project APE	No sites recorded
Runyon et al. 2008	AIS (AA Report)	Sheraton Waikiki and Royal Hawaiian Hotel, 2-6-002:005 and 006	Encountered disarticulated human remains and historic and traditional artifacts in heavily disturbed layer, no SIHP number assigned
Thurman and Hammatt 2008	AMR	Sheraton Waikiki and Royal Hawaiian Hotel, 2-6-002:005 and 006	No sites recorded
Armstrong and Spear 2009	AMR	Waikiki-Kapahulu Public Library; TMK: [1] 2-7-36:06; within project APE	No sites recorded
Kahahane and Cleghorn 2009	AMR	Multiple Streets; [1] 2-6-021 and 024	No sites recorded

Author(s)	Type of Study	Location	Findings (SIHP #50-80-14)
Thurman et al. 2009	AIS	Moana Surfrider Hotel Diamond Head Tower, TMK: [1] 2-6-001:012	Recorded 2 historic properties, SIHP # -7068 (cultural layer), and SIHP # -7069 (historic trash pit)
Yucha et al. 2009	AIS	Waikīkī Shopping Plaza; TMK: [1] 2-6-019:056 and 061	Documented a portion of a previously documented historic property, SIHP # -5796 (buried wetland surface)
O'Hare et al. 2010	Cultural Resources and Ethnographic Study	Ala Wai Watershed; within project APE	No sites recorded near the project area
Park and Collins 2010	AMR	Ala Wai Garden Project; TMK:[1] 2-6-021:114	No sites recorded
Runyon et al. 2010a	AMR	Moana Surfrider Hotel Wedding Chapel, TMK: [1] 2-6-001:012	No sites recorded
Runyon et al. 2010b	AIS	Princess Ka'iulani Hotel, TMK: [1] 2-6-021 and -024	Documented 3 historic properties, SIHP # -7065 (Kawaiaha'o Waikīkī Branch Church and Cemetery lot), SIHP # -7066, (cultural layer), and SIHP # -7067 (intact human burial)
Sroat et al. 2011	AMR	Waikīkī Shopping Plaza, TMK: [1] 2-6-019:056 and 061	Documented a portion of a previously documented historic property, SIHP # -5796 (buried wetland surface)
Dagher and Spear 2012	AMR	Kokorotei Restaurant Grease Trap Interceptor; TMK: [1] 2-6-021:023 por.	No sites recorded
Sholin and Dye 2012	AIS (AA Report)	Plaza at Waikīkī, 1812 Kalākaua Ave.; TMK: [1] 2-3-034:027	No sites recorded

Author(s)	Type of Study	Location	Findings (SIHP #50-80-14)
Sroat and McDermott 2012, Ishihara and Hammatt 2012	Literature Review and Field Inspection (LRFI), CIA	Kālia-Fort DeRussy, Wastewater system improvements	No sites recorded
Yucha and McDermott 2013	AIS	Kālia-Fort DeRussy, Wastewater system improvements	No sites recorded
Yucha et al. 2013	AIS	St. Augustine-by-the-Sea Parish, 2-6-026:012 and 015	Historic cultural layer (SIHP #50-80-14-7135) and 2 post-contact human burials (SIHP #50-80-14-7136)
Burke 2014	Data Recovery Report	Princess Kaʻiulani Hotel, TMK: [1] 2-6-022:001 and 041	Conducted data recovery excavations at 3 previously recorded historic properties, SIHP # -7065 (Kawaiahaʻo Waikiki Branch Church and Cemetery lot), SIHP # -7066, (cultural layer), and SIHP # -7067 (intact human burial)
Gosser and Collins 2014	AMR	Intersection of Kūhio Ave and Namahana Street, TMK: [1] 2-6-015:001; [1] 2-6-016:033-036, 046	No sites recorded
Inglis et al. 2014	AIS	133 Kaʻiulani Street, (old location of King's Village Shopping Center), TMK: [1] 2-6-023, -029,-037, and-076	Recorded two historic properties, SIHP # -7598 (disturbed culturally enriched layer) and SIHP # -7599 (a single human vertebra), a burnt trash layer was also identified but no SIHP number was assigned
LaChance and Hammatt 2014	AMR	Beachwalk to Ala Moana Park Sewer Project, TMKs: [1] 2-3-33: 34; [1] 2-3-37: 001 and 002; [1] 2-6, and [1] 2-7-036; within project APE	No sites recorded

Author(s)	Type of Study	Location	Findings (SIHP #50-80-14)
Lima et al. 2014	AMR	Waikīkī Sewer Rehab; Fort DeRussy; Kalākaua Ave.	Documented sediments associated with SIHP # -4573 (Loko Kaipuni) and SIHP # -4574 (Loko Paweo I)
Medina and Hammatt 2014	Burial Site Component of a Preservation Plan	HECO P20 Project at 380 Kapahulu Ave.; TMK: [1]2-6-029:001	Documented two human burials as SIHP # -7714, both were preserved in place
Pammer et al. 2014	AIS	2139 Kuhio Avenue, TMK: [1] 2-6-018:043, 045-048	Documented a portion of previously documented SIHP # -5796, (buried wetland surface) over the entire project area and a possible associated berm
Starr et al. 2014, Ishihara et al. 2014	LRFI, CIA	Hyatt Waikīkī, TMK: [1] 2-6-023:009-012, 077, 078, 080	No sites recorded
Stine et al. 2014	AMR	Fort DeRussy, Asia-Pacific Center, Wing C	Documented sediments associated with SIHP # -4573 (Loko Kaipuni) and SIHP # -4574 (Loko Paweo I)
Manirath et al. 2015	AIS	Waikīkī Trade Center, TMK: [1] 2-6-022:031	Documented SIHP # -7813, a historic foundation slab and debris layer
Morriss and Hammatt 2015	AIS	Waikīkī Beachwalk Pumping Station, TMK: [1] 2-6-018:011,	Documented a portion of previously recorded SIHP # -5796
Runyon et al. 2015	AMR	Royal Hawaiian and Sheraton Waikīkī Hotels, TMK: [1] 2-6-002:005, 006, and 026	Recorded 3 historic properties, SIHP # -7041 (an in-situ extended human burial likely of Hawaiian decent), SIHP # -7118 (cultural layer), and SIHP # -7119 (disturbed “A” horizon containing pit features and disarticulated human remains)

Author(s)	Type of Study	Location	Findings (SIHP #50-80-14)
Bulluomini et al. 2016a	AMR	Allure Waikīkī, TMK: [1] 2-6-013: 001, 003, 004, 007, 008, 009, 011, and 012	Recorded 2 historic properties, SIHP # -6874 (a post contact cultural layer with features and artifacts) and SIHP # -6948 (a human burial) as well as an animal burial and a wall or foundation remnant (No SIHP assigned)
Bulluomini et al. 2016b	AMR	280 Beach Walk Retail Development	Documented SIHP # -7055 (disarticulated human remains of at least two individuals), SIHP # -7761 (historic trash layer) and fishpond sediments associated with Loko Kapuiki (SIHP # -4577) and Loko Ka'ohai (SIHP # -7952)
Groza et al. 2016	LRFI	Ala Moana Tributary Basin Relief and Rehabilitation; various TMK's	No sites recorded
Johnston-O'Neill et al. 2016	Archaeological Evaluation and Literature Review	Kalākaua Ave. to Saratoga Rd Water System Improvements, TMK: [1] 2-3-various, [1] 2-4-various, [1] 2-6-various, [1] 3-1-various, Portion of County Road ROW	No sites recorded
O'Hare et al. 2016, Ishihara et al. 2015	Literature Review and Field Inspection (LRFI), CIA	Ala Moana Blvd.	No sites recorded
Thurman et al. 2016, Thurman and Watson 2016	AIS, Burial Treatment Plan	413 Seaside Ave, TMK: [1] 2-6-021:056, 057, 062, 065	Recorded SIHP # -7930, a cultural layer and underlying culturally enriched wetland with traditional and historic artifacts and disarticulated human remains

Author(s)	Type of Study	Location	Findings (SIHP #50-80-14)
Yucha and Hammatt 2016	AMR	Waikīkī Community Center Improvements Project, 310 Paoakalani Ave.; TMK: [1] 2-6-025:008 por.	No sites recorded
Martel and Hammatt 2017, Beauchan et al. 2016	AIS, CIA	Ala Wai 46kV Underground Cable Relocation, TMK: [1] 2-6-017; [1] 2-7-013, -014, and -036, various	Documented a portion of previously recorded SIHP # -5796 (buried wetland surface) and SIHP # -9757 (Ala Wai Canal)
O'Hare and McDermott 2017, Spencer et al. 2018	LRFI, CIA	Kūhiō Collection at Waikīkī; TMK's: [1] 2-6-021:100 and 114 and [1] 2-6-021:075, 076, 101, 108, and 109	No sites recorded
Raff-Tierney et al. 2017, Welser and McDermott 2018	Monitoring, Burial Site Component Report	Kālia-Fort DeRussy, wastewater system improvements	Documented the remains of 4 individuals as Features 15, 16, and 17 of SIHP # -4570
Pammer et al. 2018	Monitoring	Ala Moana Blvd.	Documented pond sediment associated with SIHP # -4573 (Loko Kaipuni)
Raff-Tierney et al. 2018	AIS	Kūhiō Collection at Waikīkī; TMK's: [1] 2-6-021:100 and 114 and [1] 2-6-021:075, 076, 101, 108, and 109	Recorded SIHP # -8191, a large subsurface site consisting of three culturally-enriched subsurface deposits and 34 associated subsurface pre- and post-contact features, including disarticulated human remains, as well as SIHP # -8192, structural remnants of three subsurface basalt and coral cobble and boulder features, and SIHP # -8193, human cranial fragments in secondarily deposited soil

Author(s)	Type of Study	Location	Findings (SIHP #50-80-14)
Thurman 2020	End of Fieldwork Letter	Geotechnical testing along Ala Wai Canal; within the current APE	No sites recorded
Mason Architects 2020 (not shown on Figure 21 or Figure 32)	Identification of Historic Properties	Ala Wai Bridge; within the current APE	Listed 30 historic properties within the project APE, 12 were already listed or found eligible for the State and/or National Register and 18 were evaluated as not eligible

Table 7. Table listing Luakini Heiau in Waikīkī described by Thrum (1906:44)

Heiau	Location	Description
Helumoa	‘Āpuakēhau	Heiau po‘okanaka (“human head”), the place of sacrifice of Kauhi-a-Kama, the defeated king of Maui, in his raid on Oahu about AD 1610, in the reign of Kaihikapu
Papa‘ena‘ena	At foot of Diamond Head slope, rear of Douglas' premises	Heiau po‘okanaka, 130x70 feet in size; a walled and paved structure of open terraced front, destroyed by Kanaina about AD 1856, the stones used to enclose Queen Emma's premises and for road work. This heiau is the supposed place of a number of sacrifices by Kamehameha at the opening of the last century
Kupalaha	Kapi‘olani Park	Entirely obliterated. Class unknown, but said to have had connection in its working with Papa‘ena‘ena
Kapua	Near Kapi‘olani Park	Heiau po‘okanaka. Fragments of its walls torn down in 1860 show it to have been about 240 feet square; said to be the place of sacrifice of Kaolohaka, a chief from Hawai‘i, on suspicion of being a spy

McAllister 1933

During his island-wide survey of O‘ahu, McAllister (1933) listed Papa‘ena‘ena Heiau as Site 58 and Waikīkī as Site 60. He provided historic accounts of Papa‘ena‘ena Heiau, including a description of its layout and ceremonies by Kamakau (n.d.). He listed all descriptions of measurements recorded by the early visitors and averaged them together, finding the main terrace averaged 128 ft long by 68 ft wide and the walls averaged 6.2 ft tall and 3 ft wide (McAllister 1933:74). Papa‘ena‘ena Heiau was dismantled in AD 1856, however, McAllister (1933:74, 77) provided the following account based on the compiled historic accounts:

The foregoing accounts show that Papaenaena was a quadrangular paved terrace, with walls on three sides, but open on the west side, which faced the village of Waikiki and the sea. This side was approached by a series of step-like terrace...

The present Hawaiians believe that this heiau [Helumoa] was located nearer the Moana Hotel and that the Royal Hawaiian Hotel is the site of the former athletic field of the alii, called Kahuamokomoko. When the excavations for the hotel were made many game stones (ulumaika) were found.

McAllister (1933:74) noted “Site 60. Waikīkī. The Village of Waikiki became a favorite resort of the old Hawaiian chiefs and kings previous to Cook’s discovery. He notes that Kamakau (n.d.) suggests that Mailikukahi was perhaps the original chief to reside at Waikīkī, as Waialua and ‘Ewa Districts were formerly the places where chiefs resided. McAllister (1933) also provides early historic accounts of Waikīkī which describe the agricultural fields, crops, fish, fowl and fishponds of the area. McAllister (1933:76) also described the following:

The village of Waikiki probably centered around the mouth of the Apuakehau stream, near the present Moana Hotel. The region is rich in traditional lore, but the exact location of traditional sites is difficult to determine. There was a heiau in the village which the present Hawaiians say was called Apuakehau on the land known as Helumoa...

McAllister (1933:77) also describes the wizard stones of Waikīkī:

Between Kalakaua Avenue and the beach on the land known as Nanapua [at the shore of Hamohamo], are two large stones and several smaller ones, now known as the “wizard stones” of Kapaemahu. The large stones measure about 6 by 10 by 5 feet; the smaller stones have been recently added. They are said to be memorials to four men (hermaphrodites?), Kapaemahu, Kahaloa, Kapuni, and Kinohi, who came to Oahu many years ago, and lived with the Hawaiians.

He includes an early account of the myth which tells of the men being adept at the science of healing. The myth talks of coordinating moving the large boulder to Ulukou during the night of Kane and the men transferring all their powers into the stones and vanishing (Boyd in Thrum 1906b:139-140, quoted in McAllister 1933:77).

Bishop Museum 1961

In 1961, a human mandible and a historic-era trash deposit, SIHP #50-80-14-3706 (BPBM OA419), were found during construction at 331 Saratoga Road. The finds were summarized in Neller (1981) and Belluomini et al. (2016).

Kimble 1976

In 1976, six human burials, later recorded as SIHP #50-80-14-9500, were recovered during the original construction of the Hale Koa Hotel. Five of the burials were reported to be pre-contact or early- historic bundle burials. The sixth burial was recovered from immediately beneath the road and was interpreted to have been interred later. (Kimble 1976 as summarized in Neller 1981)

Rosendahl 1977

In 1977, the Bishop Museum conducted an archaeological inventory and evaluation for an environmental impact statement for U.S. Army facilities in Hawai'i which included Fort DeRussy. The report mentions the burials recovered during construction of the Hale Koa Hotel as the only archaeological site identified at Fort DeRussy at that time. Additionally, a field inspection was conducted in which no new sites were identified. Following the inspection, monitoring for any subsurface disturbance within Fort DeRussy was recommended (Rosendahl 1977).

Neller 1981

In 1981, the State Historic Preservation Office was contacted when workers discovered human skeletal remains during construction of the Halekūlani Hotel. An emergency field investigation of the remains documented a total of four disturbed human burials and two late 1800's/early 1900's trash concentrations and were eventually recorded as SIHP #50-80-14-9957. Two of the burials were determined to be native Hawaiian by the features of the skull. The other two burials were represented by only leg bones, one of which was a small tibia that may have represented a juvenile. The burials were all thought to date to the 20th century. None of the human skeletal remains or features were found in their primary context, no intact archaeological deposits were located, and no controlled excavations were conducted at the site. Additional archaeological investigations and monitoring were recommended for future work in the area (Neller 1981).

Davis 1984

Between December 1981 and February 1982, archaeological excavations and monitoring were conducted by the Bishop Museum at SIHP # -9957, previously documented during construction of the Halekūlani Hotel (Neller 1981). The excavation effort consisted of nine exploratory backhoe trenches and the examination of four existing construction trenches. A total of 48 prehistoric and historic features were excavated during the project most of which were located along the beachfront in the western portion of the parcel. The remainder of the parcel had been heavily impacted by construction activities. Documented features included pits, postholes, historic trash pits, prehistoric earth ovens and firepits, at least two privies, six human burials, and four animal burials consisting of three dogs and a lamb. Five of the six burials were determined to be pre-contact native Hawaiians with the remainder of the burials, including the animals, dating to the historic-era. The historic-era features contained bottles, ceramics, metal, and other household refuse and were dated to the late 1800's (Davis 1984). The project was one of the first controlled

excavations conducted in Waikīkī and provided the first insights on the prehistoric and historic occupation and land use of the area near Fort DeRussy.

|Neller 1984

In 1983, the State Historic Preservation Division (SHPD) produced a letter report on the recovery of human skeletal remains during construction of the Lili‘uokalani Gardens condominium. The recovered remains were interpreted to represent seven traditional Hawaiian burials. A deeply buried cultural deposit containing traditional Hawaiian artifacts was also documented and estimated to be older than the burials based on the location of the project area which had been the former site of a bungalow owned by Queen Lili‘uokalani at the end of the 19th century (Neller 1984). The site and burials were eventually recorded as SIHP #50-80-14-4127.

|Griffin 1987

In 1987, Agnes Griffin and Albert Ah Nee investigated an inadvertent discovery of a human burial, MOA-1, found along Kalākaua Avenue. The remains had already been removed and bagged prior to the arrival of the archaeologists and consisted of several fragmented and nearly complete skeletal elements. No SIHP number was assigned to the remains during the investigation (Griffin 1987).

|Simons 1988

In 1988, the Bishop Museum conducted archaeological monitoring and data recovery excavations for the Waikīkī Moana Hotel historical rehabilitation project. During excavation 8 human burials were encountered, 4 of which were in situ traditional tightly flexed Hawaiian burials, as well as a cultural layer containing features and traditional Hawaiian and historic artifacts (Simons 1988). According to a 2004 SHPD database, SIHP #50-80-14-9901 appears to have been assigned to the cultural layer, although the report does not mention the site designation.

|Bath and Kawachi 1989

In 1989, SHPD archaeologists investigated human remains representing two individuals inadvertently discovered at the Ala Wai Golf Course. The first burial consisted of a femur and other leg bones interpreted to be in a supine flexed position. No burial context or position could be determined for the second burial as it had been previously impacted and secondarily deposited. The osteological analysis concluded that the burials were of antiquity and likely represented individuals of Hawaiian ancestry (Bath and Kawachi 1989).

|Davis 1989

In 1989, International Archaeological Research Institute Inc. (IARII) conducted a subsurface archaeological reconnaissance survey for upgrades to the recreational facilities at Fort DeRussy Military Reservation. During the project a total of 20 exploratory trenches were excavated which provided the first archaeological documentation of fishponds present at Fort DeRussy. Intact pre-contact and historic features were also identified. Eleven inland trenches documented pond walls and sediments, a portion of the ‘Auwai O Pau, (SIHP #50-80-14-4970), and other features of several fishponds known as Loko Kaipuni (SIHP #50-80-14-4573), Loko Paweo I (SIHP #50-80-14-4574), Loko Ka’ihikapu (SIHP # 50-80-14-4575), Loko Paweo II (SIHP # 50-80-14-4576), and Loko Kapu’uiki (SIHP # 50-80-14-4577). Nine seaward trenches were hand excavated and

documented demolition disturbance and debris from Battery Dudley and a dual component cultural deposit with historic and pre-contact habitation layers (SIHP 50-80-14-4570) (Davis 1989). No SIHP numbers were assigned during the project, the aforementioned site numbers were assigned later.

Rosendahl 1989a

In February of 1989, Paul H. Rosendahl Ph.D Inc. (PHRI) conducted an archaeological inventory survey for a proposed pool location at the Hale Koa Hotel. A total of thirteen backhoe trenches were excavated south of the hotel along the beachfront. The stratigraphy of the area was described as a silty loam topsoil over a naturally prograded beach. Only a few historic-era bottle glass fragments, ceramic fragments, and parts of milled wood beams and boards with nails were documented. No subsurface deposits or burials were encountered. The scant archaeological remains in the area were not given a site number but were assessed as being significant for their information content under Criterion D. Following the survey, archaeological monitoring for the proposed pool was recommended (Rosendahl 1989a).

Rosendahl 1989b

In June of 1989, PHRI conducted an archaeological inventory survey for a proposed, lū'au facility at the Hale Koa Hotel. The survey consisted of the excavation nine backhoe trenches and three 1 x 1 m test units excavated east of the old swimming pool. A disturbed cultural deposit containing 19th century artifacts was documented in all but one of the backhoe trenches. Artifacts recovered included ceramic sherds, glass, a slate pencil, buttons, saw-cut mammal bone, copper tacks, a cartridge casing, a possibly worked basalt cobble, PVC irrigation pipe fragments, and electrical wire. No pit features or human burials were encountered during the project and the historic artifacts were deemed to be in a secondary context. The cultural deposit was not given a site number but was assessed as significant for its information content under Criterion D. Following the survey, archaeological monitoring was recommended (Rosendahl 1989b).

Chiogioji and Hammatt 1991

In 1991, Cultural Surveys Hawai'i, Inc. (CSH) conducted a preliminary archaeological assessment of two parcels located along Lili'uokalani Avenue, Cleghorn Street, and Tusitala Street. Background research indicated that a portion of the parcel was within the former 'Āinahau (Cleghorn) estate and the presence of a former 'auwai, taro, and rice field in the area. Following the assessment, an archaeological inventory survey was recommended for the two parcels (Chiogioji and Hammatt 1991).

Kennedy 1991

In 1991, Archaeological Consultants of Hawai'i, Inc. (ACH) conducted archaeological monitoring for the IMAX Theater Construction Project. The project area was a 41 m by 24 m parking lot in the heart of Waikīkī. No significant cultural artifacts, features or human remains were encountered during the monitoring project (Kennedy 1991).

| Davis 1992

In 1991, IARII conducted archaeological monitoring and excavations within Land Commission Award 1515, ‘Apana 2 at Fort DeRussy in support of an environmental baseline study to identify and isolate possible ground water contamination. Monitoring was conducted for a total of twelve bore holes, none of which contained artifacts or deposits. The excavation effort consisted of eight 1 x 1 meter test units centered around a previously identified cultural deposit, SIHP # -4570 (Davis 1989:60-62). A total of 40 features were identified, 35 of which were thought to date to the early-historic period, and included 24 hearths, 12 pits, 3 post holes, and a burial pit. The human burial was preserved in place during the project. No SIHP numbers were assigned at that time but the area between Battery Randolph and the beach from the Reef Hotel to past the handball courts was identified as an area of archaeological sensitivity (Davis 1992).

| Pietrusewsky 1992

In 1992, osteologist Michael Pietrusewsky conducted an osteological analysis of the human skeletal remains previously recovered by Neller (1984) during construction of the Lili‘uokalani Gardens condominiums. The analysis determined that at least nine individuals and the remains of a fetus were represented in the human skeletal remains of SIHP # -4127 (Pietrusewsky 1992).

| Streck 1992

In 1992, BioSystems Analysis Inc. conducted data recovery excavations for recreational facilities at Fort DeRussy. Mechanical and manual test excavations uncovered a number of features associated with ‘auwai, pond sediments, and occupational features. A single human burial, SIHP # 50-80-14-9550, was documented at the mauka end of the Kuroda Parade Ground and left in-situ. The burial was thought to have been interred during the late pre-contact period (Streck 1992).

| Maly et al. 1994

In 1994, PHRI conducted an archaeological and historical assessment for the Hawai‘i Convention Center located at the former location of Aloha Motors at 1777 Kalākaua Avenue. The background research identified a Land Commission Award, a fishpond, a Grant, and also included several ponds and dryland parcels throughout the project area. Based on the background research, an archaeological inventory survey was recommended prior to project construction (Maly et al. 1994).

| McMahon 1994

In 1994, human skeletal remains representing a single individual, recorded as SIHP # 50-80-14-4890, were inadvertently discovered in a spoil pile during excavation for a waterline at the intersection of Kalākaua Avenue and Kuamo‘o Street. No burial pit was observed, and no cultural deposits or artifacts were documented (McMahon 1994).

| Hammatt et al. 1995

In 1995, CSH conducted a archaeological inventory survey for the Hawai‘i Convention Center located at the former location of Aloha Motors at 1777 Kalākaua Avenue. The inventory survey consisted of a pedestrian reconnaissance and the excavation of 10 backhoe trenches across the project area. No surface sites were documented during the surface inspection. The analysis of the

stratigraphy and results of the faunal, palynological, radiocarbon dating, and diatom analyses found no clear evidence of pre-contact occupation in the area. This was attributed to the swampy nature of the area which may have been only a few centimeters above the water table. Nothing of archaeological note was documented (Hammatt et al. 1995).

| Jourdane 1995

In 1995, SHPD archaeologist Elaine “Muffet” Jourdane documented the in-situ remains of a single individual, recorded as SIHP #50-80-14-5301, inadvertently discovered during landscaping activities along Paoakalani Avenue fronting the Waikīkī Sunset Hotel (Jourdane 1995).

| Paglinawan 1995/1996

In 1995 and 1996, Richard Paglinawan prepared a report providing information on the “Wizard Stones of Waikiki”, SIHP #50-80-14-060, during the development of a historic walking trail. The report summarized a timeline of the stones and where they had been previously located within Waikīkī (Paglinawan 1995/1996).

| Cleghorn 1996

In 1996, Pacific Legacy conducted an archaeological inventory survey for the first phase of King Kalākaua Plaza. The seven backhoe trenches excavated during the project documented fill materials over marshland. No cultural deposits, features, or human burials were documented during the project (Cleghorn 1996).

| Hammatt and Shideler 1996

In 1996, CSH conducted data recovery to determine if sediments documented during a previous archaeological inventory survey for the Hawai‘i Convention Center (Hammatt et al. 1995) were part of a fishpond, Loko Kūwili, known to be in the area. Again, no clear evidence of fishpond deposits was found and the sediments were interpreted to be imported sand fill deposited during land reclamation activities in the 1920’s. The stratigraphy consisted of over 1 meter of fill materials over the natural marine sand and clay. Following data recovery, no further work was recommended regarding the project (Hammatt and Shideler 1996).

| McDermott et al. 1996

In 1996 CSH, Inc. conducted an archaeological inventory survey for two previously investigated (Chiogioji and Hammatt 1991) parcels located along Lili‘uokalani Avenue, Cleghorn Street, and Tusitala Street. The survey consisted of the excavation of a total of 14 backhoe trenches throughout both project areas. During the project, the buried remnants of an ‘auwai and lo‘i were encountered and designated SIHP #50-80-14-5459. In addition, a single native Hawaiian burial was encountered and designated as SIHP #50-80-14-5460 (McDermott et al. 1996).

| Anderson and Bouthillier 1997

In 1997, Ogden Environmental and Energy Services Co. Inc., conducted a historic preservation study and Historic American Building Survey (HABS) documentation for the proposed demolition of Maluhia Hall at Fort DeRussy. The survey assessed Maluhia Hall as eligible for listing on the NRHP under Criteria A and C. Based on archaeological investigations that documented portions of Loko Kaipuni (SIHP # -4573) in the area of Maluhia Hall, the subsurface archaeological

resources beneath Maluhia Hall were assessed as eligible under Criterion D (Anderson and Bouthillier 1997).

| Denham and Pantaleo 1997a, Carlson et al. 1994

In 1993, BioSystems Analysis, Inc. conducted archaeological monitoring for the Kālia Road realignment, improvements, and utilities at Fort DeRussy. A total of ten subsurface features and nine burial locations were documented during monitoring. In 1994, a burial report was written for the project by BioSystems Analysis, Inc. that describes a total of 31-38 sets of human skeletal remains that were documented at Burial Areas 6 and 7. Burial Area 6 contained 27-34 individuals in a large pit feature, some of which showed evidence of perimortem trauma. Four individuals were documented at Burial Area 7 in association with a cultural layer containing pre-contact and historic-era artifacts and post hole features. Based on radiocarbon analysis, tooth evulsion, and perimortem trauma to the remains in the mass grave at Burial Area 6 their interment was attributed to warfare during the interisland battles of conquest during the reign of Kamehameha I at the end of the 18th century. The dating of the four sets of remains in Burial Area 7 was more problematic. The radiocarbon dates taken from the cultural layer in which they were interred was interpreted to date to the pre-contact era, however historic-era artifacts were found throughout the layer. The historic artifacts were attributed to a metal pipeline running above and the remains at Burial Area 7 were dated to the pre-contact era. All the remains documented during the project were eventually reinterred or left in-situ on the Fort DeRussy property (Carlson et al. 1994).

Due to the restructuring of BioSystems Analysis, Inc., Garcia and Associates obtained the contract for the project and published the findings of the monitoring four years later in 1997. The features and burials were grouped into three archaeological sites based on their spatial c. Three historic trash pits, two burials, and fishpond sediments associated with Loko Paweo I were added as Features 1-5 of previously documented SIHP # -4574 (Davis 1989). The two burials of SIHP # -4574 are thought to have been located north of the intersection of Kālia and Saratoga Rd. A historic trash pit, four fire pits, an ash lens, and human burials from six areas, including Burial Area 6, were added as Features 1-12 of SIHP # -4570, a previously documented sub-surface cultural deposit (Davis 1989). A pre-contact occupation layer and burials representing five individuals, including Burial Area 7, were documented in the eastern portion of Fort DeRussy and were recorded as Features 1 and 2 of (SIHP # 50-80-14-4966). All three sites were assessed as eligible for listing on the NRHP under Criteria D and E (Denham and Pantaleo 1997a).

| Denham and Pantaleo 1997b, Simons et al. 1995

In 1992, Biosystems Analysis, Inc. conducted data recovery excavations at Fort DeRussy. During the project portions of six previously recorded sites were documented (Simons et al. 1995). Once again, due to the dissolution of BioSystems Analysis, Inc. Garcia and Associates obtained the contract for the project and published the findings of the data recovery five years later in 1997. A firepit, coral rock concentration, several posthole features, and a cultural deposit were documented and added to SIHP # -4570, which includes L.C.A. 2511. An ‘auwai and bund system with two channels, three bunds, and a charcoal stain were documented and thought to be feature components of the ‘Auwai O Pau, SIHP # -4970. Excavations within L.C.A 1758:3, SIHP #50-80-14-4579, documented five firepits, a human burial, two dark stains, two historic middens, and two possible prehistoric middens. Additionally, pond sediments associated with Loko Paweo I, SIHP # -4574, Loko Ka’ihikapu, SIHP # -4575, and Loko Paweo II, SIHP # -4576. The portions of the

‘Auwai O Pau, SIHP # 4970, and the fishpond sediments of Loko Paweo I, SIHP # -4574, and Loko Ka’ihikapu, SIHP # -4575 were assessed as not eligible for listing on the NRHP. The site components of SIHP # -4570, and Loko Paweo II, SIHP # -4576, were assessed as eligible for listing under Criterion D and the feature components and burials of SIHP # -4579 were assessed as eligible for listing under Criteria D and E (Denham and Pantaleo 1997b).

| Asbury-Smith and Dega 1998

In 1998, Scientific Consultant Services, Inc. (SCS) conducted archaeological monitoring in the northern portion of Fort DeRussy, just south of Ala Moana Boulevard. The project included installation of 19 trees, a water-sprinkler line, and concrete curbing. Only imported fill layers were encountered. This report was not found at the SHPD library, therefore only this limited information is known (Asbury-Smith and Dega 1998).

| Hammatt and Chiogioji 1998

In 1998, CSH conducted an archaeological assessment for the second phase of the King Kalākaua Plaza, located along Kalākaua Ave. between Olohana and Kalaimoku Street. The assessment consisted of a field inspection in which no sites were recorded. However, due to the previously documented cultural resources in the vicinity an AIS of the project area was recommended (Hammatt and Chiogioji 1998).

| Perzinski et al. 1999, Hammatt and McDermott 1999

In 1999, CSH conducted archaeological monitoring for the first phase of the Waikīkī anti-crime street lighting improvements project along portions of Ala Wai Blvd, Kalākaua Ave., Ala Moana Blvd, and ‘Ena Rd. During the project two human burials, designated SIHP #50-80-14-5744, were recovered from calcareous sand deposits near the intersection of ‘Ena Rd. and Kalākaua Ave. No additional cultural deposits were found in association with the remains or during the project (Perzinski et al. 1999). Subsequently, a burial disinterment plan and report was drafted for the remains comprising SIHP # -5744 (Hammatt and McDermott 1999).

| LeSuer 2000

In 2000, CSH conducted an AIS for the second phase of King Kalākaua Plaza. The 13 backhoe trenches excavated during the project documented historic-era fill materials over the original prehistoric/early 20th century wetland surface which was documented as SIHP # 50-80-14-5796. A few isolated historic-era artifacts were documented within the wetland surface, but no cultural deposits or burials were encountered. Additionally, a portion of the ‘Auwai O Pau, SIHP # -4970, originally documented within Fort Derussy (Davis 1989), was documented in the northwestern portion of the survey area. The buried wetland surface, SIHP # -5796, was assessed as eligible for listing on the NRHP under Criterion D as was the portion of the ‘Auwai O Pau, SIHP -4970, which had been assessed previously under Criterion D (LeSuer 2000).

| Cleghorn 2001a & b

In 2001, Pacific Legacy, Inc., conducted archaeological mitigation of an inadvertent burial discovery, SIHP #50-80-14-5861, at the construction site of Burger King on Ōhua Street and Kalākaua Avenue, adjacent to St. Augustine Church (Cleghorn 2001a). The burial was found in a primary context within a burial pit and was identified as the remains of an adult individual in an

extended position. The burial pit was in a dark cultural layer and contained moderate to heavy amounts of charcoal and pieces of volcanic glass. Four test trenches were excavated near the burial. Only Test Unit 4 uncovered cultural deposits, consisting of a small hearth and a small pit with midden materials and charcoal. The cultural layer and pit features were included as part of SIHP #50-80-14-5861.

Later in 2001, Pacific Legacy, Inc. conducted additional archaeological mitigation of the inadvertent discovery of human remains uncovered near the construction site of Burger King on Ōhūa Street and Kalākaua Avenue (Cleghorn 2001b). Four test units were excavated with numerous bone fragments uncovered. The burials were found in a previously disturbed context and were designated as part of SIHP # -5681. Historic artifacts found included three buttons (one wood and two plastic), a 1957 U.S. penny, animal bone, metal, glass, and ceramic fragments including one blue-on-white ware, a bottle neck with cork, and a clear glass button-shaped disk.

| Elmore and Kennedy 2001

In 2001, Archaeological Consultants of the Pacific (ACP) investigated the inadvertent discovery of an in situ human burial, SIHP #50-80-14-5937, found at the base of a shallow trench during construction work at the Royal Hawaiian Hotel. Additional human remains were also uncovered during subsequent monitoring. Artifacts collected included several shell buttons, a drilled dog tooth, and a copper penny. All cultural materials were reinterred within the bounds of SIHP # -5937 (Elmore and Kennedy 2001).

| Roberts and Bower 2001

In 2001, Garcia and Associates conducted archaeological monitoring for a security fence at the Daniel K. Inouye Asia-Pacific Center for Security Studies at Fort DeRussy. No cultural deposits, features, or human burials were documented during the project (Roberts and Bower 2001).

| Winieski and Hammatt 2001

In 1997 and 1998, CSH conducted archaeological monitoring for the Public Baths Waste Water Pumping Station Force Main Replacement project. Two historic properties were identified including a discontinuous A horizon (SIHP #50-80-14-5883) and a disturbed human burial (SIHP #50-80-14-5797) encountered at the intersection of Ōhūa Street and Kūhiō Avenue. Additionally, a historic dog burial, a fire pit fronting Kapiʻolani Park, and an old road surface on Kalākaua Avenue were also recorded by no site numbers were assigned.

| Borthwick et al. 2002

In 2002, CSH conducted an archaeological inventory survey for an approximately 71,000 sq. ft. parcel located between Olohana Street, Kūhio Avenue, Kalaimoku Street, and Ala Wai Boulevard. The survey consisted of the excavation of 10 backhoe trenches in the project area, which had been cleared of buildings prior to the survey. The investigation documented SIHP #50-80-14-6407, a subsurface cultural layer comprised of sandy clay loams and clay loams with organic materials and charcoal flecking interpreted as agricultural soils. Additionally, the study documented Feature A of SIHP # -6407, a paukū/kuāuna (bank of taro patch). The radiocarbon analysis of charcoal associated with the site returned a calibrated date range of 1400-1660 AD (Borthwick et al. 2002).

| Bush et al. 2002

Between 1999 and 2000, CSH conducted archaeological monitoring for the second phase of the Waikīkī anti-crime street lighting improvements project along Kalākaua Avenue from Ala Moana Boulevard to Kapahulu Avenue. The study documented fishpond sediments believed to be associated with SIHP # -4573, Loko Kaipuni, were documented in the portion of the project between Ala Moana Boulevard and Kuamo‘o Street. Human skeletal remains representing four individual burials were documented during monitoring, none of which were located in the vicinity of the current project APE (Bush et al. 2002).

| Elmore and Kennedy 2002

In 2002, Archaeological Consultants of the Pacific, Inc. conducted archaeological monitoring for additional security fencing at the Daniel K. Inouye Asia-Pacific Center for Security Studies at Fort DeRussy. No cultural deposits, features, or human burials were documented during the project (Elmore and Kennedy 2002).

| Mann and Hammatt 2002

In 2001 and 2002, CSH conducted archaeological monitoring for the installation of 8-inch and 12-inch water mains on Uluniu Avenue and Lil‘uokalani Avenue. Archaeological monitoring resulted in the inadvertent discovery of five burials recorded as SIHP #50-80-14-5859, SIHP #50-80-14-6369, CSH Burial 1-09/18/01, CSH Burial 2-1003/01, and CSH Burial 4-11/19/01 and two historic trash pits recorded as SIHP #50-80-14-6372 and SIHP #50-80-14-6398. SIHP #50-80-14-6369 was located at the Kalākaua-end of Uluniu Avenue and consisted of a primary in situ burial. SIHP #50-80-14-5859 was a heavily disturbed burial located at the Kalākaua-end of Lili‘uokalani Avenue and consisted of two individuals: one adult and one sub-adult. The other three inadvertent burial finds were encountered on Uluniu Avenue (CSH Burial 1-09/18/01, CSH Burial 2-1003/01, and CSH Burial 4-11/19/01). All the burials had multiple post-mortem fractures, indicative of prior disturbance. A trash pit SIHP #50-80-14-6372, was located mauka of the intersection of Uluniu Avenue and Prince Edward Street. The artifacts recovered within the refuse pit dated to the early 1900s to post-1950s. Another trash pit, SIHP #50-80-14-6398, was recorded at the Kalākaua-end of Lili‘uokalani Avenue and consisted of historic soda bottles and porcelain ceramic pieces dating from the late 1800s to the 1950s (Mann and Hammatt 2002).

| Putzi and Cleghorn 2002

In 2002, Pacific Legacy, Inc. conducted archaeological monitoring for sewer connections along Ala Moana Boulevard and Kalākaua Avenue associated with the Hilton Hawaiian Village Improvements project. The portion of the sewer line along Ala Moana Blvd. contained several fill layers over discontinuous fishpond sediments. Two features were documented along the Kalākaua Ave. portion of the sewer line and included pond sediment associated with SIHP # -4573, Loko Kaipuni, and a basalt cobble and boulder alignment of indeterminate age. Pond sediment thought to be associated with SIHP # -4574, Loko Paweo I, was documented in a sump pit near the corner of Ala Moana Blvd. and Kālia Road. Additionally, five historic-era pit features recorded as SIHP # 50-80-14-6399 (not shown in Figure 34), were documented within the Hilton Hawaiian Village property (Putzi and Cleghorn 2002).

| Winieski et al. 2002a and b, Perzinski et al. 2000

Between 1999 and 2000, CSH conducted archaeological monitoring for the installation of a 16-inch water main on an approximately 915 m long portion of Kalākaua Avenue between Ka'iulani and Monsarrat Avenue and associated with the Kuhio Beach Extension/Kalakaua Promenade project (Winieski et al. 2002a and b). A total of 44 human burials were documented during monitoring (SIHP #50-80-14-5856 through -5863). Detailed information on the human remains documented during the project was presented in a separate burial report (Perzinski et al. 2000). Additional historic properties encountered include a buried cultural layer containing traditional Hawaiian artifacts and features (SIHP #50-80-14-5940), a historic trash pit (SIHP #50-80-14-5941), light gauge trolley rail (SIHP #50-80-14-5942), alluvial sediments associated with Muliwai Kukaunahi (SIHP #50-80-14-5943), and a historic seawall (SIHP #50-80-14-5948).

| Bush et al. 2003

In 2003, CSH performed archaeological monitoring for the installation of a new sign at the International Marketplace. The project consisted of the excavation of two holes for the installation of two large signposts. Only two cow bone fragments and modern trash including aluminum Pepsi cans, paper, aluminum foil and other rubbish were encountered during monitoring, none of which were assessed as significant (Bush et al. 2003).

| Kailihiwa and Cleghorn 2003

In 2003, Pacific Legacy, Inc. conducted archaeological monitoring for the Waikīkī water system improvements project. Monitoring was conducted along Lau'ula Street, Waikolu Way, and Royal Hawaiian Avenue. The stratigraphy documented during the project consisted of a layer of asphalt and road base over several layers of dredge fill material over the natural wetland surface. No significant site deposits, artifacts, or human burials were encountered during the project (Kailihiwa and Cleghorn 2003). However, in the Lau'ula Street section the color and consistency of the lowest stratum (Layer V) correlates well with the strata identified as SIHP # -5796 in nearby parcels (Pammer et al. 2013 and Morriss and Hammatt 2015). Unfortunately, no interpretations were given for the strata recorded and no photos of the profile were included.

| McDermott 2003

In 2003, CSH submitted an inadvertent discovery memorandum for human skeletal remains representing a minimum of four individuals encountered in a vacant lot bounded by Lili'uokalani Avenue, Cleghorn Street, Tusitala Street, and Kapili Street (McDermott 2003). The project area had been the subject of a previous archaeological inventory survey of two parcels that documented the buried remnants of an 'auwai and lo'i, SIHP #50-80-14-5459, and a single native Hawaiian burial designated as SIHP #50-80-14-5460 (McDermott et al. 1996).

| Tome and Dega 2003

In 2003, Scientific Consultants Services (SCS) conducted archaeological monitoring for construction at the Waikīkī Marriot Hotel (Tome and Dega 2003). During excavation one unidentifiable bone fragment was encountered. No significant features or additional remains were encountered and no site numbers were assigned.

| Chiogioji and Hammatt 2004

In 2004, CSH conducted an archaeological assessment of the 6.3-acre Royal Hawaiian Shopping Center parcel. The project borders Kalākaua Avenue, the Royal Hawaiian Hotel, Lewers Street, and the Outrigger Hotel. The assessment consisted of a field inspection and a literature review. No significant archaeological features, burials or artifacts were encountered during the field inspection. However, background research had indicated the possibility of pre-contact and historic burials as well as additional archaeological sites and features in the area. Following the assessment archaeological monitoring was recommended (Chiogioji and Hammatt 2004).

| Chiogioji et al. 2004

In 2004, CSH conducted an archaeological inventory survey for the Tusitala Vista Elderly Apartments. The archaeological fieldwork consisted of the excavation of 14 backhoe trenches across the project area which documented four historic properties. The background research indicated that at least a portion of the ‘Āinahau Estate was within the project area. A buried A-Horizon associated with the property was encountered during the project and recorded as SIHP #50-80-14-6682. A buried stream bed believed to be a portion of the former ‘Āpuakēhau Stream was documented as SIHP #50-80-14-6706. A stone retaining wall, recorded as SIHP #50-80-14-6707, was also documented. Lastly, previously disturbed human skeletal remains in imported fill materials were encountered and recorded as SIHP #50-80-14-6705. In general, the project documented four stratigraphic layers comprised of a modern A- Horizon fill over historic fills over a buried A-Horizon with traditional Hawaiian features over the natural sand. However, the stratigraphy varied distinctly between the northeast and southwest halves of the project area (Chiogioji et al. 2004).

The results of radiocarbon dating of three unidentified charcoal samples from the buried A-Horizon and features within it returned dates clustered around the 15th century which match well with the dates returned from the former fishponds and habitation sites in the area of Fort DeRussy (Denham and Pantaleo 1997b and Simons et al 1995).

| Havel and Spear 2004

In 2004, Scientific Consulting Services Inc. conducted archaeological monitoring at ABC Store number 21 located at the corner of Kūhio Avenue and Kānekapōlei Street. Only fill materials were observed and no significant deposits or artifacts were documented during the project. Following the project, archaeological monitoring was recommended for the project area and Waikīkī in general (Havel and Spear 2004).

| Jones and Hammatt 2004

In 2004, CSH conducted archaeological monitoring for the Waikīkī anti-crime street lighting improvements project located on the mauka side of Kalākaua Avenue between Ala Wai Boulevard and Pau Street. The project documented mostly fill materials except for some possible pond or lo‘i sediments near the intersection of Kalākaua Ave and McCully Street and the original pre-1920 base course material for McCully Road. No SIHP numbers were assigned during the project and no further work was recommended (Jones and Hammatt 2004).

| McIntosh and Cleghorn 2004

In 2004, Pacific Legacy conducted an archaeological inventory survey for 0.687-acre parcel for an urban loft development on Launiu Street. The investigation documented gleyed silts and fine sands indicative of pond field agriculture in the central western portion of the project area. The pond sediments were designated SIHP #50-80-14-6680 and are interpreted as a buried lo'i or pond field (McIntosh and Cleghorn 2004).

| Tulchin et al. 2004

In 2003, CSH conducted data recovery excavations associated with SIHP # -6407, previously recorded during a previous archaeological inventory survey (Borthwick et al. 2002). The testing focused on recovering samples related to a previously identified paukū/kuāuna (bank of taro patch), recorded as Feature A of SIHP # -6407. The radiocarbon dating and pollen identification of the samples collected from the site confirmed construction and use of the feature in the pre-contact era (Tulchin et al. 2004).

| O'Leary et al. 2005

In 2005, CSH conducted an archaeological inventory survey for a 1-acre parcel located at 2284 Kalākaua Ave., the former site of the Waikīkī 3 Theater. The inventory survey consisted of the excavation of 12 backhoe trenches throughout the project area which identified a single flexed pre-contact Hawaiian burial recorded as SIHP #50-80-14-6819. It was encountered in the southeastern corner of the project area near Kalākaua Ave. and Dukes Lane (O'Leary et al. 2005). Unlike many burials of the area, SIHP # -6819 was found within wetland agricultural soils instead of the typical jaucus sand.

| Rasmussen 2005

In 2005, IARII conducted archaeological monitoring in support of a perimeter barrier wall for the Daniel K. Inouye Asia-Pacific Center for Security Studies at Fort DeRussy. No archaeological deposits, features, or human burials were documented during the project (Rasmussen 2005).

| Bell and McDermott 2006, Mitchell and Hammatt 2006

In 2006, CSH conducted an archaeological inventory survey (Bell and McDermott 2006) and cultural impact assessment (Mitchell and Hammatt 2006) for the Allure Waikīkī condominium located at 1837 Kalākaua Avenue. The inventory survey consisted of a 100% pedestrian survey of the area and the excavation of 35 backhoe trenches. The trench excavations documented low-lying waterway sediments capped with fill in the northern portion of the area, natural sand deposits with an associated A-horizon capped by fill over most of the area, and natural sand with an active A-horizon at the surface in the western corner of the property. A total of three historic properties were documented during excavations. SIHP #'s 50-80-14-6873 and 50-80-14-6875 were single, primary, traditional Hawaiian burials contained in sand and believed to be in flexed positions. They were both preserved in-situ during the project. SIHP # 50-80-14-6874 was a cluster of eight refuse pit features containing mostly historic artifacts. Only one of the features, Feature E, did not contain historic artifacts. Radiocarbon analysis was conducted on unidentified wood charcoal from Feature E and provided wide date ranges spanning 400 years and were therefore inconclusive. The site was interpreted to have accumulated mostly in the post-contact period with remnants of earlier

features representing pre-contact activities on the sand dunes. Following the survey, a burial treatment plan and archaeological monitoring were recommended for the project.

| Esh and Hammatt 2006a

In 2006, CSH conducted archaeological monitoring for a portion of the Kūhiō Avenue Improvements Project that extended from Kalākaua Avenue to Kaʻiulani Avenue in Waikīkī (Esh and Hammatt 2006a). Archaeological fieldwork uncovered one in situ dog (*Canis familiaris*). Excluding the faunal remains, no additional cultural or significant archaeological materials and artifacts were uncovered.

| O’Leary et al. 2006

In 2006, CSH conducted an archaeological inventory survey of 0.5 acres of the Royal Kāhili condo property, now known as the Ala Wai Garden Plaza. Due to the negative results of the survey it was termed an archaeological assessment. No artifacts, cultural deposits, or human burials were documented during the project (O’Leary et al. 2006).

| Bell and McDermott 2007, Gollin et al. 2007

In 2006, CSH prepared a CIA (Gollin et al. 2007) and conducted an archaeological inventory survey (Bell and McDermott 2007) for the 280 Beach Walk retail development. Due to the negative results of the survey it was termed an archaeological assessment. The assessment consisted of a 100 percent pedestrian survey of the subject property and the excavation of 11 backhoe trenches in the eastern half of the development. Only a few isolated artifacts were collected during backhoe trenching and no archaeological sites were documented. The lack of archaeological sites was attributed to previous construction disturbances in the area. However, due to the number of nearby human burials and archaeological sites monitoring was recommended (Bell and McDermott 2007).

| Hammatt and Shideler 2007

In 2007, CSH conducted archaeological monitoring for the Sheraton Moana Surfrider Hotel. The project consisted of the installation of a grease interceptor on the east side the hotel to a depth of 2.4 meters below surface. Nothing of archaeological note was encountered during monitoring except for a few historical artifacts consisting of small metal fragments and ceramic tile fragments (Hammatt and Shideler 2007).

| Groza et al. 2007

In 2007, CSH completed a literature review and field check for an approximate 1-acre parcel bounded by Kūhiō Avenue to the north, ‘Ōhūa Avenue to the east, and Kealohilani Avenue to the west (Groza et al. 2007). A field inspection did not find any historic properties. Based on the literature review, the study area was suggested to have potential remnants of both precontact and historic subsurface sites and features ranging from wet and dryland agriculture fields, habitation and activity sites, historic trash pits, and human burials.

| Pammer and Hammatt 2007

In 2007, CSH conducted archaeological monitoring for the installation of a grease trap and kitchen sewer lines at the Perry’s Smorgy Restaurant. The excavation of a grease trap and single

sewer trench were monitored during the project and resulted in no significant findings (Pammer and Hammatt 2007).

| Tulchin and Hammatt 2007a, Stevens-Gleason and Hammatt 2008

In 2007 and 2008, CSH prepared a CIA (Stevens-Gleason and Hammatt 2008) and conducted an archaeological inventory survey (Tulchin and Hammatt 2007) for a commercial development at 1944 Kalākaua Ave. Due to the negative results of the survey it was termed an archaeological assessment. The assessment consisted of a 100% pedestrian survey and the excavation of 17 backhoe trenches. The stratigraphy of the area was interpreted as various modern and historic fill materials over natural marshlands. No cultural deposits, human burials, or artifacts were documented during the project and no further work was recommended.

| Tulchin and Hammatt 2007b

In 2007, CSH conducted archaeological data recovery excavations for SIHP # -6707, a retaining wall documented during a previous archaeological survey (Chiogioji et al. 2004) for the Tusitala Vista Elderly Apartments. Data recovery excavations confirmed the presence of pre-contact taro cultivation and determined that SIHP # -6707 retaining wall was a pre-contact lo'i wall. Two radiocarbon dates from the upper portion of the lo'i deposit dated between 1380-1450 A.D (Tulchin and Hammatt 2007b).

| Hazlett et al. 2008a

In 2008, CSH conducted archaeological monitoring for an escalator pit and an elevator pit located at 2284 Kalākaua Avenue. The previous investigation of the project area in 2005 (O'Leary et al. 2005) documented SIHP #50-80-14-6819, a single human burial located in the southeast corner of the property near the intersection of Kalākaua and Dukes Lane. However, no artifacts, additional human remains, or features were encountered during monitoring. A bulk sample of wetland sediment from the project area was submitted for radiocarbon dating and returned an age range of 1400 to 1460 A.D. (Hazlett et al. 2008a).

| Hazlett et al. 2008b

Between 2005 and 2007, CSH conducted archaeological monitoring for the 6.3 acre Royal Hawaiian Shopping Center project. The project encountered post-1920s fill materials associated with land reclamation and the construction of the Ala Wai Canal. No significant archaeological findings or features were documented during the project (Hazlett et al. 2008b).

| Runyon et al. 2008

In 2008, CSH conducted an archaeological assessment for renovations to the Sheraton Waikiki and Royal Hawaiian Hotels. Archaeological testing was conducted in two locations that were expected to have archeological significance. The project consisted of two phases; no historic or traditional materials were encountered during the first phase due to the abundance of thick fill sediments. The second phase consisted of the excavation of two test units which revealed a heavily disturbed cultural layer with pre-contact to modern materials and disarticulated human skeletal remains. However, no SIHP number was designated for the cultural deposit or remains (Runyon et al. 2008).

| Thurman et al. 2008

In 2008, CSH prepared an archaeological monitoring report for geotechnical borings at the Sheraton Waikiki Royal Hawaiian and hotels. The background research indicated the likelihood of encountering significant cultural resources, however none were encountered during the project (Thurman et al. 2008).

| Thurman et al. 2009

In 2009, CSH conducted an AIS for the redevelopment of the Diamond Head Tower at the Moana Surfrider Hotel. The survey consisted of the excavation of 8 backhoe trenches throughout the project area. Two historic properties were documented and include SIHP #50-80-14-7068, a cultural layer, and SIHP #50-80-14-7069, a large historic trash pit. Radiocarbon dating of unidentified wood charcoal collected from SIHP # -7068 returned a calibrated age range of 1801-1939 AD being the most probable, which falls entirely with the post-contact period. Diagnostic artifacts recovered from the trash pit dated to the late 19th and early 20th century and may represent domestic refuse, possibly related to the Hustace Villas boarding house. Additionally, a single human phalange was encountered and was left in-situ during the project (Thurman et al. 2009).

| Kahahane and Cleghorn 2009

In 2009, Pacific Legacy conducted archaeological monitoring in support of the Waikiki Water System Improvements Part V consisting of the installation of an 8" main waterline and appurtenance along four roadways. Archaeological fieldwork concluded with no human burials or in situ cultural deposits but several historic artifacts including glass shards, ceramic fragments, and one metal fork were documented (Kahahane and Cleghorn 2009).

| Yucha et al. 2009

In 2009, CSH conducted an archaeological inventory survey for the Proposed Waikiki Shopping Plaza redevelopment project. Archaeological fieldwork involved ground penetrating radar (GPR) and excavation of 9 backhoe trenches. During the project a previously identified historic property, SIHP #50-80-14-5796, was encountered (LeSeur et al. 2000). The site consisted of organic sediments containing 4 historic artifacts found in Stratum IIIa and IIIb. Samples of the site were collected and radiocarbon dated. The sample collected from Stratum IIIa was calibrated with a 2-sigma date range of AD 1440-1640 while the sample from Stratum IIIb was calibrated with a 2-sigma date range of AD 1390-1490, confirming use of the site within the pre-contact period (Yucha et al. 2009).

| Park and Collins 2010

In 2010, Pacific Consulting Services, Inc. (PCSI) conducted archaeological monitoring for the Ala Wai Garden Plaza development. Fill materials associated with the construction of the Ala Wai Canal were documented and no artifacts, cultural deposits, or human burials were encountered during the project (Park and Collins 2010).

| Runyon et al. 2010a

In 2010, CSH conducted archaeological monitoring for the Moana Surfrider Hotel Wedding Chapel (Runyon et al. 2010a). Excavation was very minimal and no historic properties were encountered.

| Runyon et al. 2010b

In 2010, CSH conducted an AIS for the proposed Princess Ka'iulani Redevelopment Project. The project included a surface survey of the approximately 4.16-acre property, use of ground penetrating radar (GPR) to select locations for trenches, and subsurface and additional supplementary testing. Archaeological fieldwork resulted in the excavation of 22 test trenches which encountered an in-situ human burial, several instances of disarticulated burial remains, prehistoric and historic artifacts, and cultural layers. Three historic properties were documented and include SIHP #50-80-14-7065, the former Kawaiaha'o Waikiki Branch Church and Cemetery lot which contained disarticulated human remains, SIHP #50-80-14-7066, a well-defined cultural layer containing charcoal, fire effected rocks, midden materials, and intact subsurface features, and SIHP #50-80-14-7067, an in-situ human burial located in the eastern portion of the project area. A sample from the cultural layer, SIHP # -7066 was submitted for radiocarbon dating and returned a calibrated age ranging from 1634 to 1955 with the time period of 1725-1815 A.D. being the most probable. Based on this, the cultural layer was interpreted to have been utilized during the pre-contact and early historic period. Following the survey, archaeological monitoring was recommended for the project (Runyon et al. 2010).

| Sroat et al. 2011

In 2009 and 2010, CSH conducted archaeological monitoring for the Waikīkī Shopping Plaza redevelopment project. Portions of previously identified SIHP # -5796, a prehistoric to historic buried wetland surface, were identified during the project. The site was present in the sidewalls of several trenches and ranged in depth from 130 to 200 cm below surface (Sroat et al. 2011).

| Dagher and Spear 2012

In 2012, SCS conducted archaeological monitoring for a grease trap interceptor associated with the Kokorotei Restaurant at 2310 Kūhio Avenue. Nothing of archaeological note was documented during the project (Dagher and Spear 2012).

| Sholin and Dye 2012

In 2012, T.S. Dye and Colleagues, Archaeologists, Inc. conducted an archaeological inventory survey for the Plaza at Waikīkī Assisted Living Center at 1812 Kalākaua Avenue. Due to the negative results of the survey it was termed an archaeological assessment. The assessment consisted of a pedestrian survey and the excavation of 5 backhoe trenches throughout the project area. The study documented modern and historic fill deposits over natural wetland deposits. Nothing of archaeological note was documented on the surface or in any of the trenches excavated during the project.

| Sroat and McDermott 2012, Ishihara and Hammatt 2012

In 2012, CSH prepared a cultural impact assessment (Ishihara and Hammatt 2012) and conducted a literature review and field inspection for the Kālia-Fort DeRussy wastewater system improvements project located within Fort DeRussy adjacent to Kalakaua Ave., Ala Moana Blvd, and Kalia Road. No surface archaeological sites were identified during the field inspection and an archaeological inventory survey was recommended (Sroat and McDermott 2012).

| Yucha and McDermott 2013

An archaeological inventory survey for the Kālia-Fort DeRussy wastewater system improvements project was conducted between 2012 and 2013. The project involved improvements to the existing sewer line along Kālia Road, within Fort DeRussy adjacent to Ala Moana Blvd. and Kalākaua Ave., and at the Fort DeRussy wastewater pump station. The survey consisted of a field inspection of the project area, a (GPR) survey in the area of Burial 11 of SIHP # 4570 which had previously been documented at the corner of Kālia and Paoa Road (Denham and Pantaleo 1997:38), monitoring of 7 geotechnical borings, and a single large test excavation to search for the location of Burial 11. No cultural deposits, features, or human burials were documented in any of the geotechnical borings and the GPR and test excavation yielded no cultural materials or features and failed to locate Burial 11. Following the survey archaeological monitoring for the project was recommended (Yucha and McDermott 2013).

| Yucha et al. 2013

In 2013, CSH conducted an AIS for the St. Augustine-by-the Sea Master Plan Project (Yucha et al. 2013). Fieldwork involved the use of GPR and subsurface testing of 11 test trenches. During excavation a cultural layer was encountered (SIHP #50-80-14-7135) and within the cultural layer two post-contact human burials (SIHP #50-80-14-7136) were identified. In addition, a total of 63 artifacts were collected, 10 of which were traditional Hawaiian tools and 53 were historic fragments of glass, ceramic, and metal.

| Burke 2014

In 2014, CSH submitted an End of Fieldwork letter to the SHPD for an archaeological data recovery phase of the proposed Princess Ka'iulani Redevelopment Project in Waikīkī (Burke 2014). The project area had already undergone an AIS which identified three historical sites: SIHP #50-80-14-7065, Kawaiaha'o Waikiki Branch Church and Cemetery lot containing disarticulated human remains, SIHP #50-80-14-7066, a well-defined cultural layer, and SIHP #50-80-15-7067, an in-situ burial located in the eastern portion of the project area (Runyon et al. 2010). Data recovery fieldwork involved the excavation of four trenches which resulted in further documentation of features relating to SIHP # -7066 (cultural layer). Additionally, several pieces of isolated human skeletal remains were identified in association with SIHP # -7066 and -7067 (Burke 2014).

| Gosser and Collins 2014

In 2012, PCSI conducted archaeological monitoring for traffic control signal improvements at the intersection of Kūhio Avenue and Namahana Street. The study documented only fill materials and no artifacts, cultural deposits, or human burials were recorded during the project (Gosser and Collins 2014).

| Inglis et al. 2014

In 2014, CSH conducted an archaeological inventory survey for 133 Ka'iulani Street. The project proposed redeveloping the King's Village Shopping Center and two adjacent apartment buildings in Waikīkī. Archaeological fieldwork consisted of 16 trenches, resulting in the recovery of several historical and traditional Hawaiian artifacts, faunal remains, and identification of two historical properties, SIHP #50-80-14-7598 and SIHP #50-80-14-7599. SIHP # -7598 was a disturbed culturally-enriched A horizon with 12 associated features. SIHP # -7599 was a single human vertebra found in fill material. Aside from SIHP # -7598 and -7599, a burnt trash layer was also identified but determined not significant, and thus no site number was assigned (Inglis et al. 2014).

| Lima et al. 2014

Between 2012 and 2013, CSH conducted archaeological monitoring for the Waikīkī Sewer Rehabilitation and Reconstruction project. The excavations closest to the project area were along Kūhiō Avenue and Lewers Street. A cluster of three stratigraphic profiles was recorded for excavations at 2170 Kūhiō Avenue and were entirely comprised of various fill materials. No cultural deposits, features, or human burials were documented during the project (Lima et al. 2014).

| Medina and Hammatt 2014

In 2014, CSH produced a burial site component of a preservation plan for SIHP #50-80-14-7714, two burials inadvertently discovered in association with the HECO P20 project at 380 Kapahulu Avenue. The first burial was encountered in the landscaped median at the intersection of Kapahulu Avenue and Ala Wai Boulevard. The second burial was found during subsequent archaeological monitoring. Background research indicated that the area near Kapahulu and Ala Wai may have been a burial ground in the past. Both of the burials comprising SIHP # -7714 were preserved in place during the project (Medina and Hammatt 2014).

| Pammer et al. 2014

In 2013, CSH conducted an archaeological inventory survey for a 1.41 acre property at 2139 Kūhiō Avenue. The survey consisted of a 100% pedestrian inspection and the excavation of 26 backhoe trenches within the project area. The general stratigraphy of the area consisted of the thin asphalt parking surface over base course over several layers of imported dredge fill material over the natural wetland surface. The natural wetland surface was documented at or just above the water table in 24 out of 26 trenches and was recorded as a portion of previously recorded SIHP #50-80-14-5796 (LeSuer et al. 2000).

In addition to the wetland surface itself, two components of SIHP # -5796 were documented during the project. The first was pond sediments documented in Trench 14 which correspond to a pond shown on historic maps of the area. The second was a berm feature observed in Trenches 18, 19, 21, and 24 which extends approximately 50-70 cm above the water table. The berm feature was interpreted as a feature marking the edge of a lo'i and possibly associated with the berm separating LCA 6367 and Grant 2785 which is shown on the 1881 S.E. Bishop map of the area.

Three samples of organically enriched sediment were taken from the various layers of SIHP # -5796 (Layer IIa, IIb, IIc) in Trench 14 and submitted for radiocarbon analysis. Based on the

results, it was interpreted that the upper stratum of the site (Layer IIa) was utilized during the post-contact period, the underlying stratum (Layer IIb) was utilized in the pre-contact period and was not affected by post-contact activities, and the pond sediments (Layer IIc) documented in the trench were associated with the post-contact era. Following the survey, archaeological monitoring was recommended for the project (Pammer et al. 2014).

| Starr et al. 2014, Ishihara et al. 2014

In 2014, CSH completed a Literature Review and Field Inspection as well as a CIA for the Hyatt Waikiki Redevelopment project (Starr et al. 2014, Ishihara et al. 2014). No historic properties were identified during the field inspection and it was found that the Hyatt Regency Waikiki was less than 50 years old and appeared to lack characteristics that would make it eligible for the State and/or National Registers. The project did not require ground disturbance, therefore, no further archaeological work was recommended. However, if subsurface ground disturbance was necessary within the property then additional cultural resource management was recommended.

| Stine et al. 2014

In 2014, CSH conducted archaeological monitoring for Wing C of the Daniel K. Inouye Asia-Pacific Center for Security Studies at Fort DeRussy. Dredge fill materials deposited during the land reclamation activities of 1919 over pond sediments associated with SIHP # -4573 (Loko Kaipuni), and SIHP # -4574 (Loko Paweo I), were documented during monitoring. Several late 20th and early 21st century artifacts were recovered from pond sediments. Other than the pond sediments no cultural deposits, features or human burials were documented during the project (Stine et al. 2014).

| Manirath et al. 2015

In 2015, CSH conducted an AIS for the Waikīkī Trade Center at 2255 Kūhio Avenue. Backhoe trench excavations within the project area were associated with the proposed installation of an escalator pit, new structural columns, and utility hook-ups as well as several holes for the planting of coconut trees. The study documented a single historic property, SIHP #50-80-14-7813, a foundation slab and debris layer containing brick and concrete. The site was confirmed as being remains of a former demolished apartment building. Otherwise, no additional artifacts or features were recorded within the project area (Manirath et al. 2015).

| Morriss and Hammatt 2015

In 2014, CSH conducted an archaeological inventory survey for the Beachwalk Wastewater Pumping Station project. The southern portion of the project area was adjacent to the north side of the current survey area. The survey consisted of the excavation of five backhoe trenches throughout the project area. The trench excavations documented the typical stratigraphy of the area which consists of asphalt over mechanically crushed basalt gravel base course over several land reclamation fill layers over the natural wetland surface, previously recorded as SIHP # -5796. No artifacts, cultural deposits, or human burials were encountered in the fill or within the wetland surface during the project. Following the survey, archaeological monitoring was recommended.

| Runyon et al. 2015

In 2015, CSH conducted archaeological monitoring for improvements to the Royal Hawaiian and Sheraton Hotels (Runyon et al. 2015). Renovations involved installation of construction infrastructure, demolition of several existing concrete structures, and the reworking of a swimming pool and entryways. Several sites were encountered during monitoring and included SIHP #50-80-14-7041, an in-situ extended human burial, likely of Hawaiian decent, SIHP #50-80-14-7118, a cultural layer containing charcoal, midden, and pit features, and SIHP #50-80-14-7119, a disturbed “A” horizon containing pit features and disarticulated human remains (Runyon et al. 2015). Additionally, a previously recorded in-situ human burial, SIHP #50-80-14-5937, was also noted as being within the project area (Elmore and Kennedy 2001).

| Bulluomini et al. 2016a

Between 2007 and 2010, CSH conducted archaeological monitoring for the Allure Waikīkī Development project which included borings, excavations for structural footings, utility installation, new roadway and parking areas, and landscaping. During archaeological monitoring, the previously identified post-contact cultural layer SIHP # -6874 was encountered (Bell and McDermott 2007). Three additional features of the site were documented, including animal burials and a wall or foundation remnant. One inadvertent human burial was also documented (SIHP #50-80-14-6948). Historic artifacts were documented in association with the cultural layer (SIHP # -6874), consisting of bottles, ceramics, coins, a brass doorknob, a silver spoon, and an old lightbulb.

| Bulluomini et al. 2016b

Between 2008 and 2009, CSH conducted archaeological monitoring for the 280 Beach Walk Retail Development. Four sites were identified, including SIHP #50-80-14-7055 (disarticulated human remains of at least two individuals), SIHP # -7761 (historic trash layer), and fishpond sediments associated with Loko Kapuiki (SIHP # -4577) and Loko Ka’ohai (SIHP # -7952).

| Groza et al. 2016

In 2016, CSH conducted an archaeological literature review and field inspection for the Ala Moana tributary basin sewer relief and rehabilitation project. The portion of the project closest to the current project area included three areas, two along Kapahulu Avenue and one along Lē‘ahi Avenue. The project area near the Waikīkī-Kapahulu Public Library was assessed as having moderate archaeological potential while the other two areas were assessed as low (Groza et al. 2016).

| Johnston-O’Neill et al. 2016, Dagher 2017

In 2016 and 2017, Scientific Consultant Services Inc. (SCS) conducted a CIA and an archaeological evaluation and literature review for water system improvements to Kalākaua Avenue and Saratoga Road (Dagher 2017). Due to the number of nearby sites documented in the literature review an archaeological inventory survey with subsequent archaeological monitoring was recommended for the project (Johnston-O’Neill et al. 2016).

| O'Hare et al. 2016, Ishihara et al. 2015

In 2015 and 2016, CSH prepared a CIA (Ishihara et al. 2015) and an archaeological literature review and field inspection for the Board of Water Supply Honolulu Water System Improvements project. Due to the project being located under city streets, no archaeological sites were documented during the field inspection (O'Hare et al. 2016).

| Thurman et al. 2016, Thurman and Watson 2016

In 2016, Honua Consulting conducted an archaeological inventory survey for utility improvements at 413 Seaside Avenue. The survey consisted of the excavation of a large 4.5 m long by 2.2 m wide trench for a proposed grease trap interceptor and the excavation of a smaller exploratory trench. SIHP #50-80-14-7930, a cultural layer and underlying culturally enriched wetland with traditional and historic artifacts and disarticulated human remains, was documented in the grease trap excavation. The inadvertently discovered human remains were documented as Burial Finds 1-5. The only other features of note documented during the project were builders' trenches associated with historic buildings adjacent and outside the project area. Following the survey, a burial treatment plan and archaeological monitoring were recommended for the project (Thurman et al. 2016). A burial site component of data recovery plan was written and the remains were reinterred on-site (Thurman and Watson 2016).

| Yucha and Hammatt 2016

Between 2012 and 2013, CSH conducted archaeological monitoring for improvements to the Waikīkī Community center. No features, cultural deposits, or human burials were documented during the project. The only artifact of note encountered was a single butchered bone from a medium sized mammal, presumably a pig (Yucha and Hammatt 2016).

| O'Hare and McDermott 2017, Spencer et al. 2018

In 2017, CSH conducted a literature review and field inspection (O'Hare and McDermott 2017) and a CIA (Spencer et al. 2018) for the Kūhiō Collection at Waikīkī. Nothing of archaeological note was documented during the pedestrian inspection of the property. Based on the background research and the numerous sites and human burials in the Waikīkī-area, an archaeological inventory survey was recommended for the project (O'Hare and McDermott 2017).

| Raff Tierney et al. 2017, Welser and McDermott 2018

Between 2014 and 2016, CSH conducted archaeological monitoring for the Kālia-Fort DeRussy Wastewater System Improvements project in accordance with an approved archaeological monitoring plan (Yucha and McDermott 2014). During the project human skeletal remains representing four individuals were documented in two locations along Kālia Rd. The remains were recorded as Features 15, 16, and 17 of previously recorded SIHP # -4570. Feature 15 was located south of the intersection of Ala Moana Blvd and Kālia Rd and consisted of an isolated concentration of fragmented human skeletal remains representing a single individual. Features 16 and 17 were located at the intersection of Kālia Rd. and Rainbow Drive. Feature 16 consisted of a portion of an in-situ flexed human burial disturbed by the installation of a concrete drain line. Feature 17 was found in the drain line fill during the removal of the flexed remains and consisted of the remains of two individuals (Raff-Tierney et al. 2017). In all cases the remains were found within intact and disturbed sands and it was determined that that they were likely to be Native

Hawaiian. They were reinterred at the Neller Burial Preserve on the grounds of the Hilton Hawaiian Village on December 17, 2016. Following the results of monitoring SIHP # -4570 was assessed as eligible for listing under the previous Criterion of D, and under Criterion E (Welser and McDermott 2018).

| Pammer et al. 2018

Between 2011 and 2016, CSH conducted archaeological monitoring for the Ala Moana Boulevard resurfacing and highway lighting project. Buried pond sediment associated with Loko Kaipuni, SIHP # -4573, was documented at a single location along the northern boundary of Fort DeRussy within Ala Moana Blvd. It was described as a dark sandy clay loam with decomposing organics present between 220 and 230 cm below the ground surface. The pond sediment was documented as a site component of Loko Kaipuni, SIHP # -4573, and was determined eligible for listing on the NRHP under Criterion D, the same as previously assessed.

| Raff-Tierney et al. 2018

In 2017, CSH conducted an archaeological inventory survey for the Kūhiō Collection at Waikīkī (Raff-Tierney et al. 2018). The survey consisted of the excavation of 18 backhoe trenches on the western portion of the property. Three sites were documented during the survey. The first was SIHP # 50-80-14-8191, a large subsurface site consisting of three culturally enriched subsurface deposits and 34 associated subsurface pre- and post-contact features, including disarticulated human remains assessed as being of Hawaiian ancestry. Radiocarbon dating of several identified wood charcoal samples from features on the site returned a range of dates clustering around the 14th and 17th centuries. The second site documented was SIHP #50-80-14-8192 and consists of structural remnants consisting of three subsurface basalt and coral cobble and boulder features. The features were similar and consisted of un-mortared undressed basalt and coral boulders and cobbles within the natural wetland alluvium. The features were assessed as likely pre-contact in age. The last site documented was SIHP #50-80-14-8193 and consisted of human cranial fragments encountered between 61 to 65 cmbs in a secondarily deposited sandy clay loam. The remains were reburied at the same location and depth that they were encountered.

| Description of Historic Properties

Four historic properties are located within the project APE (see Figure 21). Table 8 lists the historic properties and includes site descriptions and site significance information for each site. The historic properties documented in the area have been documented during construction and improvement projects in Fort DeRussy, resort, commercial and residential development projects, and infrastructure improvements projects. Documented sites (State Inventory of Historic Properties [SIHP] Prefix #50-80-14) in the vicinity include fishpond and wetland sediments, pre and post-contact cultural layers and features, historic trash deposits, and a large amount of human burials and disarticulated human remains encountered in disturbed sand or fill material, generally makai or seaward of the project APE.

Historic Properties Within the Project APE

4.7.1.1 Ala Wai Canal (SIHP #50-80-14-9757)

The Ala Wai Canal, SIHP # 50-80-14-9757, is present throughout much of the project APE and consists of a historic-era drainage canal constructed by Walter F. Dillingham between 1921 and 1927. The Ala Wai Canal comprises approximately 48.5 acres and extends 2 miles from Kapahulu Avenue to the ocean near the Ala Wai Boat Harbor. The canal was constructed to drain the ponds and wetlands of the Waikīkī area. Subsequent land reclamation activities led to the development of the Waikīkī District as it exists today (Steele 1992). The Ala Wai Canal was added to the State Register in 1992.

4.7.1.2 Ala Wai Park Clubhouse (SIHP #50-80-14-1388)

The Ala Wai Park Clubhouse, SIHP # -50-80-14-1388, is a painted brick, single-story, u-shaped art-deco building constructed in 1937 for the Ala Wai Canal canoe clubs. It is located on the west side of the Ala Wai Community Park at the southeast corner of McCully Street and Kapiolani Avenue within the northwest corner of the project APE. The building was added to the State Register in 1988 as part of the Art Deco Parks Thematic Nomination and is representative of the art-deco style of the 1930's parks and playgrounds of Honolulu (Hibbard 1988). It is currently used as a community recreation center and canoe hale.

4.7.1.3 The Hawaiian Canoe "Malia" (SIHP #50-80-14-9762, NRHP #93001385)

The "Malia", SIHP #50-80-14-9762 (NR #93001385), is a 6-man Hawaiian racing canoe owned by the Waikīkī Surf Club and stored within a covered canoe hale at the Ala Wai Community Park. It was hewn from a single koa (*Acacia koa*) log by James Takeo Yamasaki in Kailua-Kona on Hawai'i Island in 1933. It has been modified twice since that time, once in 1950 and once in 1973. The *Malia* is an excellent example of a Hawaiian racing canoe and inspired an entire division of fiberglass canoes. It is significant for its contribution to the sport of open canoe racing and as a distinct representation of a Hawaiian dugout racing canoe (Travers 1993). It was added to the State and National Registers in 1993 (see Appendix D).

4.7.1.4 Buried Waikīkī Wetland Surface (SIHP #50-80-14-5796)

SIHP #50-80-14-5796 has been identified in multiple locations and represents a culturally modified wetland with 5 feature components and consists of deposits of agricultural wetland sediments, non-agricultural wetland sediments, peat sediments, pond sediments, and pond berms dating from the pre-contact era to the early 1900's. The property was first identified during an archaeological inventory survey for Phase II of the King Kalākaua Plaza development located at the northwest end of Lau'ula Street and along Kalākaua Avenue and Kalaimoku Street to the south of the project APE (LeSuer et al. 2000).

Additional portions of the site were documented south of the project APE during an archaeological inventory survey and subsequent archaeological monitoring for the Waikīkī Shopping Plaza redevelopment project located at Kalākaua Avenue and Royal Hawaiian Avenue (Yucha et al. 2009, Sroat et al. 2011). The site was also documented southeast of the project area during an archaeological inventory survey for 2139 Kūhio Ave. (Pammer et al. 2014). A buried berm, recorded as a feature component of the site, was identified in four of the trenches excavated.

The site was also documented south of the project APE during an archaeological inventory survey for the Beachwalk wastewater pump station project and was identified in all five of the trenches excavated during the project (Morris and Hammatt 2015). Lastly, the site was identified during an archaeological inventory survey for the relocation of a 46kV underground cable within the current APE and proposed area of ground disturbance. The site was documented in seven out of the ten trenches excavated during the project (Martel and Hammatt 2017).

The wetland deposits that comprise SIHP # -5796 are generally encountered beneath 1.3 to 2.0 meters of various road, utility, and land reclamation fills and are found just above or at the water table in most cases. Due to the proximity of the site, it is likely to be encountered during the proposed project. The site is currently eligible for listing under Criterion D.

| Historic Properties in the Vicinity of the Project APE

4.7.2.1 Burials, Cultural Deposits, and the Kālia Fishponds at Fort DeRussy

A total of 12 archaeological sites have been documented within the boundaries of Fort DeRussy. Half of those sites are comprised of the former Kālia Fishponds and their associated ‘auwai and bund systems which continue inland along the former Alanaio Stream to the ponds within and in the vicinity of the project APE. The Kālia fishponds were part of LCA 104 FL to Kekūana‘ō‘a and filled in the 1920’s for the construction of Fort DeRussy. Traditional accounts state that the irrigation complex of Waikīkī and presumably the adjoining fishponds were built in the 15th century. Radiocarbon dating, soil, and pollen data from several archaeological studies seem to support that date (Davis 1989, Denham and Pantaleo 1997a/1997b, Putzi and Cleghorn 2002).

The location and orientation of the fishponds was first recorded in an 1855 Land Commission map and subsequently in an 1881 map of Waikīkī by S.E. Bishop (RM 1398). The current archaeological site names, locations, and boundaries of the former fishponds are all based upon the 1881 map. The many fishponds that underly Fort DeRussy have been recorded as SIHP #50-80-14-4573 (Loko Kaipuni (complex of 4 ponds)), SIHP # 50-80-14-4574 (Loko Paweo I), SIHP # 50-80-14-4575 (Loko Ka‘ihikapu), SIHP #50-80-4576 (Loko Paweo II), and SIHP # 50-80-14-4577 (Loko Kapu‘uiki). The associated ‘auwai and bund system for the ponds was designated SIHP #50-80-14-4970 (Denham and Panataleo 1997a/1997b).

Three sites on the Fort DeRussy property include subsurface cultural deposits, features, and human burials representing cultural activities on the sand dunes and within former LCA’s around the makai side of the Kālia fishponds in the pre-contact and historic era. They include SIHP #’s 50-80-14-4570, 50-80-14-4579, and 50-80-14-4966. All three of the sites contain human burials that have been preserved in place.

Two additional burial locations on the Fort DeRussy property have been designated historic properties. They include SIHP #50-80-14-9500, inadvertently discovered burials documented during construction of the Hale Koa Hotel in 1976 (Kimble) and SIHP #50-80-14-9550, an inadvertently discovered human burial found at the mauka end of the Kuroda Parade Ground during data recovery excavations at the installation in 1992 (Streck). The Hale Koa Hotel burials were reinterred on the property and the remains found at the remains found at the Kuroda Parade Ground have been preserved in place.

Battery Randolph, located in the southeastern portion of Fort DeRussy, is part of the Artillery District of Honolulu, SIHP #50-80-14-1382, and is also listed on the National Register of Historic

Places (NRHP). The site was nominated for listing in 1983 and currently operates as the United States Army Museum of Hawai'i (U.S. Army Support Command 1983).

4.7.2.2 *Additional Wetland Deposits*

Two other historic properties representing wetland deposits and features were documented during two other nearby projects. The first historic property, SIHP #50-80-14-6680, was documented during an archaeological inventory survey for a 0.687-acre urban loft development on Launiu Street. SIHP # -6680 consisted of gleyed silts and fine sands indicative of pond field agriculture. The pond sediments were interpreted to be a buried lo'i or pond field (McIntosh and Cleghorn 2004).

The second historic property, SIHP #50-80-14-6407 was documented during an archaeological inventory survey for an approximately 71,000 sq. ft. parcel located between Olohana Street, Kūhio Avenue, Kalaimoku Street, and Ala Wai Boulevard. SIHP # -6407 consisted of a subsurface cultural layer comprised of sandy clay loams and clay loams with organic materials and charcoal flecking interpreted as agricultural soils. Additionally, the study documented Feature A of SIHP # -6407, a paukū/kuāuna (bank of taro patch) (Borthwick et al. 2002). Subsequent data recovery excavations at the site collected samples for radiocarbon analysis which returned a calibrated date range of 1400-1660 AD (Tulchin et al. 2004).

4.7.2.3 *Inadvertent Discoveries of Human Remains*

Several of the historic properties documented near the project APE consist of inadvertent discoveries of human remains. These include the human skeletal remains of a fetus and nine individuals inadvertently discovered during construction of the Lili'uokalani Gardens condominium in 1983. The remains and a deeply buried cultural deposit containing traditional Hawaiian artifacts were designated SIHP # -4127 (Neller 1984 and Pietruszewsky 1992).

Two individuals were inadvertently discovered at the Ala Wai Golf Course in 1989 and designated SIHP # -4907. The first burial consisted of a femur and other leg bones and was interpreted to be in a supine flexed position. No burial context or position could be determined for the second burial. An osteological analysis of the remains concluded that the burials were of antiquity and likely represented individuals of Hawaiian ancestry (Bath and Kawachi 1989).

The human skeletal remains of a single individual, designated SIHP # -4890, were inadvertently discovered in a spoil pile during excavation for a waterline at the intersection of Kalākaua Ave. and Kuamo'o St in 1994. No burial pit was observed, and no cultural deposits or artifacts were documented (McMahon 1994).

The in-situ skeletal remains of a single individual, designated SIHP # -5301, were inadvertently discovered in 1995 during landscaping activities along Paoakalani Avenue fronting the Waikīkī Sunset Hotel. Following the investigation, the remains were preserved in place (Jourdan 1995).

The human skeletal remains of two individuals, designated SIHP #50-80-14-5744, were recovered from calcareous sand deposits near the intersection of 'Ena Rd. and Kalākaua Ave during archaeological monitoring for the Waikīkī anti-crime street lighting improvements project in 1999 (Perzinski et al. 1999). Later, a burial disinterment plan and report was drafted for the remains comprising SIHP # -5744 (Hammatt and McDermott 1999).

A single flexed pre-contact Hawaiian burial, designated SIHP # -6819, was inadvertently discovered in a backhoe trench near Kalākaua Avenue and Dukes Lane during an archaeological inventory survey for a 1-acre parcel located at 2284 Kalākaua Avenue in 2005. It was noted that the burial was interred within wetland agricultural soils instead of the typical jaucus sand typically encountered. (O’Leary et al. 2005).

The remains of single individual were inadvertently discovered in the landscaped median at the intersection of Kapahulu Avenue and Ala Wai Boulevard during excavations associated with the HECO P20 project in 2014. The remains of a second individual were documented during subsequent archaeological monitoring. Both of the burials were designated SIHP # -7714 and were preserved in place during the project (Medina and Hammatt 2014).

Historic Properties Documented During AIS Studies

4.7.3.1 Allure Waikīkī Condominium, 1837 Kalākaua Ave

Three historic properties were documented during archaeological inventory survey excavations associated with construction of the Allure Waikīkī condominium. The sites included two in-situ traditional Hawaiian burials, interred in sand, and believed to be in flexed positions. The burials and were preserved in place during the project and designated SIHP #’s -6873 and -6875. SIHP # -6874 consists of a cluster of eight refuse pit features, seven of which contained historic artifacts. The site was interpreted to have accumulated mostly in the post-contact period with remnants of earlier features representing pre-contact activities on the sand dunes. The radiocarbon analysis conducted on unidentified wood charcoal from the SIHP # -6874 produced a wide date range spanning from pre-contact to modern times and was inconclusive (Bell and McDermott 2006 and Mitchell and Hammatt 2006).

4.7.3.2 Kūhiō Collection at Waikīkī

In 2018, three historic properties were documented during archaeological inventory survey excavations on two parcels associated with construction of the Kūhiō Collection at Waikīkī located along Kūhiō Avenue between and adjacent to Walina Street and Kanekapolei Street. The first was SIHP # 50-80-14-8191, a large subsurface site consisting of three culturally enriched subsurface deposits and 34 associated subsurface pre- and post-contact features, including disarticulated human remains assessed as being of Hawaiian ancestry. Radiocarbon dating of several identified wood charcoal samples from features on the site returned a range of dates clustering around the 14th and 17th centuries. The second site documented was SIHP #50-80-14-8192 and consisted of structural remnants consisting of three subsurface basalt and coral cobble and boulder features. The features were similar and consisted of un-mortared undressed basalt and coral boulders and cobbles within the natural wetland alluvium. The features were assessed as likely pre-contact in age. The last site documented was SIHP #50-80-14-8193 and consisted of human cranial fragments encountered between 61 to 65 cmbs in a secondarily deposited sandy clay loam. The remains were reburied at the same location and depth that they were encountered (Raff-Tierney et al. 2018).

4.7.3.3 McDermott et al. 1996 AIS

In 1996, two historic properties were documented during archaeological inventory survey excavations at two parcels located along Lili‘uokalani Avenue, Cleghorn Street, and Tusitala Street. The project recorded the buried remnants of an ‘auwai and lo‘i, designated SIHP # -5459,

and a single native Hawaiian burial designated as SIHP # -5460 (McDermott et al. 1996). In 2003, the skeletal remains of four individuals were inadvertently discovered during construction on the property (McDermott 2003). It is not known whether the remains were added as feature components of the previously documented burial site.

4.7.3.4 413 Seaside Avenue

A single historic property was recorded during an archaeological inventory survey for utility improvements and grease trap interceptor at 413 Seaside Avenue in 2016. The survey documented SIHP -7930, a cultural layer with an underlying culturally enriched wetland with traditional and historic artifacts and disarticulated human remains.

4.7.3.5 Tusitala Vista Elderly Apartments

Four historic properties were recorded during archaeological inventory survey excavations for the Tusitala Vista Elderly Apartments located along Tusitala Street. The properties included SIHP # -6682, a buried A-Horizon associated with the former Āinahau Estate, SIHP # -6705, previously disturbed human skeletal remains in imported fill materials, SIHP # -6706, a buried stream bed believed to be a portion of the former ‘Āpuakēhau Stream, and SIHP # -6707, a stone retaining wall recorded as SIHP # -6707 (Chiogioji et al. 2004). The results of radiocarbon dating of three unidentified charcoal samples from SIHP # -6705 and features within it returned dates clustered around the 15th century. In 2007, data recovery excavations were conducted for SIHP # -6707 and confirmed the presence of pre-contact taro cultivation by identifying the SIHP # -6707 retaining wall as a pre-contact lo‘i wall. Two radiocarbon dates from the upper portion of the lo‘i deposit dated between 1380-1450 A.D (Tulchin and Hammatt 2007b).

Historic Structures

4.7.4.1 Ala Wai Villas (SIHP #50-80-14-8175)

The Ala Wai Villas, SIHP #50-80-14-8175) consist of three historic wood-frame structures located between Ala Wai Boulevard and Mountain View Drive, all of which face the Ala Wai Canal. They were constructed in mid-1930’s in the Mediterranean/Italianate architectural style and are significant for their high level of workmanship and as a unique architectural remnant of early 19th century Waikīkī under Criterion C (Minatoishi and Besl 2017)

Table 8. Historic properties documented within the vicinity of the project APE

SIHP # 50-80-14	Site Description	Reference	Site Significance	Notes
-1382	Battery Randolph	U.S Army Support Command Hawaii 1983	On NRHP, Artillery District of Honolulu	Southeastern portion of Fort DeRussy
-1388	Ala Wai Park Clubhouse	Hibbard 1988	Criterion A	Within the Project APE

SIHP # 50-80-14	Site Description	Reference	Site Significance	Notes
-4127	Skeletal remains of a fetus and nine individuals and a deeply buried cultural deposit	Neller 1984, Pietrusewsky 1992	Not Specified	
-4570	Subsurface cultural deposits, feature, and human burials	Davis 1989, Davis 1992, Denham and Pantaleo 1997a/1997b, Raff-Tierney et al. 2017	Criteria D and e	Fort DeRussy, Kālia Rd.
-4573	Loko Kaipuni Fishpond Complex (4 ponds)	Davis 1989, Putzi and Cleghorn 2002	Criterion D	Fort DeRussy, Kalākaua Ave Part of the Kālia Fishponds
-4574	Loko Paweo I Fishpond	Davis 1989, Denham and Pantaleo 1997a/b, Putzi and Cleghorn 2002	No Longer Significant	Fort DeRussy, Ala Moana Blvd and Kālia Rd.
-4575	Loko Ka'ihikapu Fishpond	Davis 1989, Denham and Pantaleo 1997b	No Longer Significant	Fort DeRussy, Part of the Kālia Fishponds
-4576	Loko Paweo II Fishpond	Davis 1989, Denham and Pantaleo 1997b	Criterion D	Fort DeRussy, Part of the Kālia Fishponds
-4577	Loko Kapu'uiki Fishpond	Davis 1989	Criterion D	Fort DeRussy Part of the Kālia Fishponds
-4579	L.C.A 1758:3	Davis 1989, Denham and Pantaleo 1997b	Criteria D and e	Fort DeRussy
-4890	Skeletal remains of single individual	McMahon 1994	Not Specified	Intersection of Kalākaua Ave. and Kuamo'o St.
-4907	Skeletal remains of two individuals	Bath and Kawachi 1989	Not Specified	

SIHP # 50-80-14	Site Description	Reference	Site Significance	Notes
-4966	Pre-contact cultural deposit with human burials	Denham and Pantaleo 1997a	Criteria D and e	Fort DeRussy
-4970	‘Auwai and Bund System	Davis 1989, Denham and Pantaleo 1997b	No longer Significant	Fort DeRussy, Part of the Kālia Fishponds
-5301	Single in-situ human burial	Jourdane 1995	Not Specified	Preserved in place
-5459	‘Auwai and lo‘i	McDermott et al. 1996	Not Specified	
-5460	Single native Hawaiian burial	McDermott et al. 1996	Not Specified	
-5744	Two human burials	Perzinski et al. 1999	Not Specified	Kalākaua Ave. and ‘Ena Rd.
-5796	Prehistoric to 20 th century wetland surface	LeSuer et al. 2000 / Yucha et al. 2009 / Sroat et al. 2011 / Pammer et al. 2014 / Morris and Hammatt 2015 / Martel and Hammatt 2017	Criterion d	King Kalākaua Plaza, Within the Project APE
-5797	Single disturbed partial human burial	Winieski and Hammatt 2001	Not Specified	Remains provided to SHPD for storage
-5856 to -5863	44 human burials	Winieski et al. 2002a and b	Criteria d and e	Many left in place, many disinterred
-5883	A Horizon	Winieski and Hammatt 2001	Not Specified	Used micro-tuning method of utility installation, recommends future monitoring
-5940	Cultural Layer	Winieski et al. 2002b	Criterion d	Monitoring recommended
-5948	Historic seawall	Winieski et al. 2002b	Criterion d	No further work recommended

SIHP # 50-80-14	Site Description	Reference	Site Significance	Notes
-6407	Agricultural soils modified living surface	Borthwick et al. 2002 / Tulchin et al. 2004	Not Specified	Documented portion of a paukū/kuāuna (bank of taro patch)
-6680	Pond field or lo'i sediments	McIntosh and Cleghorn 2004	Not Specified	
-6682	Buried A-Horizon associated with the 'Āinahau Estate	Chiogioji 2004	Criterion b	No further work recommended
-6705	Secondarily deposited human skeletal remains	Chiogioji 2004	Criterion e	Monitoring recommended
-6706	Stream bed, segment of 'Āpuakēhau Stream	Chiogioji 2004	Criterion d	No further work recommended
-6707	Stone retaining wall, lo'i wall	Chiogioji 2004, Tulchin et al. 2004	Criteria a, b, c, d, e	Data recovery conducted
-6819	Human burial	O'Leary 2005	Criteria d and e	
-6873	Human burial	Bell and McDermott 2006	Criteria d and e	Allure Waikīkī Condominium, 1837 Kalākaua Ave
-6874	Subsurface cultural deposit	Bell and McDermott 2006	Criterion d	Allure Waikīkī Condominium, 1837 Kalākaua Ave
-6875	Human burial	Bell and McDermott 2006	Criterion d and e	Allure Waikīkī Condominium, 1837 Kalākaua Ave
-7714	Two human burials	Medina and Hammatt 2014	Criteria d and e	Both burials preserved in place
-7930	Subsurface cultural layer and wetland	Thurman et al. 2016	Criteria a, d and e	413 Seaside Ave.

SIHP # 50-80-14	Site Description	Reference	Site Significance	Notes
-8175	Ala Wai Villas	Minatoishi and Besl 2017	Criterion c	2455 Ala Wai Blvd
-8191	Subsurface cultural deposits associated with features and a human burial	Raff-Tierney et al. 2018	Criteria d and e	Monitoring and burial treatment plan recommended
-8192	Structural remnants	Raff-Tierney et al. 2018	Criterion d	Monitoring recommended
-8193	Isolated human cranial fragments in fill material	Raff-Tierney et al. 2018	Criteria d and e	Burial treatment plan recommended
-9500	Human burials	Kimble 1976	Unknown	Construction of Hale Koa Hotel
-9550	Human burial	Streck 1992	Unknown	Kuroda Parade Ground
-9762	Hawaiian Canoe <i>Malia</i>	Travers 1993	Criteria a and c ³	NRHP #93001385, Within the Project APE
-9757	Ala Wai Canal	Steele 1992	Criterion a ^{4 5}	Within the Project APE
-9901	Cultural Layer	Simons 1988		Additional monitoring

³ During consultation, the Waikiki Surf Club identified the property as having cultural significance. This will continue to be explored through Section 106 consultation.

⁴ See Mason Architects 2020 for further discussion on potential additional criteria for the Ala Wai Canal.

⁵ During consultation, the Waikiki Surf Club identified the property as having cultural significance. This will continue to be explored through Section 106 consultation.

5. Field Results

At the request of CCH DTS and in coordination with the SHPD, an archaeological field inspection of the project APE was conducted on August 14, 2020 and required approximately 4 person-hours to complete. All fieldwork was conducted by Nathan DiVito, B.A under the general supervision of the principal investigator, Rosanna Thurman, M.A. Fieldwork for this project was performed under the archaeological permit number 20-15 issued to Honua Consulting by the SHPD/DLNR in accordance with HAR Chapter 13-282.

Methodology

The archaeological field inspection of the project APE consisted of a 100 percent pedestrian survey of the land portion of the area of ground disturbance. A cursory survey of the project APE and nearby archaeological sites was also conducted. The pedestrian survey consisted of a visual inspection of the ground surface for exposed artifacts and/or previously undocumented historic infrastructure. A hand-held GPS device was used to record survey tracks throughout the APE. Digital photographs were taken throughout the inspection to document the present condition and any points of interest within the APE. No artifacts or samples of any kind were collected during the project.

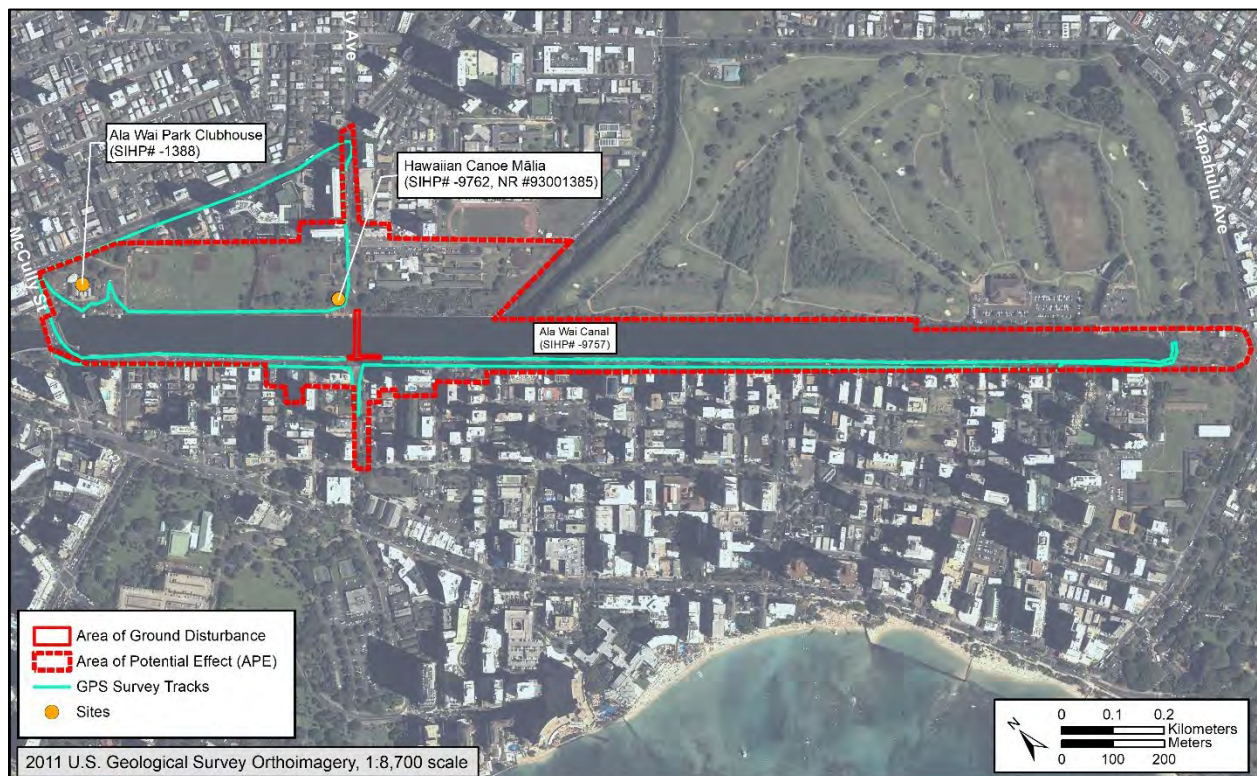


Figure 35. Aerial photo showing pedestrian survey tracks and documented historic properties

Field Inspection Results

The project APE for the field inspection consisted of the bridge project site (referred to in this report as the area of ground disturbance), temporary access, staging area, parking areas, the portion of the Ala Wai Canal within the view plane, and individual properties, city streets, and sidewalks that are anticipated to have a prominent view of the bridge. The APE includes the portion of the Ala Wai Canal and Ala Wai Boulevard that extends between McCully Street and Kapahulu Avenue and the entirety of the Ala Wai Community and Neighborhood Parks. The project APE is located within a densely populated urban environment and contains city streets, parking lots, sidewalks, pathways, lighting, park buildings, recreational facilities, greenspaces, and a large portion of the historic Ala Wai Canal (SIHP #50-80-14-9757).

Ala Wai Canal (SIHP # 50-80-14-9757)

The proposed bridge is planned to span the Ala Wai Canal, built in the 1920s and added to the State Register in 1992 (SIHP # 50-80-14-9757, see Appendix C). Aside from periodic dredging and repairs to the canal walls and the installation of stepwells along the mauka side, the Ala Wai Canal has remained relatively unchanged since its construction in the 1920's. No additional feature components of the Ala Wai Canal are known to have been documented previously and none were observed during the field inspection. A photo of the Ala Wai Canal is shown in Figure 36.



Figure 36. Overview photo of the project APE and Ala Wai Canal (SIHP #50-80-14-9757) from the McCully Street Bridge looking east

Ala Wai Community Park, Ala Wai Park Clubhouse (SIHP #50-80-14-1388), and Racing Canoe “Malia” (SIHP #50-80-14-9762, NR #93001385)

The Ala Wai Community Park comprises much of the northern portion of the project APE. The park has entrances on the east and west ends, with a paved bike path and several sporting fields between. The east end of the park contains the Ala Wai Park Clubhouse (SIHP # -1388), McCully Playground, a canoe launch along the Ala Wai Canal, and parking areas and is bound on the west by McCully Street Bridge (Figure 37 and Figure 38). The current field survey identified the historic Ala Wai Park Clubhouse and two sections of rock wall, one running along McCully Street and one along Kapi‘olani Boulevard. The clubhouse and rock wall running along Kapi‘olani Boulevard were both built in 1937 while the rock wall along McCully Street was built in the 1960’s during the widening of McCully Street (Hibbard 1988).

The Ala Wai Park Clubhouse nomination form defines it as containing one building and a site area (2 resources) and totaling 3.5 acres (see Appendix E). The form describes the aforementioned rock walls and therefore they are understood to be associated with the clubhouse site. Hence, the clubhouse and rock walls comprise SIHP #50-80-14-1388. The clubhouse is now known as the Ala Wai Community Center and serves as a canoe hale and meeting place (Figure 38). No additional site components or contributing features were recorded in association with SIHP # -1388.

The east side of the Ala Wai Community Park contains sporting fields and courts, a playground, a canoe launch and hale along the Ala Wai Canal, a community garden, several greenspaces, sidewalks, parking areas, and a paved pedestrian bike pathway with landscaped vegetation along the canal bank (Figure 39). A portion of the park was also currently being used as a construction staging area for dredging and wall repairs along the Ala Wai Canal.

The canoe hale on the east side of the Ala Wai Community Park contains the Hawaiian racing canoe “Malia”, SIHP #50-80-14-9762 (NR #93001385). The canoe is visible from the outside of the hale and has been wrapped for storage (Figure 40). The hale is located approximately 50 ft northwest of the proposed area of ground disturbance. No additional historic properties or significant cultural materials were observed within Ala Wai Community Park property.

Proposed North Landing

The area of ground disturbance for the north (mauka) landing of the bridge is situated along the Ala Wai Canal within the Ala Wai Community Park, just makai of the parking area and entrance to the park from University Avenue. The Ala Wai community garden is to the east of the proposed north landing, a canoe launch and the canoe hale for the *Malia* are to the west, and a pedestrian/bicycle path and parking lot are to the north.

The area of ground disturbance for the proposed north landing was relatively flat, completely landscaped and constructed, and consisted of lawn grass, a shower for canoe paddlers, and a drainage outlet into the Ala Wai Canal with a square gravel gridded area above. Lawn grass covered much of the area and a reddish brown fill material was observed in areas where the soil was exposed. Nothing of archaeological note was observed or collected from the area of ground disturbance for the north landing of the proposed pedestrian bridge.



Figure 37. Overview photo of the McCully Street Bridge from the canoe launch at the Ala Wai Community Park looking west



Figure 38. Overview photo of the Ala Wai Park Clubhouse (SIHP # -1388), now known as the Ala Wai Community Center, from the Ala Wai Canal looking north



Figure 39. Overview photo of park improvements, landscaping, and utilities along the mauka portion of the Ala Wai Canal looking east



Figure 40. Overview photo of the canoe hale containing the Hawaiian racing canoe “Malia” (SIHP # -9762, NR #93001385) looking east

|Proposed South Landing

The area of ground disturbance for the south (makai) landing of the bridge is situated along the Ala Wai Canal at the intersection of Ala Wai Boulevard and Kalaimoku Street (Figure 41). The Ala Wai Promenade, a paved walking path along Ala Wai Canal, and Ala Wai Boulevard comprise the entire southern boundary of the project APE. The Promenade is paved with concrete and asphalt. A small strip of manicured lawn grass containing subsurface utilities, traffic light boxes, benches, and light posts runs between the Promenade and Ala Wai Boulevard (Figure 42). The landscaped vegetation includes coconut palms running along most of the canal with plumeria trees along the east end. Due to being entirely developed nothing of archaeological note was observed or collected from the area of ground disturbance for the south landing of the proposed pedestrian bridge or from the southern portion of the APE.

|McCully Street Bridge

McCully Street and the McCully Street Bridge comprise the west boundary of the project APE (refer to Figure 37). The McCully Street Bridge, a seven span concrete deck bridge with asphalt overlay, was constructed in 1959 and was previously assessed as having a high preservation value. The bridge was assessed as eligible for listing on the National Register of Historic Places under Criterion A, for contributing to the economic development of Honolulu and Waikīkī by providing reliable vehicular access, and Criterion C, for being part of the 1954 Bennett-Maier plan for redevelopment to relieve and control traffic in Waikīkī (MKE Associates and Fung Associates 2013:4-24, 4-380 to 4-382).

The McCully Street Bridge was recently re-assessed by Mason Architects Inc. in association with the current undertaking (Mason Architects 2020). The study agreed with the previous evaluation and found the bridge to retain integrity of location, materials, workmanship, and association, with significance under Criteria A and C (refer to Appendix F).

|East Portion of APE

The eastern-most portion of the project APE is bound by the Ala Wai Canal to the west and Kapahulu Avenue to the east. On this land is a coconut grove and the grounds of the Waikīkī-Kapahulu Public Library, built in 1952, and the Library for the Blind and Print Disabled (LBPD), built in 1961. A canoe launch borders the north edge of the Ala Wai Canal, which is adjacent to the Ala Wai Golf Course to the north and west. The area has manicured lawn and landscaping. Nothing of archaeological note was documented in the east portion of the APE.

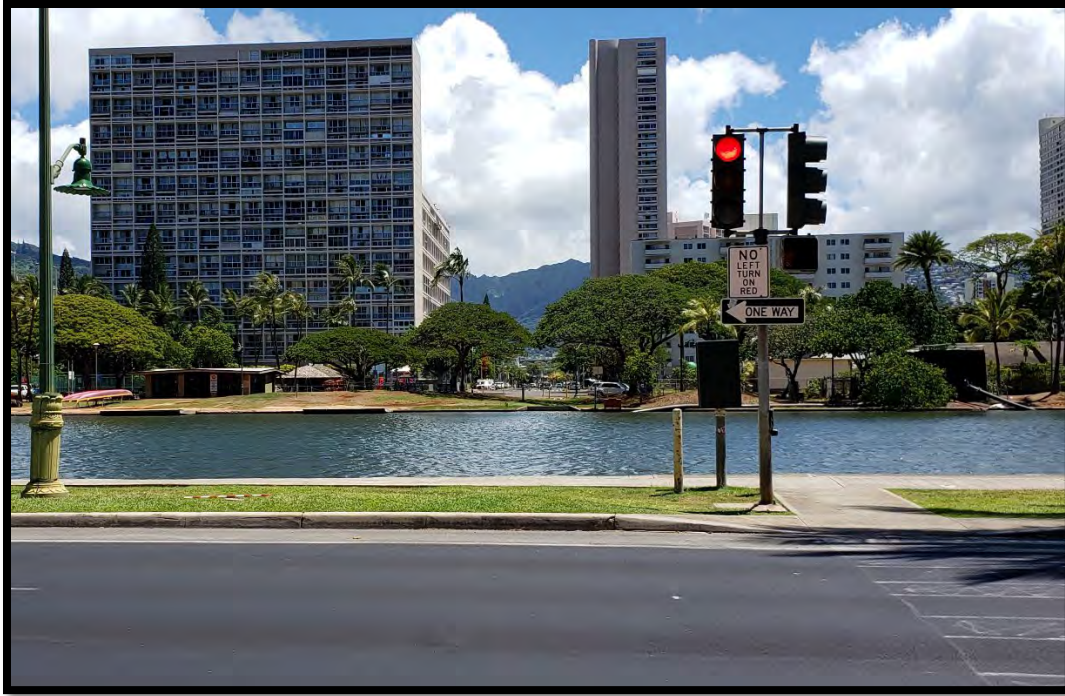


Figure 41. Overview photo of the proposed south landing for the proposed Ala Wai pedestrian bridge, at the intersection of Ala Wai Boulevard and Kālainmoku Street looking north toward University Avenue



Figure 42. Overview photo of the Ala Wai Canal (left), Ala Wai Promenade (center), and Ala Wai Boulevard (right) looking east along the southern portion of the project APE

6. Consultation

Consultation

The project sent Section 106 initiation letters to 28 potential consulting parties. A public notice was also published in a daily newspaper, the Honolulu Advertiser, on June 3, 2020.

**NOTICE OF CONSULTATION
SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT OF 1966 AS
AMENDED (2006)
ALA WAI BRIDGE PROJECT
VICINITY OF ALA WAI CANAL
WAIKIKI AHUPUAA, DISTRICT OF KONA MOKU, ISLAND OF OAHU
TAX MAP KEYS: VARIOUS**

Notice is hereby given that the City and County of Honolulu, Department of Transportation Services (DTS), in cooperation with the Federal Highway Administration (FHWA) and State of Hawaii Department of Transportation, are proposing the Ala Wai Bridge Project. The proposed bridge would span the historic Ala Wai Canal, which was added to the Hawaii Register of Historic Places in 1992. The purpose of the project is to improve access for people travelling by foot or by bicycle across the Ala Wai Canal between Ala Moana Boulevard and the Manoa/Palolo Stream and to connect the Waikiki, McCully, and Moiliili neighborhoods, businesses, parks, schools, and recreational activities. This project is considered a federal action and undertaking, as defined by Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (2006). The proposed area of potential effect (APE) boundaries include the bridge project site; temporary staging, contractor access, and parking areas; the portion of the historic Ala Wai Canal within the view plane of the proposed bridge; adjacent buildings; individual properties on both sides of the canal; and, University Avenue and Kalaimoku Street public rights-of-way. The proposed APE is approximately 91 acres.

The proposed design of the bridge is a cable-stayed design with an asymmetric configuration that utilizes a main pylon sited on the mauka side of the canal. Lighting would be incorporated on the bridge deck, cables, and bridge features itself. The tower would include facets designed to create shadows and reflect light based on the time of year and atmospheric condition. The proposed bridge would be approximately 20 feet wide to accommodate people walking and bicycling. Makai of the canal, the project would involve improvements on the Ala Wai Promenade to accommodate the makai ramp, which would be designed to meet ADA guidelines. On the mauka end of the bridge, a 180-foot tower would straddle a cast-in-place deck that would cantilever over the water. The mauka ramp would require minimal excavation. The mauka ramp would involve tie-ins to the existing Ala Wai Neighborhood Park and existing pedestrian and bicycle path along the canal. Pedestrian and bicycle improvements would also be constructed between the mauka end of the bridge and University Avenue through the existing Ala Wai Neighborhood Park parking lot.

No permanent structures would be installed in the Ala Wai Canal. For construction of the bridge deck, flexifloat pontoon barges would be used to transfer precast deck panels from the casting area into position as part of the bridge deck. In order to stabilize the barges with the tide, two temporary spud columns would extend from the side of the barge down to the mud line of the canal. Portions of the Ala Wai Neighborhood Park parking lot would be temporarily closed during construction; however, the park facilities would remain open. After construction of the bridge is complete, the parking lot would be reopened and improved. The existing canoe Hale would remain in place during construction; however, access would be limited due to the immediate construction area and safety concerns. The Ala Wai Canal would also be closed temporarily during construction of the bridge deck for safety reasons. Upon completion of construction the Ala Wai Canal would be reopened, and the portions of the Ala Wai Neighborhood Park and parking areas that were disturbed during construction would be restored and replanted.

Pursuant to Section 106 of the NHPA, Native Hawaiian organizations and Native Hawaiian descendants with ancestral, lineal, or cultural ties to, cultural and historical property knowledge of and/or concerns for, and cultural or religious attachment to the proposed project area are requested to contact DTS. Other individuals and organizations with demonstrated legal, economic, or historic preservation interest in the undertaking are asked to contact DTS and share information you may have on historical and cultural sites within the proposed APE. We welcome any information to Ms. Meredith Soniat, Project Manager via email at meredith.soniata@honolulu.gov, or by U.S. Postal Service to Meredith Soniat, Department of Transportation Services, 650 North King St., 3rd Floor, Honolulu, Hawaii, 96813-3017.

Please respond within 30 days from the date of this publication.
(SA1279694 6/3/20)

Five organizations, Historic Hawaii Foundation, Kamehameha Schools, Royal Hawaiian Center, Waikīkī Neighborhood Board, and Waikīkī Surf Club, all expressed interest in participating as consulting parties. All five organizations were invited to participate in an initial (virtual) consultation meeting on Monday, October 19, 2020. All five organizations had representation.

Consultation with all participating organizations remains ongoing, although there appeared to be consensus among the parties as to the identification of historic properties efforts. During the consultation meeting, inquiries were made regarding the Ala Wai Community Garden and other canoes along the Ala Wai. Based on investigations by both MASON and Honua Consulting into these properties, it was determined that none of the properties are historic as they are not over 50 years old and are thereby ineligible for the National Register.

Numerous interviews were also conducted with members of the Waikīkī Surf Club as part of the ethnographic component of the Cultural Impact Assessment, which will be included in the HRS Chapter 343 documentation.

7. Summary and Recommendations

7.1 Summary of Project Research and Field Inspection

This project was completed on behalf of the CCH DTS, HDOT, and FHWA for construction of the Ala Wai Bridge spanning the Ala Wai Canal from the end of University Avenue within the Ala Wai Neighborhood Park to the intersection of Ala Wai Boulevard and Kālainmoku Street. The area of ground disturbance for the project measures approximately 0.28 acres and is comprised of two landings, a northern landing at the end of University Avenue within the Ala Wai Neighborhood Park and a southern landing at the intersection of Kālainmoku Street and Ala Wai Boulevard. The APE for the undertaking measures approximately 91 acres and includes the bridge project site, temporary access, staging area, parking areas, the portion of the Ala Wai Canal within the view plane, and individual properties, city streets, and sidewalks that are anticipated to have a prominent view of the bridge.

The proposed undertaking will construct a pedestrian and bicycle bridge across the historic Ala Wai Canal. Ground disturbances associated with the project will include excavations for bridge supports and landings that will extend to 40 to 50 ft. (12.2 -15.2 m) below ground surface, excavations for sidewalks and landscaping that will extend to 1-2 ft (30-60 cm) below surface, and trenching for utilities and lighting that will extend from 1-6 ft. (30-182 cm) below surface.

Background research on the project APE indicates it is located within a former wetland area primarily used for habitation, growing taro, and constructing fishponds in the pre-contact era. It was later used for banana and/or rice cultivation in the historic-era up until the 1920's when land reclamation began with the construction of the Ala Wai Canal and division of Waikīkī into city blocks. The Ala Wai Community Park and Ala Wai Golf Course were also developed during this time period.

Numerous Land Commission Awards (LCAs) are present within the project APE. The LCA documentation indicates that the area of ground disturbance for the undertaking is located within former LCA 8559B, 'Āpana 29, a government/crown owned lo'i with 'auwai running around the exterior. The LCAs in the vicinity consist primarily of lo'i and taro patches and their associated 'auwai and irrigation infrastructure. Several single family house sites associated with the properties are also present. Interestingly, the LCA's in the vicinity were all given to the ancestors of the claimants by either King Liholiho or Queen Ka'ahumanu I throughout the 1820's. Prior to that, it was likely crown land utilized for similar purposes from as early as the 15th century based on radiocarbon dating conducted on the buried land surface underlying the area of ground disturbance and the Kālia Fishponds to the south. The area is well situated between 'Auwai 'Alanaio and Muliwai Kūkaunahi, creating a very wet and fertile land which sustained an extensive agricultural complex containing lo'i, 'auwai, and fishponds.

Several previous archaeological studies have been conducted within the APE (Esh and Hammatt 2004 and 2006b, Petrey et al. 2008, Armstrong and Spear 2009, O'Hare et al. 2010, and LaChance et al. 2014). Additionally, the area of ground disturbance underwent an AIS in 2015 and 2016 for the Ala Wai 46kV underground cables relocation project (Martel and Hammatt 2017) and monitoring for recent geotechnical boring (Thurman 2020-draft). The Martel and Hammatt (2017) study documented, SIHP #50-80-14-5796, the original buried Waikīkī wetland surface, within the

project APE, particularly within the southern landing of the area of ground disturbance. The site consists of deposits of agricultural wetland sediments, non-agricultural wetland sediments, peat sediments, pond sediments, and pond berms dating from the pre-contact era to the early 1900's and has been documented in multiple separate locations. The site has generally been encountered below 4 to 6 ft of modern and historic land reclamation fills. It was documented in a trench just to the south of the area of ground disturbance in the Ala Wai Boulevard and Kālainmoku Street right-of-ways and within the project APE for the current project. No human burials or human skeletal remains have been documented within the project APE.

The archaeological field inspection conducted for the project included a pedestrian survey of the project APE. The project identified 3 previously documented surface historic properties. The Ala Wai Canal (SIHP #50-80-14-9757) is located within the area of ground disturbance and the project APE. It was added to the Hawai'i Register of Historic Places and nominated as eligible for listing on the National Register of Historic Places (NRHP) in 1992. Two other sites located within the project APE include the Ala Wai Park Clubhouse (SIHP #50-80-14-1388) located at the corner of McCully Street and Kapi'olani Avenue and the Hawaiian racing canoe "Malia" (SIHP #50-80-14-9762, NRHP #93001385) located in a canoe hale approximately 50 ft (15 m) northwest of the northern landing of the proposed bridge. The McCully Street Bridge, constructed in 1959, is present along the western extent of the APE. No additional historic properties, deposits, or artifacts of any kind were documented during the pedestrian survey of the area of ground disturbance or the project APE.

Recommendations

Based on compiled background research and the results of the current field inspection, it is found that the Ala Wai Canal (SIHP # -9757) will be impacted by the proposed project and it is also likely that SIHP #50-80-14-5796, a culturally modified wetland surface present below early 20th century land reclamation fills, will be encountered during excavations associated with the project, primarily in the area of the south landing. Additionally, human skeletal remains and pre-contact and historic-era artifacts are commonly encountered within fill materials throughout Waikīkī. Therefore, in order to mitigate potential adverse impacts to the Ala Wai Canal, significant subsurface wetland deposits, or any other potential historic property present, it is recommended that the proposed project proceed under an archaeological monitoring program conducted in accordance with HAR 13-279 (Rules Governing Standards for Archaeological Monitoring Studies and Reports) for all ground disturbances associated with the project. It is also recommended that following the monitoring program, a site number be obtained for the McCully Street Bridge.

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Appendix A Boundary Commission Documents for LCA 8559B, 'Āpana 29

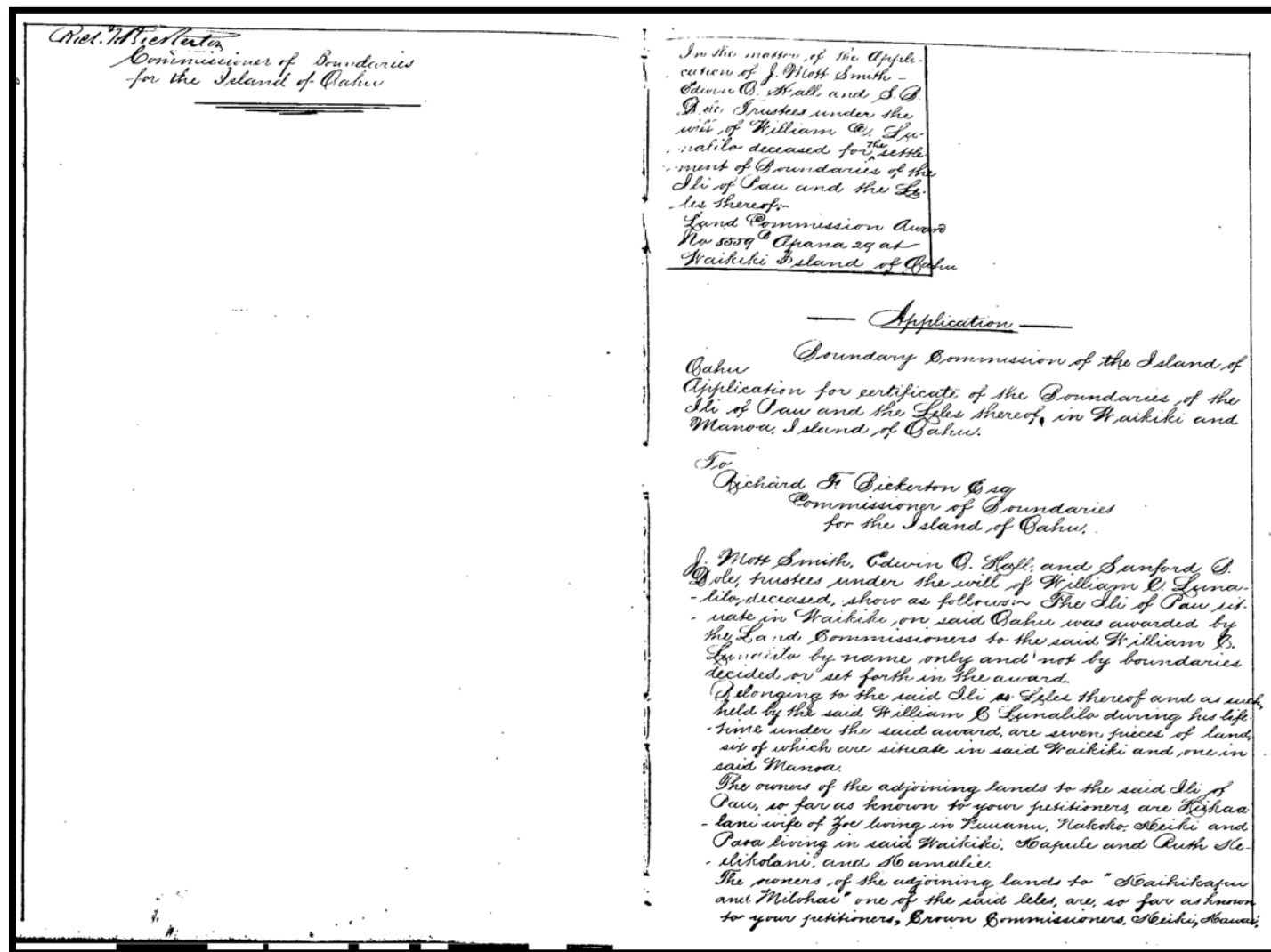


Figure 43. Boundary Commission documentation for LCA 8559B, 'Āpana 29 (Reel 3 Vol. 1 pg. 388)

Nailijelapela, Antone Lopez, and Ruth Keelikolani.
The owners of the adjacent lands to Mauu, one of the said
leles, are, so far as known to your petitioners, Pava, Heiki,
Bryanian Government, and a Chinaman.

The owners of the adjoining lands to Ofrukadashula and
fish pond - one of the said leles, are so far as known to your
petitioners, Ruth Keelikolani, Kahanamoku, Mariai Hei-
kai, and Likelike.

The owners of the adjoining lands to Ofrukadashula - "he mau
loi elua" designated in the notes of survey, as 'Āpana 2 of Ofrukadashula and being two kalo patches separate from each other,
are so far as known to your petitioners - as to the mauka
of the said two kalo patches Kahanamoku, Pehelo, and the
heirs of Keelikolani, and as to the makai patch, Heiki
and the heirs of Keelikolani.

The owners of the adjoining lands to the lands designated
in the notes of survey as "mau loi 8 ka paheke kahawai", are,
so far as known to your petitioners, Kahanamoku, Kahanamoku,
and the wife of Henry Kelle.

The owners of the adjoining lands to Kahanaloa one of
the said leles situated in Mauu, are, so far as known to
your petitioners, the Mauu Kula nui.

The said Award is numbered 359 of 'Āpana 29, and is
hereto annexed and made a part of this petition.

Your petitioners claim the said Ili and leles according
to the notes of survey filed herewith and made a part of this
petition.

Your petitioners also file herewith, charts of the said
Ili and leles made according to the said notes of survey.

Wherefore your petitioners pray that the boundaries of
the said Ili and leles may be decided and certified to, ac-
cording to the usual proceedings of Boundary Commis-
sioners in such cases.

Honolulu 18th Sept. 1879.

Signed J. Mott Smith by
S. J. Dole
Signed Edwin C. Hall by
S. J. Dole
Signed S. J. Dole

Pau Naukiki Oahu
Friday Oct. 3rd 1879 1 P.M.

Presents S. J. Dole, Applicant - Mahuka for R. Ke-
likolani - Kapule (14) Pava (14) J. W. Kawani (14) Heiki (14)

Mahuka (14) Heiki (14) as to service of notice on adjoin-
ing owners.
Mr. Dole presents the survey made by F. Pava, dated
October 1874 and reads the notes of said survey.
J. W. Kawani (14) Sworn - I was not present when Pa-
hau made this survey - I have a Royal Patent that
is now with Mr. Castle, the Boundary is a Kalo patch.
I am acquainted with Pau have lived there since
1865, I have been Kahu of the land under Heiki
and Kahanamoku my land runs to Pava.
(Witness is directed to produce his Royal Patent.)

Pava (14) Produces his Royal Patent which on being
compared agrees with Pava's survey and states he is
satisfied with the survey produced by Mr. Dole.

Heiki (14) represents Kahanamoku, the heir of Pehelo,
and states that he is satisfied with the survey pro-
duced by Mr. Dole.

Kapule (14) The present owner of Malia's land and
Kahanamoku's land, states that he is satisfied with the
survey produced by Mr. Dole.

Mahuka (14) Sworn - I can walk over the Boundary
of Pau - (he does ride over the makai Boundary of
Pau) as pointed out by him, all the fish ponds
makai and claimed to be in Pau are left outside
the name of the land makai and fish ponds is Hei-
- paunee.

Pava (14) recalled - I know the Ancient Boundaries
of Pau, as I know them the makai Boundary runs
as Mahuka pointed them out, the name of the
land makai of the Boundary is Kahanamoku lina
and Heiki which is a small pond Kahanamoku
- lina adjoins Kahanamoku land.

Heiki (14) recalled Sworn - I have known the land
of Pau for 50 years the makai Boundary of Pau
is as Mahuka pointed out, as far as Heiki it
is as Mahuka pointed out, round Heiki and includes
therein makai and round Heiki and includes
it and runs up to Government road then along
road to corner as in Survey the name of the
makai of the Boundary of Pau is Kahanamoku
lina.

Figure 44. Boundary Commission documentation for LCA 8559B, 'Āpana 29 (Reel 3 Vol. 1 pg. 389-390)

Kekalahiki (14) Sworn m I have lived here 18 years I was
the Koonohiki under Kouanina and Lunalilo; I knew
the boundaries of Pau as shown to me by Kouanina
the makaai boundary joins Kalawone's land I went with
Pahoa when he made the survey and I pointed it out
as I was shown by Kouanina in his life time and the
description of Pahoa is the land of Pau.

J. H. Hawaii m recalled m I have lived at Waikiki
18 years m 5 years on this land of Pau, I could not say
where the boundary makaai is, I have only been told that
the boundary was where Mahukae pointed out m Heiaiki
is in Pau m Keaapua-ka-hua is outside of Pau -

Boundary Commissioners Office
Dec. 14th 1879

J. F. Brown m Sworn m presents new survey as made
by him, under instructions from the Commissioner of
Boundaries, and states;
Hawaii was with me when I made this survey, he pointed
out the adjoining lands, I also took as a basis of my
survey the boundaries of adjoining Royal Patents and areas
and this survey corresponds with the boundaries.

The boundaries are therefore filed and awarded as set forth
in the said survey of J. F. Brown dated m December 1879 m

No. 55

Certificate of boundaries of the— Land —

District of Waikiki Island

of Pau
of Oahu;

L. C. Award, No. 5559 B.C. 1879

Commission of Boundaries —

Judicial Circuit. Right F. Bickerton Esq., Commissioner

In the matter of the boundaries
of the Land of Pau
District of Waikiki Island
of Oahu

Judgment

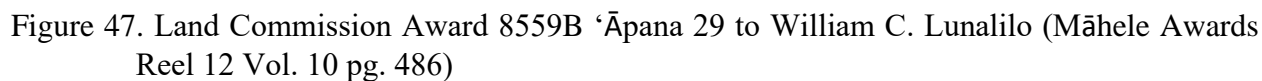
An application to decide and certify the Boundaries of the
Land of Pau District of Waikiki Island
of Oahu having been filed with me on the 18th day of
September 1879 by Edwin G. Hall, J. Thos. Smissman &
J. J. Cole.
in accordance with the provisions of an Act to facilitate
the settlement of Boundaries, &c., approved on the 22^d day
of June, A.D. 1868; now therefore, having duly received and
heard all the testimony offered in reference to the said
boundaries and having gone on the said land, at the
request of said Applicants
and having endeavored otherwise to obtain all infor-
mation possible to enable me to arrive at a just deci-
sion, which will more fully appear by reference to
the records of this matter by me kept in Book No. page
388, and it appearing to my satisfaction that the true,
lawful and equitable boundaries, are as follows, viz:

Beginning at red wood post on makaai side of road
8.2 feet from S corner of bridge
From which point the true azimuth of Leahi Δ is
322° 30' and azimuth of Hamukui Δ 253° 40' thence run-
ning:
S 28° 19' E (true bearing) 509 feet along L. C. Award to F. L. to
red wood post
S 63° 28' W " " 66 " " " "
N 63° 04' W " " 385.4 " " " "
red wood post
S 53° 57' W " " 91.7 " " " "
red wood post
S 49° 02' E " " 552.4 " " " "
red wood post
S 35° 22' E " " 660 " " " "
stream 15.5 feet beyond a red
wood post
N 71° 03' E " " 124.1 " " iron stake by road near bridge
Thence at a right angle, to the south 10 feet to middle of
stream: thence along centre of old auwai:
N 63° 30' E " " 102 " along L. C. Award 6386
N 46° 25' E " " 104 " " " "
N 60° 15' E " " 128 " " " "
N 76° 04' E " " 390 " " " "
N 22° 56' W " " 213 " along L. C. Award 1765

Figure 45. Boundary Commission documentation for LCA 8559B, 'Āpana 29 (Reel 3 Vol. 1 pg. 391-392)

115	N 24° 48' N (true bearing)	127 feet along L. C. Alward	867
	N 38° 20' E	7.3	
	N 36° 03' N	240.2 " " L. C. Alward	1775
		to foot on Seawall	
	N 33° 35' W	157.8 " " " "	1775
	N 43° 26' W	132 " " " "	
117		to red wood foot	
	N 53° 20' W	178 " " " "	
	S 50° 15' W	89.1 " L. C. Alward	1409
	N 64° 30' W	89.1 " " "	1409
	N 83° 50' W	63.4 " " "	1409
119	N 16° 15' W	87.8 " " "	1409
	N 51° 25' W	85.8 " " "	1409
	N 75° 40' W	66.0 " " "	1409
	N 88° 05' W	182.2 " " "	1409
	N 16° 30' W	27 " " "	1409
		to middle of stream	
120	S 79° 30' W	215 " " Grant 3098	
	S 40° 00' E	13 " to initial point	
		Total Area 24 ² / ₁₀₀ Acres	
	As per survey made by J. F. Brown Surveyor dated Dec. 1879		
	Witness my hand this 24 th day of December A.D. 1879		
	M. L. Hester		
	Commissioner of Boundaries for the Island of Cuba		

Figure 46. Boundary Commission documentation for LCA 8559B, 'Āpana 29 (Reel 3 Vol. 1 pg. 393)



8/4/2020 08559B*O Kanaina, Charles for King Oahu Waikiki, Kapahulu, Kaalaea, Laie, Pahipahialua, Kapaka Kona, Koolauloa (59.) - Waihona 'Aina

Mahele Record: 08559B*O

Claim Number:	08559B*O
Claimant:	Lunalilo, William C.
Other claimant:	Kanaina, Charles for King
Other name:	
Island:	Oahu
District:	Kona, Koolauloa
Ahupuaa:	Waikiki, Kapahulu, Kaalaea, Laie, Pahipahialua, Kapaka
Ili:	Kamoku, Pau, Kalauakou, Laiewai, Laiemaloo,

Apana:	9	Awarded:	1
Loi:	0	FR:	
Plus:		NR:	
Mala Taro:	0	FT:	551v3, 82v16
Kula:	0	NT:	185v10
House lot:	0	RP:	5688, 7394, 7531, 7635, 7
Kihapai/Pakanu:	0	Number of Royal Patents:	12
Salt lands:	0	Koele/Poolima:	No
Wauke:	0	Loko:	No
Olona:	0	Lokoia:	No
Noni:	0	Fishing Rights:	No
Hala:	0	Sea/Shore/Dunes:	No
Sweet Potatoes:	0	Auwai/Ditch:	No
Irish Potatoes:	0	Other Edifice:	No
Bananas:	0	Spring/Well:	No
Breadfruit:	0	Pigpen:	No
Coconut:	0	Road/Path:	No
Coffee:	0	Burial/Graveyard:	No
Oranges:	0	Wall/Fence:	No
Bitter Melon/Gourd:	0	Stream/Muliwai/River:	No
Sugar Cane:	0	Pali:	No
Tobacco:	0	Disease:	No
Koa/Kou Trees:	0	Claimant Died:	No
Other Plants:	0	Other Trees:	0
Other Mammals:	No	Miscellaneous:	

Document Text

No. 8559B*O, (W.C. Lunalilo) C. Kanaina
F.T. 551-552v3

W.H. Uana, sworn, says he knows the house lot of Lunalilo, in Kaluaaha, Molokai. It is bounded:

Mauka by the public road
 On the Halawa side by a fish pond of the government called "Neaupala"
 Makai by the sea beach
 On Kaluaakoi side by a government fish pond called "Kaluaaha."

<https://waihona.com/printDoc.asp?type=MA&doc=11286&v=35559611>

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Figure 48. Land Commission Award 8559B 'Āpana 29 to William C. Lunalilo (Waihona 'Aina 2020)

8/4/2020 08559B*O Kanaina, Charles for King Oahu Waikiki, Kapahulu, Kaalaea, Laie, Pahipahialua, Kapaka Kona, Koolauloa (59..) - Waiihona 'Aina

This lot formerly was ordered to be enclosed by Hoapili wahine and Kekaulohe when Eseta Kipa was Governess of Molokai. The people of Kekaulohe's lands erected a stone house on this lot in the year 1835. It is now in possession of Lunalilo as heir of Kekaulohe.

E. Kipa, sworn says, she knows the lot. I was Governess of Molokai under Hoapili wahine & Kekaulohe in former times, and by their orders enclosed this lot and built a stone house on it with the labor of the people of their own lands. When the government sold the land of "Kaluahā" to the Missionaries, I heard Kalolou come and ask permission from Kanaina to live in the stone house, which permission she got.

(A. Pahi sets up a claim for this lot as heir of Kalaolou.)

L. Haalelea, sworn says, he knows the house lot claimed by Lunalilo in Kailua, Hawaii. It is bounded:

On Kiholo side by the church lots

Makai by the public road

On Keauhou side by a road leading mauka

Mauka by some house lots.

It is enclosed by a wall. This lot I have heard belonged formerly to Keaho, the father of Mahuka. I have heard that when Keaho died he left this lot to Kekaulohe, and I have recently seen a letter from Mahuka to W.C. Lunalilo requesting him to allow Mahuka to retain charge of this lot under Lunalilo. In 1843 I was at Kailua & Kekaulohe was there. I then saw the later Governor Adams give her some money which he said was rent received for this same lot. Part of this lot is claimed by the heir of W.P. Leleiohoku. There is a fence remaining though and dividing the lot into two parts.

F.T. 82-84v16 and N.T. 82-84v16

No. 8559B, William C. Lunalilo

Polea, sworn says, he knows the lots claimed by William C. Lunalilo, at Lahaina, Maui.

The first called Luaehu, is bounded as follows:

Mauka by Kaiheekai and Hiram's land

Olowalu by King's land

Makai by Sea beach

Kaanapali by Polea and M.J. Nouliau [Nowlien].

The second in Pakala is bounded as follows:

Mauka by Public street

Olowalu by Kaiheekai's land

Makai by H.S. Swinton's and others' land

Kaanapali by Public road.

The third lot called Hawaikaekae is also bounded as follows:

Mauka by Kalaleikio's land

Olowalu by Public road

Makai by Alaloa Kahiko street

Kaanapali by Daniela li's land.

This lot is disputed by Manuahina the wife of George Shaw, whose claim in right of her father. She has already got an award for a part of this lot.

8/4/2020 08559B*O Kanaina, Charles for King Oahu Waikiki, Kapahulu, Kaalaea, Laie, Pahipahialua, Kapaka Kona, Koolauloa (59..) - Waihona 'Aina

The fourth lot in Paunau is bounded as follows:

Mauka by Keaweihehu's and Kahula's land

Olowalu by Keaweluaole's land

Makai by Old road

Kaanapali by Street leading to Lahainaluna.

The fifth lot called Loinui is bounded as follows:

Mauka by Keaweluaole; Kauhi and Kalolou's land

Olowalu by Mr. Baldwins

Makai by Old road

Kaanapali by Kamakinui's land.

The sixth lot in Aki is bounded as follows:

Mauka by Kaweka's land

Olowalu by Wahie's land

Makai by Main road

Kaanapali by M.I. Nowlein's land.

The seventh lot in Puunoa is bounded as follows:

Mauka by Main road

Olowalu by Iosua Kaeo

Makai by Iosua Kaeo

Kaanapali by King's land.

The eighth lot in Kelawea is bounded as follows:

Mauka by Lahainaluna

Olowalu by Road from the beach

Makai by Keleikini and Kahookano's lands

Kaanapali by A stream.

All these lots have descended to William C. Lunalilo from his mother, Kekauluohi, and are now in the hands of his lunas. The lot in "Pakala" is disputed by Paki and others.

N.T. 619-620v3

No. 8559, [C. Kanaina], Section 49, C. Kanaina, From pg. 597 Vs. No. 2619 Pahau

C. Kanaina has come before the land commissioners and stated, "I am opposing Pahau's interest in section 2 consisting of nine patches They are in my land which is the lele Opukaala of the Pau ili land in Waikiki.

Here is the reason Pahau had acquired that land. Kaaha had given land to him and when he /Kaaha / died all of the lands in Pau were returned to Wm. C. Lunalilo; therefore, I feel that these patches in that section should be returned to me permanently, or else they should be divided between him and me.

Postponed until they make their own settlements and present the best one to the land officers who will approve it.

N.T. 185-187v10

No. 8559B, William Charles Kanaina, [for Lunalilo], Honolulu, 24 April 1850

COPY

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8/4/2020 08559B*O Kanaina, Charles for King Oahu Waikiki, Kapahulu, Kaalaea, Laie, Pahipahialua, Kapaka Kona, Koolauloa (59..) - Waihona 'Aina

Greetings to you Highness, John Young, the Minister of Interior.

My desire is to have the government claim separated from my lands; therefore I hereby give some of my land for the government to have forever and the same shall apply to mine. Here are the names of my lands:

Kawela ahupuaa, Hamakua, Hawaii.
Waikaekoe ahupuaa, Hamakua, Hawaii.
Makapala ahupuaa, Kohala, Hawaii.
Kehena ahupuaa, Kohala, Hawaii.
Puhau ili of Iole, Kohala, Hawaii.
Puakoa ili of Waimea, Kohala, Hawaii.
Honuainonui ahupuaa, Kona, Hawaii.
Puapuanui ahupuaa, Kona, Hawaii.
Lehuulanui ahupuaa, Kona, Hawaii.
Kawanui ahupuaa, Kona, Hawaii.
Lanihaunui ahupuaa, Kona, Hawaii.
Pakiniili ahupuaa, Kau, Hawaii.
Hanuapo ahupuaa, Kau, Hawaii.
Kahanalea ahupuaa, Puna, Hawaii.
Keahialaka ahupuaa, Puna, Hawaii.
Keaa ahupuaa, Puna, Hawaii.
Makahanalua ahupuaa, Hilo, Hawaii.
Pepekeo ahupuaa, Hilo, Hawaii.

Kaapuhu ahupuaa, Kipahulu, Maui.
2 Waiehu, Puali, West Maui.
Ahipuli ili for Waiehu, West Maui.
Pepee ili for Wailuku, West Maui.
Honolua ahupuaa, Kaanapali, Maui.
Kalimaohe ahupuaa, Lahaina, Maui.
Polanui ahupuaa, Lahaina, Maui.
Kuhulilea ahupuaa, Lahaina, Maui.

Waialua ahupuaa, Kona, Molokai.
Kawela ahupuaa, Kona, Molokai.

Pau ili for Waikiki in Manoa, Kona, Oahu.
Kamoku ili for Waikiki in Manoa, Kona, Oahu.
Kaluaokau ili for Waikiki in Manoa, Kona, Oahu.
Kapahulu ili for Waikiki in Manoa, Kona, Oahu.
Kaalaea ahupuaa, Koolaupoko, Oahu.
Kapaka ahupuaa, Koolauloa, Oahu.
Laiewai ahupuaa, Koolauloa, Oahu.
Laiemaloo ahupuaa, Koolauloa, Oahu.
Pahipahialua, Koolauloa, Oahu.

Kahili, Koolauloa [sic], Koolau, Kauai.
Kalihiwai, Koolauloa [sic], Koolau, Kauai.
Pilauwai, Koolauloa [sic], Koolau, Kauai.
Manuahi ili, Kona, Kauai.
Waipouli ahupuaa, Puna, Kauai.

These lands listed above shall be for me fee simple forever; it would not be right for the government to claim my land.

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8/4/2020 08559B*O Kanaina, Charles for King Oahu Waikiki, Kapahulu, Kaalaea, Laie, Pahipahialua, Kapaka Kona, Koolauloa (59..) - Waiihona 'Aina

The following lands, I shall give to the government fee simple forever.

Kapulena ahupuaa, Hamakua, Hawaii.
Kukuihaele ahupuaa, Hamakua, Hawaii.
Auau ahupuaa, Kohala, Hawaii.
Keopuhikahi ahupuaa, Kona, Hawaii.
Papaakoko ili of Honokohau, Kona, Hawaii.
Ninole ahupuaa, Kau Hawaii.
Laepaoo ahupuaa, Puna, Hawaii.
Koe 1 ahupuaa, Puna, Hawaii.
Koe 2 ahupuaa, Puna, Hawaii.
Laeapuki ahupuaa, Puna, Hawaii.
Kaiuiki ahupuaa, Hilo, Hawaii.
Kahuku ahupuaa, Hilo, Hawaii.

Waiakoa ahupuaa, Kula, Maui.
Kou ili of Waiehu Puali, Komohana Maui.
Kapoino ili of Waiehu Puali, Komohana, Maui.
Halelena ili of Waiehu Puali, Komohana, Maui.
Keokamu ili of Waiehu Puali, Komohana, Maui.
Wainee ahupuaa, Lahaina, Maui.

Mahana ahupuaa, Lanai.

Kamalomalo ahupuaa, Puna, Kauai.
Kumukumu ahupuaa, Koolau, Kauai.

I've given the lands listed above to the government forever, all of them are for the government.
Please consider my request with compassion for me.
With appreciation, I am,
William Charles Lunalilo, Charles Kanaina (child guardian)
Department of Interior, 6 April 1852.

This is a try copy of Lunalilo's division with the government,
A.G. Thruston, Secretary

N.T. 450v10

No. 8559B, William C. Lunalilo, Protested by Kaai

Mahuna, sworn, it is true my own place was written in the bill of sale to C. Kanaina, the place is just mauka of the land in Kailua of Kona, Hawaii, over which there is a dispute by Kaai. That is the lot I have transmitted to him, Kanaina, but I have not seen the property Kaai has at this present time; however, I had seen my parents living on this land at the time [of] Kaahumanu I. I had gone on a tour. Houses had been built, but I have not lived there since that time to the present, nor have I seen this lot over which there is a dispute with Kaai.

C. Kanaina, relates - the witnesses for this land on which Kaai and I are working are dead; although, I had thought they (two) would be my witnesses, but today they have denied by claim to this place. It is true this place had been for their father, Keoho, where he lived until he had died and they (two) are his own children, but I am demanding according to the old bequest of Keaho to M. Kekauluohi as well as by many other statements.

Naea, sworn, I have seen Kaai's place in Keopu of Kona, Hawaii, which is a house lot.

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8/4/2020 08559B*O Kanaina, Charles for King Oahu Waikiki, Kapahulu, Kaalaea, Laie, Pahipahialua, Kapaka Kona, Koolauloa (59.) - Waihona 'Aina

Mauka by Mahuka's lot
South Kona by a road
Makai by Government road
Kohala by vacant lot.

Land from Keoho (his father) upon his (Keoho) death in 1833. Keoho had obtained it long ago as idle land.

Kaai has always lived there peacefully to the present time.

Now C. Kanaina has offered a protest, I do not know the reason for it.

Kioloa, sworn, all of the statements above are true. I have known in the same way. I have not known the place was for C. Kanaina. It had been for Keoho, Kaai's father and now Kaai is the true claimant of this place.

[Award 8559B; (Oahu); R.P. 7635; Kamoku Waikiki (apana 30); R.P. 8193, 8311 & 8416; Pau Waikiki (apana 29)(see Kapahulu award); R.P. 8434; Pau Waikiki Kona; (ap. 29); R.P. 8124; Kapahulu Kona; I ap.; 31.50 Acs (apana 32); R.P. 8165; Kapahulu Kona; 2 ap.; 2,184.44 Acs (apana 32); R.P. 8514; Kaea Kapahulu Waikiki; I ap.; 6.16 Acs; R.P. 7652; Kaluakou Waikiki (apana 31); R.P. 7531; Kaalaea Koolaupoko; I ap.; 1340 Acs;(apana 33); R.P. 7494; Laie-wai Koolauloa (apana 35); Laie-maloo Koolauloa (apana 36); R.P. 5688; Pahipahialua Koolauloa (apana 37); 704 Acs; no R.P.; Kapaka Koolauloa (apana 34); (Maui) R.P. 8395; Polanui Lahaina; I ap.; 440 Acs (apana 25); R.P. 8129; Honolulu Kaanapali; I ap.; 3860 Acs (ahupua'a, apana 23); R.P. 7664; Pepee Wailuku; R.P. 8396; I ap.; 255.7 Acs; Kalimahe Lahaina; 2 ap.; 4.93 Acs; (apana 24); R.P. 8397; Kuholilea Lahaina; 2 ap.; 184. 5 Acs; (apana 26); R.P. 5637; Paunau Lahaina; I ap.; 2 roods 24 perkas (apana 4); R.P. 5639; Aki Lahaina; I ap.; 16 perkas (apana 6); no R.P.; Paeohi Lahaina; I ap.; 1 Ac. 52 rods; R.P. 5699; Loiniu (Luaehu Waianae) Lahaina; 2 ap.; 2.75 Acs 37 rods; R.P. S8550/S8546 & S8537. Kaapahu Kipahulu; I ap.; (ahupuaa, apana 19); Waiehu 2 Wailuku; no R.P. Ahikuli Waiehu; (Hawaii) R.P. 478; Pakiniiki Kau; I ap.; 2357 Acs; Makanalao Hilo; 2 ap.; 7600 Acs; R.P. 7049; Honuapo Kau; I ap.; ahupuaa 2200 Acs; Honuaino nui; I ap.; 262 Acs; R.P. 7454; Kawanui iki Kona; I ap.; 380 Acs; R.P. 7455; Lehuula nui; I ap.; 290 Acs; Lehuula nui; I ap.; 2840 Acs; Puapuaanui Kona; I ap.; 370 Acs; R.P. 7680; Kahena 2 N. Kohala; I ap.; (ap.4); ahupuaa; Puako S. Kohala; I ap.; Iliaina (Ap.6); Kahaualea Puna; I ap.; 26,000; Keahialaka Puna; I ap.; 5562 Acs; Pepeekeo Hilo; Keaau Puna; I ap.; 64.275 Acs; Kawela Hamakua; R.P. 7434; Honuainonui N. Kona; R.P. 7456; Lanihau Nui Kona; R.P. 8452; Waikoekoe Hamakua; no R.P.; Makapala Kohala; R.P. 7192 Makenalao Hilo; 2 ap.; 7600 Acs; (Molokai) R.P. 7655; Waialua; R.P. 7656 Kawela;(Kauai) R.P. 8173; Kalihiwai Halelea; no R.P. Manuahi Hanapepe; R.P. 8323; Kahili Koolau; R.P. 7060; Pilaa Koolau; R.P. 7373; Waipouli Puna; See 8559 to C. Kanaina who is awarded a property at Ukumehame under 8559B; see also Award 277]

08559B*O - No maps found.

Reference: | Doc: 11286 | Date Time: 8/4/2020 7:32:24 PM
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8/4/2020

8434 08559B*O Lunalilo, William C. Oahu Kona Waikiki (8..) - Waihona 'Aina

Royal Patents: 8434

Royal Patent Number(RP)	8434	LCA Number:	08559B*O
Patentee:	Lunalilo, William C.	Book:	37
Island:	Oahu	Page	0
District:	Kona	TMK	
Ahupua'a	Waikiki	Miscellaneous	
Ili	Pau		

Document Text

No. 8434, Lunalilo, W.C., Pau Ili, Waikiki Ahupuaa, District of Kona, Island of Oahu, Volume 37, unnumbered pps [RP Reel 17, 388-391.tif]

Land Patent No. 8434 Issued In Confirmation of Land Commission Award

Whereas, the Board of Commissioners to quiet Land Titles, did, by their decision, award by Land Commission Award No. 8559B:29 to W. C. Lunalilo, an estate of Freehold less than Allodial in the land hereafter described, and

Whereas, application has been made to the Commissioner of Public Lands by Honolulu Trust Company, Limited, Trustee, the present owner of said land for a Patent covering same, and

Whereas, the Government Commutation was released by resolution of the Privy Council dated August 27, 1850, in lieu of the surrender by him to the Government of various lands as set forth in Volume 10, Page 491 of Land Commission Awards, and

Whereas, the Certificate of Boundaries defining the bounds of the land of which the land hereinafter described is a part, is of record on page 388 et seq., in Volume I of Boundary Commission record for Honolulu, on file in the Office of the Commissioner of Public Lands,

Now, Therefore, the Governor of the Territory of Hawaii, in conformity with the Laws of the United States of America and of the Territory of Hawaii, by this Patent makes known to all men that he has this day granted and confirmed absolutely, in Fee Simple, unto W.C. Lunalilo, all of the land situate at Pau, Waikiki in the District of Honolulu [Kona], Island of Oahu, bounded and described as follows:

Being a portion of Land Commission Award 8559B Apana 29 to W.C. Lunalilo, situated on the Southwest side of Kalakaua Avenue, at Pau, Waikiki, Honolulu, Oahu, Territory of Hawaii

Beginning at a pipe at the East corner of this piece of land, being also the North corner of Lot "A" of Land Court application No. 762 (Amended) on the old Southwest side of Kalakaua Avenue, the true azimuth and distance to a City and County Survey Street Monument at an angle in Kalakaua Avenue about 500 feet Northwesterly from Saratoga Road, and set on an offset of 01,0 feet to the new Northeast side of Kalakaua Avenue, being 324° 04' 30" 278.92 feet, and the coordinates of said Street Monument referred to Government Survey Triangulation Station "Punchbowl" being 10,538.59 feet South and 6001.46 feet East, and running by true azimuths from the above described initial point:

1. 71° 23' 121.50 feet along fence, along Lot "A" of Land Court Application No. 762 (Amended);
2. 148° 48' 54.59 feet along Lot "A" of Land Court Application No. 762 (Amended); [following page]
3. 250° 31' 45" 0.50 feet along United States Military Reservation (Fort De Russy) to a Concrete Monument marked "+"
4. 150° 22' 48.10 feet along United States Military Reservation (Fort De Russy) to a Concrete Monument marked "+";
5. 251° 18' 19.06 feet along United States Military Reservation (Fort De Russy) to a U.S.M.R. Concrete Monument No. 10.
6. 251° 18' 102.78 feet along lot occupied by Barbecue Inn to a pipe;
7. 350° 00' 102.70 feet along the old Southwest side of Kalakaua Avenue to the point of beginning and containing an area of 12,277

<https://waihona.com/printDoc.asp?type=RP&doc=72355&v=35559611>

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8/4/2020

8434 08559B*O Lunalilo, William C. Oahu Kona Waikiki (8..) - Waihona 'Aina

Square Feet.

[Following page]

[Diagram]

[Following page]

Attached hereto and made a part of Land Patent Grant No. 8434, in Confirmation of Land Commission Award 8559B:29.

Lawrence M. Judd, Governor of Hawaii
C.T. Bailey, Commissioner of Public Lands

[Following page]

Containing 12,277 Square Feet, more or less

To Have And To Hold the above granted land in Fee Simple, absolute unto the said W.C. Lunalilo and the heirs and assigns of W.C. Lunalilo forever.

In Witness whereof, The Governor of the Territory of Hawaii, has hereto set his hand and caused the Great Seal of the Territory to be hereunto affixed, this 5th day of November A.D. 1929.

By the Governor; Lawrence M. Judd
C.T. Bailey, Commissioner of Public Lands

Approved as to form: C. Nils Tavares
Deputy and Acting Attorney General

Written by A.S.B.[?]
Checked by R.F.

[Royal Land Patent No. 8434, Lunalilo, W.C., Pau Ili, Waikiki Ahupuaa, District of Kona, Island of Oahu, 12,277 Square Feet, 1929]

8434 - No maps found.

Reference: | Doc: 72355 | Date Time: 8/4/2020 7:33:01 PM
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Appendix C Ala Wai Canal NRHP Nomination

9757
OMB No. 10024-0018

NPS Form 10-900
(Oct. 1990)

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Registration Form**

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name The Ala Wai Canal

other names/site number The Waikiki Drainage Canal

2. Location

street & number The Ala Wai Boulevard ☐ not for publication

city or town Honolulu ☐ vicinity

state Hawaii code HI county Honolulu code 003 zip code 96815

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this ☐ nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. I recommend that this property be considered significant ☐ nationally ☐ statewide ☐ locally. (☐ See continuation sheet for additional comments.)

Signature of certifying official/Title _____ Date _____

State of Federal agency and bureau _____

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. (☐ See continuation sheet for additional comments.)

Signature of certifying official/Title _____ Date _____

State or Federal agency and bureau _____

4. National Park Service Certification

I hereby certify that the property is:

<input type="checkbox"/> entered in the National Register. <input type="checkbox"/> See continuation sheet. <input type="checkbox"/> determined eligible for the National Register <input type="checkbox"/> See continuation sheet. <input type="checkbox"/> determined not eligible for the National Register. <input type="checkbox"/> removed from the National Register. <input type="checkbox"/> other, (explain:) _____ 	Signature of the Keeper _____ _____ _____ _____ _____ 	Date of Action _____ _____ _____ _____ _____
---	--	---

The Ala Wai Canal Name of Property _____	Honolulu County, HI County and State _____
5. Classification	
Ownership of Property (Check as many boxes as apply)	Category of Property (Check only one box)
<input type="checkbox"/> private <input type="checkbox"/> public-local <input checked="" type="checkbox"/> public-State <input type="checkbox"/> public-Federal	<input type="checkbox"/> building(s) <input type="checkbox"/> district <input type="checkbox"/> site <input checked="" type="checkbox"/> structure <input type="checkbox"/> object
Number of Resources within Property (Do not include previously listed resources in the count.)	
Contributing	Noncontributing
	buildings
	sites
	3 bridges structures
	objects
	Total
Name of related multiple property listing (Enter "N/A" if property is not part of a multiple property listing.) N/A	
Name of contributing resources previously listed in the National Register 	
6. Function or Use	
Historic Functions (Enter categories from instructions)	Current Functions (Enter categories from instructions)
EXTRACTION: extractive facility	RECREATION: outdoor recreation
= canal	= boating and fishing
RECREATION: outdoor recreation	OTHER: drainage facility = canal
= boating and fishing	
OTHER: drainage facility = canal	
7. Description	
Architectural Classification (Enter categories from instructions)	Materials (Enter categories from instructions)
No style	foundation
	walls stone and concrete
	roof
	other
Narrative Description (Describe the historic and current condition of the property on one or more continuation sheets.)	

<u>The Ala Wai Canal</u> Name of Property		<u>Honolulu County, HI</u> County and State													
5. Classification															
Ownership of Property (Enter as many boxes as apply)	Category of Property (Enter only one box)	Number of Resources within Property (Do not include previously listed resources in the count.)													
<input type="checkbox"/> private <input type="checkbox"/> public-local <input checked="" type="checkbox"/> public-State <input type="checkbox"/> public-Federal	<input type="checkbox"/> building(s) <input type="checkbox"/> district <input type="checkbox"/> site <input checked="" type="checkbox"/> structure <input type="checkbox"/> object	<table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%; text-align: left;">Contributing</th> <th style="width: 50%; text-align: left;">Noncontributing</th> </tr> <tr> <td>_____</td> <td>_____ buildings</td> </tr> <tr> <td>_____</td> <td>_____ sites</td> </tr> <tr> <td>_____</td> <td>3 bridges structures</td> </tr> <tr> <td>_____</td> <td>_____ objects</td> </tr> <tr> <td>_____</td> <td>_____ Total</td> </tr> </table>		Contributing	Noncontributing	_____	_____ buildings	_____	_____ sites	_____	3 bridges structures	_____	_____ objects	_____	_____ Total
Contributing	Noncontributing														
_____	_____ buildings														
_____	_____ sites														
_____	3 bridges structures														
_____	_____ objects														
_____	_____ Total														
Name of related multiple property listing (Enter "N/A" if property is not part of a multiple property listing.) <u>N/A</u>		Number of contributing resources previously listed in the National Register _____													
6. Function or Use															
Historic Functions (Enter categories from instructions)		Current Functions (Enter categories from instructions)													
EXTRACTION: <u>extractive facility</u> = canal		RECREATION: <u>outdoor recreation</u> = boating and fishing													
RECREATION: <u>outdoor recreation</u> = boating and fishing		OTHER: <u>drainage facility = canal</u>													
OTHER: <u>drainage facility = canal</u>															
7. Description															
Architectural Classification (Enter categories from instructions)		Materials (Enter categories from instructions)													
<u>No style</u>		foundation _____ walls <u>stone and concrete</u> roof _____ other _____													
Narrative Description (Describe the historic and current condition of the property on one or more continuation sheets.)															

<p>The Ala Wai Canal Name of Property</p>	<p>Honolulu County, HI County and State</p>
<p>8. Statement of Significance</p>	
<p>Applicable National Register Criteria (Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)</p> <p><input checked="" type="checkbox"/> A Property is associated with events that have made a significant contribution to the broad patterns of our history.</p> <p><input type="checkbox"/> B Property is associated with the lives of persons significant in our past.</p> <p><input type="checkbox"/> C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.</p> <p><input type="checkbox"/> D Property has yielded, or is likely to yield, information important in prehistory or history.</p> <p>Criteria Considerations (Mark "x" in all the boxes that apply.)</p> <p>Property is:</p> <p><input type="checkbox"/> A owned by a religious institution or used for religious purposes.</p> <p><input type="checkbox"/> B removed from its original location.</p> <p><input type="checkbox"/> C a birthplace or grave.</p> <p><input type="checkbox"/> D a cemetery.</p> <p><input type="checkbox"/> E a reconstructed building, object, or structure.</p> <p><input type="checkbox"/> F a commemorative property.</p> <p><input type="checkbox"/> G less than 50 years of age or achieved significance within the past 50 years.</p> <p>Narrative Statement of Significance (Explain the significance of the property on one or more continuation sheets.)</p>	<p>Areas of Significance (Enter categories from instructions)</p> <p>COMMUNITY PLANNING AND DEVELOPMENT</p> <p>SOCIAL HISTORY</p> <p>Period of Significance 1921-1928</p> <p>Significant Dates</p> <p>Significant Person (Complete if Criterion B is marked above)</p> <p>N/A</p> <p>Cultural Affiliation N/A</p> <p>Architect/Builder Walter F. Dillingham, builder</p>
<p>9. Major Bibliographical References</p>	
<p>Bibliography (Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)</p>	
<p>Previous documentation on file (NPS):</p> <p><input type="checkbox"/> preliminary determination of individual listing (36 CFR 67) has been requested</p> <p><input type="checkbox"/> previously listed in the National Register</p> <p><input checked="" type="checkbox"/> previously determined eligible by the National Register</p> <p><input type="checkbox"/> designated a National Historic Landmark</p> <p><input type="checkbox"/> recorded by Historic American Buildings Survey # _____</p> <p><input type="checkbox"/> recorded by Historic American Engineering Record # _____</p>	<p>Primary location of additional data:</p> <p><input type="checkbox"/> State Historic Preservation Office</p> <p><input type="checkbox"/> Other State agency</p> <p><input type="checkbox"/> Federal agency</p> <p><input type="checkbox"/> Local government</p> <p><input type="checkbox"/> University</p> <p><input type="checkbox"/> Other</p> <p>Name of repository: _____</p>

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The Ala Wai Canal
Honolulu County, HI

Description

*People smile at her beauty, but sometimes they wrinkle their noses at her aroma.
Joggers sweat their way along her banks. Sunbathers perch on her concrete shores. Lovers watch the reflection of
the moon on her surface. Ancient fishermen probe her murky depths for the tasty mullet.
She is the Ala Wai Canal - a delight to tourist and Islanders alike.
But she is much more than an open space next to the sky-crowding high rises. On any given day she is a health
clinic, market, rendezvous and serious playground.*

Ron Youngblood
November 27, 1969

The Ala Wai Canal is a 2-mile long man-made waterway of variable depth and width located in the Waikiki district of Honolulu. The canal is fed by the Manoa-Palolo drainage ditch which drains from the Manoa and Palolo valleys, as well as a number of smaller streams, drainage ditches and storm sewers which also drain into the canal. It forms the boundary of the Waikiki district, separating Waikiki from the Makiki, Moilili and Ala Moana areas of the city. Since its construction in 1928 the canal has been used for recreational purposes which include boating (motoring, rowing and canoe paddling) and fishing.

Constructed by the Hawaiian Dredging Company between 1921 and 1928, the canal was designed to drain low-lying wetlands in Waikiki and to provide fill that would reclaim over six hundred acres of land in the district. The canal was dredged by the "Kewalo" and consists of two straight segments joined at Kalakaua Avenue by a 45 degree elbow. The first segment of the canal, which opens to the ocean at the Ala Wai Boat Harbor, is 750 meters long and 50 meters wide. The second segment extends 2350 meters from Kalakaua Avenue to Kapahulu Avenue and is 76 meters wide.

There are three venues by which one can cross the waterway - the Ala Moana bridge, the Kalakaua bridge and the McCully bridge. When the Ala Wai Canal was originally constructed, only temporary bridges crossed it, to allow the dredge "Kewalo" to move freely about the area. Upon completion of the dredging, the Kalakaua bridge was built in 1929 by R.E. Woolley; it is a graceful multiple-arch reinforced concrete bridge. Subsequently, the McCully bridge and the bridge at Ala Moana Boulevard were added.

The length of the *makai* (ocean) side of the canal is spanned by a concrete tree-lined sidewalk, which is a popular site for jogging. Only a short stretch of the *mauka* (mountain) portion of the canal has a public walkway between the Kalakaua and Ala Moana bridges and on either side of the canal is a tranquil tree-lined footpath, the makai side of which is run by a graceful concrete arched railing. Sixteen stairwells which run the makai length of the

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Honolulu County, HI

Description (continued)

canal drop down from the sidewalk to the canal's surface. These additions to the canal landscape were made after the completion of the canal.

A municipal golf course, an elementary school, and a park run along the mauka side of the canal and are among the many changes bordering that side of the canal since the original construction of the Ala Wai. In addition, several high-rise apartment buildings have also been built. The surrounding visual landscape of the canal has seen enormous changes as the Waikiki, McCully and Moiliili districts have developed over the years: the landscape has been transformed from an agricultural area into a residential neighborhood and finally, into a congested maze of high-rise condominiums and hotels. These alterations have had a dramatic effect upon the overall integrity of the canal landscape.

Nonetheless, there have been no significant changes to the structure of the canal itself since its original construction. Over the years, the original retaining walls constructed of stone have necessitated some repairs. In 1950 work was done to prevent crumbling masonry from falling into the canal. A new concrete facing was placed in front of the original loose stone wall. In 1992 in ongoing work the Harbors Division (the State agency responsible for the canal) is currently reinforcing portions of the wall. Some portions of the wall are being replaced because of deterioration. The main concern for the integrity of the canal is the health of its waters due to problems of siltation and water pollution caused by the sediments deposited into the canal by streams and storm drains. The sediment has necessitated occasional draining. While the original depth of the canal at the time of its construction was 10 to 25 feet, in 1990 the average depth of the canal was between 6 and 10 feet. Because of this, the canal has been dredged twice since its original construction, once in 1966 and again in 1978. It would appear ready to be dredged again, considering the current very shallow depth of water in the canal.

Despite the problem of pollution the Ala Wai "water sports park" continues to be heavily used by Waikiki residents and visitors, with an estimated daily year-round use by some 4,000 people in 1986. Throughout its history the canal has been a popular site for boating and fishing, and its banks are frequented by joggers and walkers. The Ala Wai Canal has been considered "one of the best courses for crew races in the U.S." and has been used by visiting crew's for training, including the Yale Olympic crew on their way to the games in Melbourne, Australia in 1956. The canal is used regularly by local outrigger canoe clubs, and has been for many years. Until the 1970s numerous commercial boating operations operated along the Ala Wai. For many years fishing has been a popular activity along the banks of the Ala Wai; archival photos show fishermen's perches lining the sides of the canal. Today the perches are gone, though it is not uncommon to see people hanging a line into the Ala Wai's murky waters.

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The Ala Wai Canal
Honolulu County, HI

Description (continued)

The Ala Wai Canal provides an important aesthetic dimension to the Waikiki neighborhood with its open space and tranquil waters. While the land surrounding the Ala Wai has undergone incredible change in the last 71 years, the environment at the canal has remained relatively constant.

Statement of Significance

The Ala Wai Canal is historically significant because of its pivotal role in the development of the Waikiki district, first as a residential neighborhood and soon after as a world-renowned resort area. The reclamation project in Waikiki, made possible by the dredging of the Ala Wai Canal, made a significant contribution to the eventual development of the State's tourism-based economy. Without the reclamation of wetlands and fishponds in Waikiki used for agriculture and aquaculture farming through 1920, Waikiki as we know it today, with its 75,000 visitors a day and the \$70 million in property taxes it generates for the city, would not have been possible. The structure, which the original proposer of the canal, Lucius E. Pinkham envisioned as a great lagoon to be used for boating and recreational purposes, remains in the midst of so much change, relatively unchanged, and continues to be used regularly used by paddlers and fishermen.

Historical Background and Significance:

Since the 1500s, "Waiaite" was the seat of government for Hawaiian royalty on the island of Oahu. From that time forward Waikiki was also a documented rich and productive agricultural region, until 1921 when construction of the Ala Wai Canal began. For centuries large *loko* (fishponds) and taro *lo'i* (terraces) were fed by the many springs that flowed in Waikiki (literally, "spouting waters") and amply supplied the native Hawaiians living in the area with food. Only in the 1830s and 40s, due to a severe drop in the native population brought on by the introduction of Western diseases, did the wetlands and fishponds fall into an unproductive state. By the late 1800s and early 1900s the wetlands were again fruitful, and native Hawaiian farmers were joined by immigrant farmers who grew rice in the Waikiki area to sell to immigrant workers on the plantations.

Even after 1809, when Kamehameha I moved his court to Honolulu, Waikiki continued to be a favored haunt of Hawaiian royalty. The area was also increasingly popular with the growing number of *haole* (foreigners) living in Honolulu toward the turn of the century. As Waikiki's popularity began to grow, the value of the area could not go unnoticed for long and the community began to develop and change. The wetlands (referred to by many as "swamp lands") could, in the eyes of many in Honolulu, be put to better use than raising ducks and growing rice - but only if the land could be "reclaimed" (filled in).

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Statement of Significance (continued)

Bath houses began to be established, the first in 1881. In 1903, the Honolulu Rapid Transit Company inaugurated a service between Honolulu and Waikiki, providing easier access to the area. By 1921, the year construction of the Ala Wai Canal began, five major hotels had been constructed in Waikiki. One project that had considerable influence was the reclamation of Fort DeRussy in the Waikiki area. In the first decade of the twentieth century, the U.S. Department of War acquired 73 acres of land in Waikiki; from 1909 to 1911 the Quartermaster Corps was assigned the task of filling "a portion of the fish ponds which covered most of the fort (Fort DeRussy)." This was the first reclamation of land in the area.

Increased public concern over the mosquito problem and the potential spread of contagious and infectious diseases in Hawaii was one of the most important factors leading to the construction of the Ala Wai and the Waikiki Reclamation Project. The mosquito was accidentally introduced to Hawaii in 1826, and the Waikiki wetlands provided an ideal breeding ground for these insects. In 1909 W. C. Hodby, chief quarantine officer of the U.S. Public Health and Marine-Hospital Service, published a report entitled "The Outlook for Quarantinable Diseases in the Territory of Hawaii." In it he urged a "relentless and unceasing war against mosquitoes..." The Sanitary Commission, created by the Legislature in 1911 to address increasing concern over the danger of contagious and infectious disease introduced in Hawaii, reported that "certain swamps and low lands must be filled in order to protect our public health." With the construction of the Ala Wai Canal the mosquito-breeding wetlands were drained and filled, eliminating what many considered to be a potentially serious health hazard.

One final factor that led to the construction of the canal was the concern over the draining of wetlands on to the shores of Waikiki's beaches, at a time when bathing was becoming increasingly popular and there were a growing number of visitors to Hawaii's beaches. The proposed drainage canal would carry the runoff away from the Waikiki beaches.

The original proposal to build the Ala Wai Canal was put forward in 1906 by Lucius E. Pinkham, then president of the Board of Health of the Territory of Hawaii. In a report to the board, Pinkham recommended the reclamation of the Waikiki district of the city of Honolulu, proclaiming that the lands in Waikiki were in a deleterious and unsanitary condition. He proposed to fill in what he termed swamp lands to create an "attractive and charming" residential neighborhood. This reclamation of 625 acres would be accomplished by the construction of a "great lagoon" that would yield the necessary fill material and "create a quite marvelously beautiful, unique district, a Venice in the midst of the Pacific." He envisaged that the canal would be used for boating, providing an ideal course for racing. Thus while the canal would serve a recreational purpose upon its completion, the primary reason for its construction was to provide the necessary fill for adjacent lands and to drain runoff from the Manoa, Makiki and Palolo valleys away from Waikiki's beaches. While the proposal was shelved

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Honolulu County, HI

Statement of Significance (continued)

for a number of years, upon his appointment as governor of the Territory by then-president Woodrow Wilson in 1913, Pinkham devoted much of the energy of his four-year term to the implementation of his Waikiki plan.

In 1917 under Act 102, S.L. 1917, \$5,000 was appropriated to the Superintendent of Public Works to do a complete survey, map and plans for the area in Honolulu "between King Street and the sea beach, and between Kapahulu road and Sheridan street." This would become the complete area of the reclamation project in the 1920s.

Also in 1917, Act 231 was passed authorizing Governor Pinkham to appoint a commission to devise a plan for the reclamation and improvement of this area of land. The plan was to include a "main lagoon or canal" for drainage and "to receive and take care of the natural flood waters of said area."

Under Governor Pinkham, the legislature appropriated \$100,000 for the excavation of the canal and passed Act 14, S.L. 1918 authorizing the Superintendent of Public Works to "acquire for public use, by condemnation, purchase, exchange or otherwise, all necessary lands and rights of way for the purpose of digging and constructing a portion of the drainage canal or lagoon..." Many of the lands in Waikiki were acquired by a practice of land condemnation. Under a 1896 law, Act 61, the Territory of Hawaii's Board of Health could judge whether any land was unsanitary and require the owners to take the necessary steps to improve the land. This usually meant filling the land. While this practice was no great hardship for property owners who were interested in developing their land for residential or commercial purposes, for wetland farmers it essentially meant the eradication of their livelihood. In addition, if under the law land owners were financially unable to fill the land, or unwilling, the government could undertake the improvement and cover the cost through a lien placed on the property. Through this process many wetland farmers in Waikiki lost their land and livelihood.

By June 1920, 85 percent of the land required for the building of the canal had been acquired and bids to dredge the canal were solicited. In December 1920, Lyman Bigelow, Superintendent of Public Works advertised for bids in the Honolulu Star-Bulletin. On December 23, 1920 the bids were opened and the contract for the project was awarded to the Hawaiian Dredging Company, owned by Walter F. Dillingham. Dillingham's bid was one of only two bids received by the Territory for the project.

In the same year under Act 220, S.L. 1921 a resolution was issued on October 14 declaring construction of the Waikiki Drainage Canal "necessary for the proper drainage and sanitation" of Waikiki and appropriating \$600,000 for the canal. Act 221 confirmed the boundaries of the reclamation project and provided for a commission to plan for boulevards, streets and parks within the district.

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Statement of Significance (continued)

Two contracts were negotiated between the Territory of Hawaii and Hawaiian Dredging Company to contract for the construction of the canal. Unit 1, Job No. 2979 entitled, "Proposal for Dredging a Drainage Canal and Filling and Reclaiming Certain Unsanitary Lands at Waikiki" was the primary agreement which consisted of dredging a canal 60 feet wide some two miles inland from the "sea beach at Ala Moana Road up to and intercepting the Apuakehau Stream" and called for the construction of "a dyke 6 feet high and 10 feet wide at the top along the entire makai (south) side of this Canal." The contract for Unit 2, Job No. 2986, the "Second Unit of the Waikiki Reclamation and Sanitation Project at Waikiki" called for a canal to be dredged "from the sea beach at Ala Moana Road to a point about 500 feet toward the reef."

Construction was begun in 1921, and by January of 1922 Hawaiian Dredging Company had completed the first phase of the project, Unit 2, and was beginning work on Unit 1, Contract 2979. The hydraulic dredge "Kewalo" was used by Hawaiian Dredging Company to dredge the canal. Because of the size of the dredge it could not successfully operate in a width of 60 feet so the canal had to be cut to an approximate width of 150 feet.

By mid-1923 the "Kewalo" had cut its way almost 6,500 feet towards Kapahulu Road, cutting a channel approximately 135 feet wide and 10-20 feet deep. The Superintendent of Public Works, Lyman H. Bigelow, reported that the canal "has now intercepted Apuakehau Stream which flowed by the Outrigger Club and all the filthy waters which previously flowed on to this fine swimming beach have been diverted and now flow out to the sea by way of the canal."

By mid-1924 the canal was 150 feet wide and had been dredged "its entire length" to Kapahulu Road. In his annual report to the Governor in 1924, Bigelow stated that the canal had been excavated its entire length ending at Kapahulu Road. Due to a lack of funds the Diamond Head end of the canal, called for in Lucius Pinkham's original proposal, was put on hold until "some later date, when funds are made available." Pinkham had recommended that the canal should exit back out to the ocean at Kapiolani Park, with tides gates at the both entrances to be closed at high tide and "the waters thus forced through the lagoon to exit at the Ala Moana bridge." This portion of the canal was in fact never completed, though in 1967 the local Rotary club and other civic groups brought the idea up again - with no success.

In order to provide the additional fill material necessary to bring the Waikiki Reclamation Project to completion Act 248, S.L. 1923 was passed authorizing the widening of the canal by 100 feet.

The canal acquired its name in 1925 when the City Planning Commission requested that citizens of Honolulu submit suitable names for the renaming of the Waikiki drainage canal. Jennie Wilson, wife of Mayor Wilson, suggested the name Ala Wai, Hawaiian for "waterway."

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Statement of Significance (continued)

The "Kewalo" headed back to McCully Street to begin dredging fill for the McCully tract, a vast area of pondfields and fishponds. By mid-1927 the filling of the McCully tract was completed and the canal was 250 feet wide almost to Kapahulu Road.

In 1928 the "Kewalo" exited the canal in and the construction of the Ala Wai was thus completed. That same year a supplement in the Honolulu Advertiser noted the dramatic increase in the value of land. According to V. Von Holt, president of the realty company Whitney & Von Holt, Ltd., land values had gone from \$500 an acre for a piece of agricultural property prior to the construction of the canal to up to \$4 a square foot for business property in 1928. With a great increase in available property, numerous residential development projects were undertaken in Waikiki. The number of visitors was also on the rise since the beginning of the reclamation project. Between 1921 and 1927, the number of visitors to Waikiki doubled from 8,000 to 17,451 according to the Hawaii Visitors Bureau. In addition, in 1927 a total of 19,567 "one-day tourists" visited Hawaii's beaches as they travelled on cruise ships stopping in the islands. This same year the visitor's bureau launched its largest ever campaign to promote Hawaii and "put Waikiki and other attractions of the islands on the resort map," aggressively promoting Hawaii's "third industry" - tourism. Today tourism is the state's number one industry and Waikiki is at its core.

The Ala Wai Canal easily merits inclusion on the National Register of Historic Places, for local and state significance. This project allowed Waikiki to be transformed from an agriculturally productive region to a tourist mecca, upon which the state's economy has become increasingly dependent. Today, Waikiki's 450 acres generate \$70 million in property taxes for the city annually, roughly one-third of the total property taxes received by the city. Property values in the region have skyrocketed, from an average of \$840 an acre in 1917 to \$22 million in 1990. Given the history of the reclamation project and resultant changes in the Waikiki district over the last 70 years, it is impossible not to conclude that the construction of the Ala Wai Canal has had a momentous impact on the development of the surrounding community and its economy, and on the economy of the entire state.

However, despite the significance of the structure, the building of the Ala Wai Canal and the reclamation project tells a sad story. The story is one in which many farmers lost their land and livelihood through a questionable practice of land condemnation and where a tranquil paradise, such as Waikiki was at the close of the 19th century, has been transformed into bustling, recreational playground with no sense of the history of the community from which it came. In fact the Ala Wai Canal is one of the only reminders of the spirit of Waikiki as it was in 1921.

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"Realtor Sees Big Growth At Waikiki." *Honolulu Advertiser*, October 17, 1928.

"She's Lady of Many Moods." *Honolulu Advertiser*, November 27, 1969.

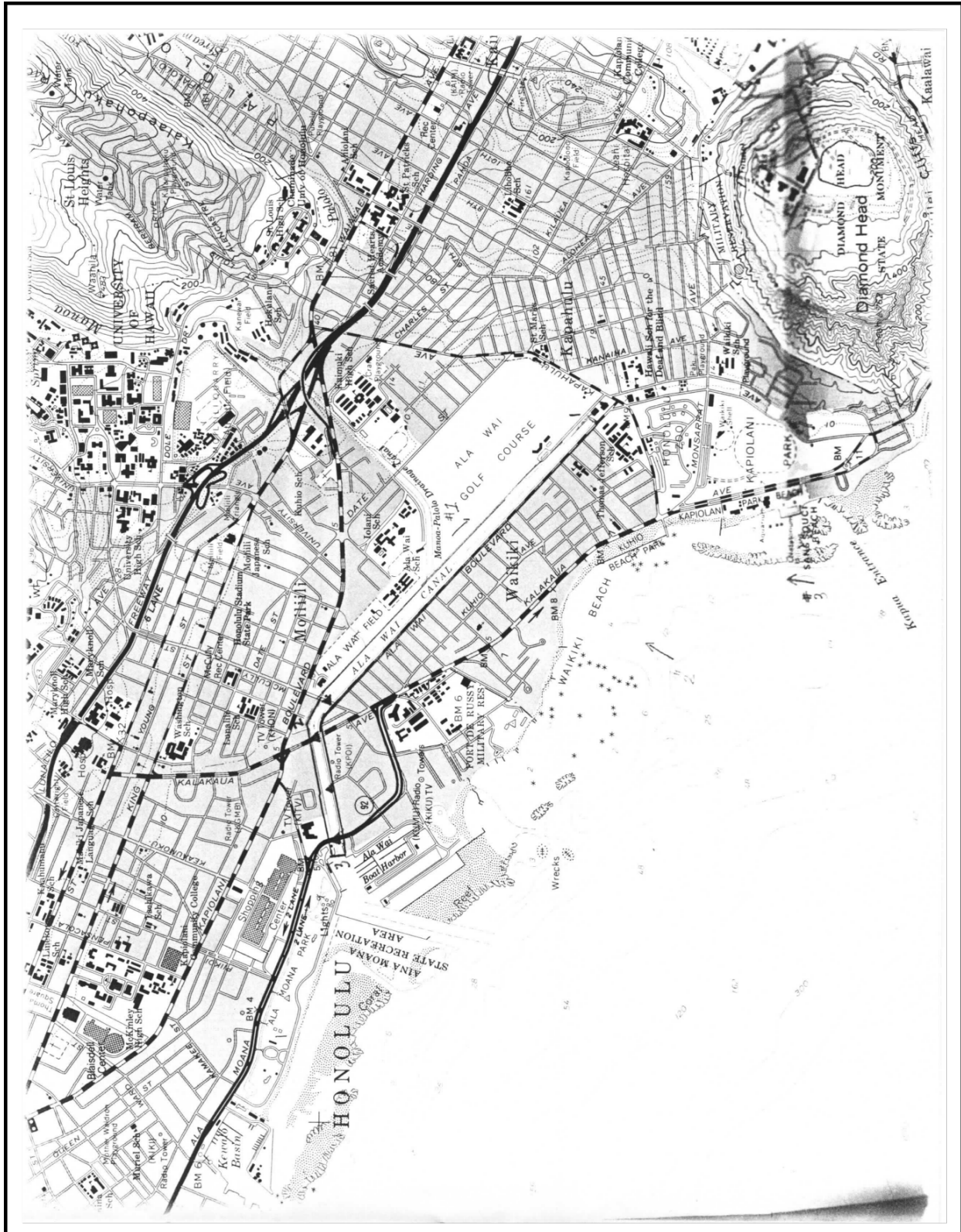
"Waikiki Magic Sends Lure World Over." *Honolulu Advertiser*, October 17, 1928.

Verbal Boundary Description

The boundary of the nominated property is delineated by the polygon whose vertices are marked by the following UTM reference points: 1) 03 623625/2353500, 2) 03 620500/2354875, 3) 03 620125/2354750.

Boundary Justification

The boundary of the nominated property includes the entire parcel of land historically associated with the canal ~~as well as the adjacent boulevards on the makai side of the canal.~~ This area makes up the recreational "water park" that is the Ala Wai Canal today.



Appendix D Hawaiian Canoe "Malia" NRHP

NPS Form 10-900
(Oct. 1990)

United States Department of the Interior
National Park Service

**National Register of Historic Places
Registration Form**

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

OMB No. 10024-0018

1. Name of Property

historic name Hawaiian Canoe Malia

other names/site number N/A

2. Location

street & number Southeast corner of Kapiolani Blvd and McCully St ☐ not for publication

city or town Honolulu ☐ vicinity

state Hawaii code HI county Honolulu code 003 zip code 96826

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this ☐ nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. I recommend that this property be considered significant ☐ nationally ☐ statewide ☐ locally. (☐ See continuation sheet for additional comments.)

Signature of certifying official/Title _____ Date _____

State or Federal agency and bureau _____

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. (☐ See continuation sheet for additional comments.)

Signature of certifying official/Title _____ Date _____

State or Federal agency and bureau _____

4. National Park Service Certification

I hereby certify that the property is:

<input type="checkbox"/> entered in the National Register. <input type="checkbox"/> See continuation sheet. <input type="checkbox"/> determined eligible for the National Register <input type="checkbox"/> See continuation sheet. <input type="checkbox"/> determined not eligible for the National Register. <input type="checkbox"/> removed from the National Register. <input type="checkbox"/> other, (explain): _____ 	<p>Signature of the Keeper _____ Date of Action _____</p> <p>_____</p> <p>_____</p> <p>_____</p>
---	--

Hawaiian Canoe Malia Name of Property		Honolulu, HI County and State																			
5. Classification																					
Ownership of Property (Check as many boxes as apply)	Category of Property (Check only one box)	Number of Resources within Property (Do not include previously listed resources in the count.)																			
<input checked="" type="checkbox"/> private <input type="checkbox"/> public-local <input type="checkbox"/> public-State <input type="checkbox"/> public-Federal	<input type="checkbox"/> building(s) <input type="checkbox"/> district <input type="checkbox"/> site <input checked="" type="checkbox"/> structure <input type="checkbox"/> object	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; text-align: left;">Contributing</th> <th style="width: 50%; text-align: left;">Noncontributing</th> <th></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td>buildings</td> </tr> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td>sites</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> <td>structures</td> </tr> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td>objects</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> <td>Total</td> </tr> </tbody> </table>		Contributing	Noncontributing		0	0	buildings	0	0	sites	1	0	structures	0	0	objects	1	0	Total
Contributing	Noncontributing																				
0	0	buildings																			
0	0	sites																			
1	0	structures																			
0	0	objects																			
1	0	Total																			
Name of related multiple property listing (Enter "N/A" if property is not part of a multiple property listing.)		Number of contributing resources previously listed in the National Register																			
N/A		0																			
6. Function or Use																					
Historic Functions (Enter categories from instructions)		Current Functions (Enter categories from instructions)																			
RECREATION AND CULTURE TRANSPORTATION/water-related		RECREATION AND CULTURE TRANSPORTATION/water-related																			
7. Description																					
Architectural Classification (Enter categories from instructions)		Materials (Enter categories from instructions)																			
Other: Hawaiian dugout canoe		foundation walls roof other WOOD / log																			
Narrative Description (Describe the historic and current condition of the property on one or more continuation sheets.)																					

<p>Hawaiian Canoe <u>Malia</u></p> <p>Name of Property</p>	<p>Honolulu, HI</p> <p>County and State</p>
<p>8. Statement of Significance</p>	
<p>Applicable National Register Criteria (Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)</p> <p><input checked="" type="checkbox"/> A Property is associated with events that have made a significant contribution to the broad patterns of our history.</p> <p><input type="checkbox"/> B Property is associated with the lives of persons significant in our past.</p> <p><input checked="" type="checkbox"/> C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.</p> <p><input type="checkbox"/> D Property has yielded, or is likely to yield, information important in prehistory or history.</p>	<p>Areas of Significance (Enter categories from instructions)</p> <p>ENTERTAINMENT/RECREATIONAL</p> <p>ETHNIC HERITAGE/Pacific Islander</p> <p>ARCHITECTURE</p>
<p>Criteria Considerations (Mark "x" in all the boxes that apply.)</p> <p>Property is:</p> <p><input type="checkbox"/> A owned by a religious institution or used for religious purposes.</p> <p><input type="checkbox"/> B removed from its original location.</p> <p><input type="checkbox"/> C a birthplace or grave.</p> <p><input type="checkbox"/> D a cemetery.</p> <p><input type="checkbox"/> E a reconstructed building, object, or structure.</p> <p><input type="checkbox"/> F a commemorative property.</p> <p><input type="checkbox"/> G less than 50 years of age or achieved significance within the past 50 years.</p>	<p>Period of Significance 1933</p> <p>Significant Dates 1933</p> <p>Significant Person (Complete if Criterion B is marked above)</p> <p>N/A</p> <p>Cultural Affiliation N/A</p> <p>Architect/Builder Yamasaki, James Takeo</p>
<p>Narrative Statement of Significance (Explain the significance of the property on one or more continuation sheets.)</p>	
<p>9. Major Bibliographical References</p>	
<p>Bibliography (Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)</p>	
<p>Previous documentation on file (NPS):</p> <p><input type="checkbox"/> preliminary determination of individual listing (36 CFR 67) has been requested</p> <p><input type="checkbox"/> previously listed in the National Register</p> <p><input type="checkbox"/> previously determined eligible by the National Register</p> <p><input type="checkbox"/> designated a National Historic Landmark</p> <p><input type="checkbox"/> recorded by Historic American Buildings Survey # _____</p> <p><input type="checkbox"/> recorded by Historic American Engineering Record # _____</p>	<p>Primary location of additional data:</p> <p><input type="checkbox"/> State Historic Preservation Office</p> <p><input type="checkbox"/> Other State agency</p> <p><input type="checkbox"/> Federal agency</p> <p><input type="checkbox"/> Local government</p> <p><input type="checkbox"/> University</p> <p><input type="checkbox"/> Other</p> <p>Name of repository: _____</p>

Hawaiian Canoe <u>Malia</u>	Honolulu, HI
Name of Property	County and State

10. Geographical Data

Acreage of Property N/A

UTM References
(Place additional UTM references on a continuation sheet.)

1 <table border="1" style="display: inline-table; width: 100px; height: 20px; vertical-align: middle;"></table> Zone Easting Northing	3 <table border="1" style="display: inline-table; width: 100px; height: 20px; vertical-align: middle;"></table> Zone Easting Northing	4 <table border="1" style="display: inline-table; width: 100px; height: 20px; vertical-align: middle;"></table> Zone Easting Northing
2 <table border="1" style="display: inline-table; width: 100px; height: 20px; vertical-align: middle;"></table> Zone Easting Northing	<input type="checkbox"/> See continuation sheet	

Verbal Boundary Description
(Describe the boundaries of the property on a continuation sheet.)

Boundary Justification
(Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title Dorian Travers

organization _____ date April 28, 1993

street & number 1540 Magazine Street, B-5 telephone (808) 531-2989

city or town Honolulu state HI zip code 96822

Additional Documentation
Submit the following items with the completed form:

Continuation Sheets

Maps

A **USGS map** (7.5 or 15 minute series) indicating the property's location.

A **Sketch map** for historic districts and properties having large acreage or numerous resources.

Photographs

Representative **black and white photographs** of the property.

Additional items
(Check with the SHPO or FPO for any additional items)

Property Owner
(Complete this item at the request of SHPO or FPO.)

name Waikiki Surf Club, c/o Alice Froiseth President

street & number 791 Sunset Avenue telephone _____

city or town Honolulu state HI zip code 96816

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 *et seq.*).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reduction Projects (1024-0018), Washington, DC 20503.

NPS Form 10-900-a

OMB Approval No. 1024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number 7 & 8 Page 1

Hawaiian Canoe *Malia*
Honolulu, HI

Description

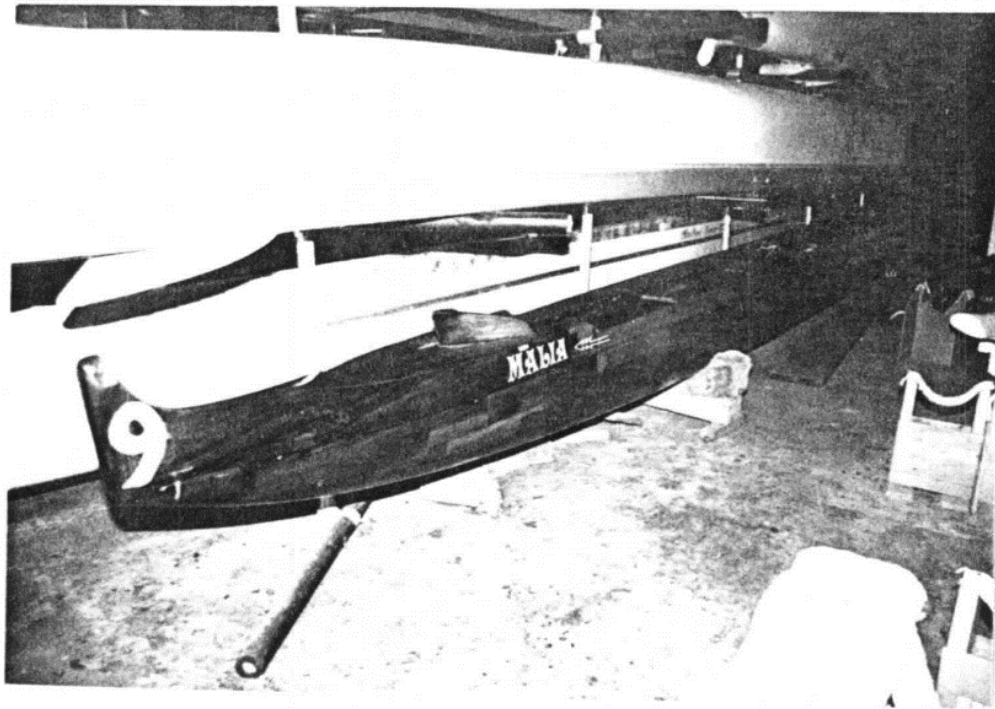
The *Malia* is a 6-man Hawaiian racing canoe hewn from a single koa (*Acacia koa*) log in 1933. When launched she measured 39'-2", but over time was modified twice. In 1950 she was lengthened to 39'-6", and in 1973 she was lengthened to her present racing measure of 40'-1" (her actual length between perpendiculars is 39'-3½"). Typical of Hawaiian racing canoes she is very sleek, has parallel gunwales, and has her greatest depth abaft the mid-section below the fourth seat—the normal being slightly farther forward—making her resistant to turning. Her hull averages 5/8" thick, her extreme width is 1'-8¼", and her maximum draft is 10". Standard for a koa dugout canoe are the numerous patches in her hull allowing for defects in the original log and repairs during her career.

The *Malia* is powered by paddles, and steered with a paddle. When rigged for racing she has two 8' hau wood (*Hibiscus tiliaceus*) 'iako (outrigger booms) lashed with soft-laid cotton line perpendicular to her hull. The 13'-6" ama or outrigger float is lashed to the outboard ends of the 'iako—parallel to the hull—and is made from wiliwili wood (*Erythrina sandwicensis*), a native Hawaiian leguminous tree.

She is in excellent, working condition and is well preserved—having been stored indoors in form fitting cradles.

Statement of Significance

The Hawaiian canoe *Malia* is historically significant for her considerable contribution to the Polynesian sport of open ocean canoe racing. She is also distinctive as an excellent representative of a Hawaiian dugout racing canoe, even to the point of being "considered by many today to represent the prototype of the modern Hawaiian racing canoe." (Holmes, 124)



NPS Form 10-900-a
(8-88)

OMB Approval No. 1024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Section number 10 Page 2

HAWAIIAN CANOE MALIA

UTM References

International 1909 Spheroid

04	620890	2354745
Zone	Easting	Northing

Appendix E Ala Wai Park Clubhouse NRHP

(Rev. 8-86)

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Registration Form**

This form is for use in nominating or requesting determinations of eligibility for individual properties or districts. See instructions in *Guidelines for Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, styles, materials, and areas of significance, enter only the categories and subcategories listed in the instructions. For additional space use continuation sheets (Form 10-900a). Type all entries.

1. Name of Property
 historic name ALA WAI PARK CLUBHOUSE
 other names/site number _____

2. Location
 street & number McCully Street and Kapiolani Boulevard ☐ not for publication
 city, town Honolulu ☐ vicinity
 state Hawaii code HI county Honolulu code 03 zip code NA

3. Classification

Ownership of Property	Category of Property	Number of Resources within Property	
<input type="checkbox"/> private	<input checked="" type="checkbox"/> building(s)	Contributing	Noncontributing
<input checked="" type="checkbox"/> public-local	<input type="checkbox"/> district	<u>1</u>	<u> </u> buildings
<input type="checkbox"/> public-State	<input checked="" type="checkbox"/> site	<u>1</u>	<u> </u> sites
<input type="checkbox"/> public-Federal	<input type="checkbox"/> structure	<u> </u>	<u> </u> structures
	<input type="checkbox"/> object	<u> </u>	<u> </u> objects
		<u>2</u>	<u> </u> Total

Name of related multiple property listing:
City & County of Honolulu Art Deco Parks & Playgrounds

Number of contributing resources previously listed in the National Register 0

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this
☐ nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.
 In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Signature of certifying official _____ Date _____
 State or Federal agency and bureau _____

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Signature of commenting or other official _____ Date _____
 State or Federal agency and bureau _____

5. National Park Service Certification
 I, hereby, certify that this property is:
☐ entered in the National Register.
☐ See continuation sheet.
☐ determined eligible for the National Register. ☐ See continuation sheet.
☐ determined not eligible for the National Register.
☐ removed from the National Register.
☐ other, (explain:) _____

Signature of the Keeper _____ Date of Action _____

6. Function or Use

Historic Functions	Current Functions
Recreation	Recreation

7. Description

Architectural Classification (enter categories from instructions)	Materials (enter categories from instructions)
Modern Movement	foundation NA
Art Deco	walls Brick
	roof Shingle
	other NA

Describe present and historic physical appearance.

The Ala Wai Clubhouse is situated at Kapiolani Boulevard and McCully Street on a 3.5 acre parcel which was first developed section of Ala Wai park. A coral rock wall encloses the park on the street sides. The wall dates from 1937; however, the McCully Street side was rebuilt in the 1960s following the widening of the street.

The main structure on this property is a single-story, painted brick clubhouse with a cedar shake shingle hipped roof. The low-pitched roof with its overhanging eaves and exposed rafters, dominates the structure. Other noteworthy features include curved entry walls, iron gates, and stylized canoe paddles.

This U-shaped building faces the Ala Wai Canal and its main body is a large central open space which may be used as a ballroom. This area is completely open on the south side and flows out into a lanai. A three foot high iron balustrade separates the open space from the lanai. The lanai is partially roofed with corrugated iron on the north, side and east wing. A scalloped brick wall separates the lanai from the canoe landing area.

The two wings of the building are enclosed and contain office, storage and kitchen spaces. Originally these were used to store the canoes. Hallways bisect the wings and provide access to the central open space from the surrounding paved parking lots. The only addition is a kitchen built by the Navy during World War II on the northwest side. It is in keeping with the scale and style of the original structure.

☐ See continuation sheet

☐ nationally
 ☐ statewide
 ☒ locally

Applicable National Register Criteria
 ☒ A
 ☐ B
 ☐ C
 ☐ D

Criteria Considerations (Exceptions)
 ☐ A
 ☐ B
 ☐ C
 ☐ D
 ☐ E
 ☐ F
 ☐ G

Areas of Significance (enter categories from instructions) <u>Recreation</u> <u>Architecture</u> 	Period of Significance <u>1937</u> 	Significant Dates <u>1937</u>
Cultural Affiliation <u>NA</u> 		
Significant Person <u>NA</u>	Architect/Builder <u>Harry Sims Bent</u>	

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

The Ala Wai Clubhouse is significant for its associations with the development of the City and County of Honolulu's parks in the 1930s as discussed under the context section of the multiple property documentation form. Similarly its architectural significance is covered in that form. In addition it is significant for its associations with canoeing.

The main building was constructed in 1937 as a clubhouse for the rowing clubs, who used the Ala Wai Canal as a practice grounds. This building is representative of the Honolulu Parks Board's architecture of the 1930s and is one of the major structures constructed by the Board during this decade. During World War II, the building was used as a Navy Officer's Club. In 1951 the Navy turned the property over to the City and County Parks Department, which converted the structure into a community clubhouse.

The history of canoeing goes far back into island tradition. During the 1930s the sport was in imminent danger of dying out, but with the construction of the clubhouse an immediate revival of interest in the sport was felt. The building is important to the community as a center for canoeing activities on the Ala Wai Canal, and still remains a focal point for this sport.

☐ See continuation sheet

Robert Weyeneth & Ann K. Yoklavich,
 "1930's Parks & Playgrounds in Honolulu:
 An Historical & ARchitectural Assessment"
 (Honolulu, 1987)

Previous documentation on file (NPS):

- ☐ preliminary determination of individual listing (36 CFR 67)
 has been requested
☐ previously listed in the National Register
☒ previously determined eligible by the National Register
☐ designated a National Historic Landmark
☐ recorded by Historic American Buildings
 Survey # _____
☐ recorded by Historic American Engineering
 Record # _____

☐ See continuation sheet

Primary location of additional data:

- ☒ State historic preservation office
☐ Other State agency
☐ Federal agency
☐ Local government
☐ University
☐ Other

Specify repository: _____

10. Geographical DataAcreage of property 3.5

UTM References

A
 Zone Easting Northing

B
 Zone Easting Northing

C

D

☐ See continuation sheet

Verbal Boundary Description

This nomination includes all the property owned by the City & County of
 Honolulu in 1988 as described by Tax Map Key 2-7-36:5

☐ See continuation sheet

Boundary Justification

This is the historic boundary of this property.

☐ See continuation sheet
11. Form Prepared By

name/title Don Hibbard, Director
 organization State Historic Preservation Office date 4/20/88
 street & number 1151 Punchbowl Street, Room 310 telephone 548-6408
 city or town Honolulu state Hawaii zip code 96813

Appendix F Mason Architects 2020





Table 1: Identification of Historic Properties			
Name/Address/TMK	Year Built	Evaluation of Significance (Applies to both 36 C FR §800.4 [c])/HAR §13-275-6) <i>Integrity Assessment*</i>	XXXXXXXXXX
XXXXXXXXXXXX			
Ala Wai Canal No TMK	1927	Eligible. While MASON does concur with the original 1990 listing (Hawai'i Register on July 17, 1992) under Criteria A (since at that time, the walls were not yet historic) this study recommends eligibility under both Criteria A and C in recognition that the mid-20 th century wall repairs/modifications have become historic in their own right, expressing local, traditional methods used within the Territory of Hawaii in that period. <i>Retains integrity of L, D, M, W, A. Integrity of setting and feeling are partly diminished because of changes to the setting/urban environment.</i>	 X
McCully Street Bridge No TMK	1959	Eligible. MASON agrees with the 2014 Hawaii State Historic Bridge Inventory evaluation, which evaluated the bridge as eligible under Criteria A and C. <i>Retains integrity of L,M,W,A. Integrity of design is diminished by the 1996 addition of a large concrete utilities chase structure along the Diamond Head outboard side of the bridge. Integrity of setting and feeling are diminished by changes to the surrounding area, and addition. Despite the addition and changes, it retains sufficient integrity for listing.</i>	 X
Ala Wai Community Park Property 2015-2021 Kapiolani Blvd. [1] 2-7-036: 001, 005 Includes: <i>Malia Koa Canoe</i>	1933	Eligible. MASON concurs with the 1993 listing of the canoe on the HRHP/NRHP under Criteria A and C. <i>An integrity assessment was not made since the canoe was not accessed within the locked building at the time of fieldwork. Integrity is unknown, but is assumed intact.</i>	 X
Ala Wai Clubhouse (Ala Wai Recreation Center)	1936	Eligible. MASON concurs with the listing of the Clubhouse on the Hawai'i Register June 9, 1988 as part of the Art Deco Parks Thematic Nomination (SIHP# 50-80-14-1388) under Criterion A. <i>Retains integrity of L,D,M,W,A. Retains partial integrity of setting and feeling, due to changes to the property and environment.</i>	 X










Table 1: Identification of Historic Properties			
Name/Address/TMK	Year Built	Evaluation of Significance (Applies to both 36 C FR §800.4 [c])/HAR §13-275-6) <i>Integrity Assessment*</i>	
Ala Wai Community Park	1936	Not eligible. Except for the area immediately surrounding the Clubhouse, as described in the Clubhouse nomination form, the remainder of the park does not have integrity. <i>Integrity: N/A</i>	
Ala Wai Neighborhood Park - South Comfort Station	1960	Eligible under Criterion C for its architectural distinctive design and materials, including its lava rock columns, wood shakes, copper-clad decorative ridge beam. <i>Retains integrity of L,D,M,W,F,A. Retains partial integrity of setting, due to changes to the environment and park setting.</i>	
North Comfort Station	Ca. 1969	Not eligible. While its overall layout is similar to the south comfort station, it does not exhibit the same distinctive materials, and is not architecturally notable. <i>Integrity: N/A</i>	
Ala Wai Community Park (Continued)			
Various Ballfield Improvements	Varies; post-1970	Not eligible. Some features are less than 50 years. Others have no known historic associations with important events, people, or design. <i>Integrity: N/A</i>	
University Halau	1988	Not eligible. Does not meet the exceptional importance threshold under National Register Criteria Consideration G. Properties less than 50 years in age are not eligible for listing on the HRHP. Note: One canoe housed within is listed on the HRHP/NRHP. See table entry for <i>Malia Koa Canoe</i> . <i>Integrity: N/A</i>	
Bike Path/Trail	Ca. 1990	Not eligible. Does not meet the exceptional importance threshold under National Register Criteria Consideration G. Properties less than 50 years in age are not eligible for listing on the HRHP. <i>Integrity: N/A</i>	
Ala Wai Plaza Condominium 500 University Ave. [1] 2-7-013: 002	1970	Eligible under Criterion C for its distinctive design by internationally acclaimed Argentine architect Cesar Pelli of DMJM. <i>Retains integrity of L,D,S,M,W,F,A. Overall the primary components of this tower are largely intact.</i>	




Table 1: Identification of Historic Properties					
Name/Address/TMK	Year Built	Evaluation of Significance (Applies to both 36 C FR §800.4 [c])/HAR §13-275-6) <i>Integrity Assessment*</i>			
Ala Wai Cove Condominium 509 University Ave. [1] 2-7-013: 011	1961	Not eligible. While it is one of the earlier tall buildings completed in Mō'ili'i, and is the work of local firm Anderson & Kubala, it does not exhibit any architecturally distinctive qualities that transcend the ordinary, nor does it have any notable associations with important persons or events. <i>Integrity: N/A</i>			
Ala Wai Elementary School 503 Kamoku St. [1] 2-7-036: 007	1954	Eligible under Criteria A as one of the many mid-century elementary schools developed in the Post-war period to meet the needs of the baby boom generation. (A more pristine and intact example of a finger-plan school would likely be eligible under Criterion C as well.) <i>Retains integrity of L,D,M,W,A. Due to changes over time with the expansion of the school with new buildings, and the surrounding environment, integrity of setting and feeling are diminished.</i>			
Waikiki-Kapahulu Library 402 Kapahulu Ave. [1] 2-6-036: 006	1952	Eligible under Criterion C as a quintessential 1950s Hawaiian-style modern building, the library is the work of master architect Cyril Lemmon. <i>Retains integrity of L,M,W and F. Aspects of design, setting and association are diminished somewhat due to changes to the building and surrounding environment over time, as well as loss of some library functions (performances in the auditorium).</i>			
Aston Coconut Plaza 450 Lewers [1] 2-6-017: 028	1966	Not eligible. While it does represent an era of extensive development in Waikiki, it does not exhibit any architecturally distinctive qualities that transcends the ordinary, nor does it have any known associations with important people or events. <i>Integrity: N/A</i>			
2169 Ala Wai Blvd. [1] 2-6-017: 034	2017	Not eligible. Does not meet the exceptional importance threshold under National Register Criteria Consideration G. Properties less than 50 years in age are not eligible for listing on the HRHP. <i>Integrity: N/A</i>			
















Table 1: Identification of Historic Properties			
Name/Address/TMK	Year Built	Evaluation of Significance (Applies to both 36 C FR §800.4 [c])/HAR §13-275-6) <i>Integrity Assessment*</i>	
2167 Ala Wai Blvd. [1] 2-6-017: 033	1934	Not eligible. Lacks integrity due to alterations. <i>Integrity: N/A</i>	
2163 Ala Wai Blvd. [1] 2-6-017: 025	1988	Not eligible. Does not meet the exceptional importance threshold under National Register Criteria Consideration G. Properties less than 50 years in age are not eligible for listing on the HRHP. <i>Integrity: N/A</i>	
2153 Ala Wai Blvd. [1] 2-6-017: 029	1949	Eligible under Criteria A and C as a late-International Style residential apartment in Waikiki as designed by noted architects Cyril Lemmon and Douglas Freeth (founders of today's AHL). <i>Retains integrity of L,D,M,W,F,A. Has partly diminished integrity of setting due to changes to the urban environment. The overall form, massing, and notable features such as its cantilevered concrete canopies, flat overhanging eaves, and the ladder to roof, are intact resulting in retained integrity of design, materials, and workmanship. Replaced features, such as garage door and railing extensions are easily removable, while others (such as the windows) do not conflict with the original design.</i>	
Rosalei Apartments 445 Kaiolu St. [1] 2-6-017: 004	1955	Eligible under Criteria A and C as Hawai'i's first high-rise cooperative apartment building. <i>Retains integrity of L,D,M,W,F,A. The overall tower retains its aspects of physical integrity, however its setting is diminished due to the increased urban development in Waikiki, particularly the construction of high-rises.</i>	
2121 Ala Wai Blvd. [1] 2-6-017: 003	Ca. 1976	Not eligible. Does not meet the exceptional importance threshold under National Register Criteria Consideration G. Properties less than 50 years in age are not eligible for listing on the HRHP. <i>Integrity: N/A</i>	




Table 1: Identification of Historic Properties			
Name/Address/TMK	Year Built	Evaluation of Significance (Applies to both 36 C FR §800.4 [c])/HAR §13-275-6) <i>Integrity Assessment*</i>	
2115 Ala Wai Blvd. Hale Moani [1] 2-6-017: 016	1972	Not eligible. Does not meet the exceptional importance threshold under National Register Criteria Consideration G. Properties less than 50 years in age are not eligible for listing on the HRHP. Should be re-evaluated when it reaches 50 years. <i>Integrity: N/A</i>	
2107 Ala Wai Blvd. [1] 2-6-017: 023 Includes: Single family residence	1937	Eligible under Criterion A as one of the few remaining examples of Waikiki's pre-war single-family residential development period, and under Criterion C for its distinctive wood-frame, board and batten construction. <i>Retains integrity of L,D,M,W,A. Due to drastic changes in the surrounding urban environment since its 1930s-era construction, it lacks integrity of setting and feeling. Despite its poor condition and boarded up windows, its overall physical form and features easily express its historic period, notable as a striking anachronism within the urban Waikiki environment.</i>	
3-story apartment	1960	Not eligible. As a 1960 duplex, it is associated with Waikiki's early residential history, however it lacks architectural distinction, and its integrity of feeling and association are compromised. <i>Integrity: N/A</i>	
2103 Ala Wai Blvd. [1] 2-6-017: 015	No date	Not eligible. (Vacant lot) <i>Integrity: N/A</i>	




Name/Address/TMK	Year Built	Evaluation of Significance (Applies to both 36 C FR §800.4 [c])/HAR §13-275-6) <i>Integrity Assessment*</i>	
441 Kālaïmoku St. [1] 2-6-017: 014 Includes: (441-443 Kālaïmoku) Duplex	1941	Eligible under Criterion A as one of the few remaining examples of Waikiki's war-era development that included duplex residences. <i>Retains integrity of L,D,F,A. Partly diminished integrity of setting due to modifications in the urban environment. Partly diminished integrity of materials and workmanship due to replacement of features such as the front door and select windows. Other critical character defining features (such as the Asian-motif balustrade, and the sliding corner windows) are intact.</i>	
(445 Kālaïmoku) 16-unit apartment Waikiki Palms	1959	Not eligible. Despite the apartment's bold original design, it is evaluated as not eligible for the Hawai'i and National Register due to a lack of integrity resulting from the removal of the distinctive railing that was the façade's most dominant design feature. <i>Integrity: N/A</i>	
2085 Ala Wai Blvd. Twin Towers [1] 2-6-016: 001 19-story, with 72 units in its twin towers	1967	Not eligible. While the property has a well-rendered design, it does not exhibit such architecturally distinctive qualities to transcend the ordinary, nor does it have any known associations with important people or events. <i>Integrity: N/A</i>	
2067 Ala Wai Blvd. Ala Wai Hale [1] 2-6-016: 038	1966	Not eligible. While associated with an era of extensive development in Waikiki, it does not exhibit sufficiently distinctive qualities, nor does it have notable associations with important people or events for listing on the HRHP/NRHP. <i>Integrity: N/A</i>	
2055 & 2061 Ala Wai Blvd. Ala Wai Garden Plaza 5 TMKs, [1] 2-6-016: 056 - 060	2009	Not eligible. Does not meet the exceptional importance threshold under National Register Criteria Consideration G. Properties less than 50 years in age are not eligible for listing on the HRHP. <i>Integrity: N/A</i>	

*Integrity assessments provided in the table include the abbreviations of the seven aspects of integrity:

L = Location

D = Design

S = Setting

M = Materials

W = Workmanship

F = Feeling

A = Association




Appendix D – Draft Cultural Impact Assessment



**DRAFT Cultural Impact Assessment Report for the Ala Wai Pedestrian Bridge Project
Waikiki Ahupua'a, Kona District, O'ahu Island**

**TMKs: [1] 2-6-016:001, -038, -056, -060; [1] 2-6-017:003, -004, -014, -016, -023, -025,
-028, -029, -033, -034; [1] 2-7-013:002, -011; [1] 2-7-036:001, -005, -007**

Prepared for



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NOTE ON HAWAIIAN LANGUAGE USAGE

In keeping with other Hawaiian scholars, we do not italicize Hawaiian words. Hawaiian is both the native language of the pae‘āina of Hawai‘i and an official language of the State of Hawai‘i. Some authors will leave Hawaiian words italicized if part of a quote; we do not. In the narrative, we use diacritical markings to assist our readers, except in direct quotes, in which we keep the markings used in the original text. We provide translations contextually when appropriate.

FRONT COVER CREDIT

Brother Gabriel Bertram Bellinghausen

1883-1903. Pond Lillies at ‘Āinahau, Waikīki, Island of O‘ahu, Brother Bertram Collection, Saint Louis College and Chaminade University.

ABSTRACT

The City and County of Honolulu (City) proposes to utilize funds from Federal-Aid Project No. TAP-0300(159), administered by the U.S. Federal Highway Administration (FHWA), to complete the engineering, environmental documentation, and permitting for the Ala Wai Bridge Project. The proposed bridge will span the historic Ala Wai Canal, which was added to the Hawai'i Register of Historic Places in 1992. The project will connect Waikīkī, McCully and Mō'ili'ili neighborhoods, businesses, parks, schools and recreational activities.

The primary purposes of the project include improving pedestrian and bicycle access across the Ala Wai Canal between Ala Moana Boulevard and the Mānoa/Palolo Stream, improving multimodal network connectivity, and enhancing public safety for people walking and bicycling. The secondary purposes are to assure comfortable, sustainable mobility options that enhance economic vitality, environmental health, and social equity. The proposed bridge is in support of numerous regional and area plans that have been developed in the last two decades, particularly fulfilling part of the broader Honolulu Complete Streets Program, which implements projects to improve safety, accessibility, and comfort for all people walking, bicycling, accessing transit, and driving.

The federal share of project funding is 80 percent and the City and County of Honolulu is providing a required 20 percent match. The project is currently programmed in the Oahu Metropolitan Planning Organization (OahuMPO) Transportation Improvement Program for federal fiscal years 2020, 2021, 2022, 2023, and 2024.

Research in preparation of this report consisted of a thorough search of Hawaiian language documents, including the Bishop Museum mele index and archival documents such as the Hawaiian language archival caché. All Hawaiian language documents were reviewed by Hawaiian language experts to search for relevant information for inclusion in the report. Documents considered relevant to this analysis and translations are provided when appropriate to the discussion. Summaries of interviews are also provided herein.

Based on the information gathered and the assessment of the resources conducted, the project may have an adverse impact on canoe paddling activities that take place within or near the project area and on the Ala Wai Canal. There may also be an adverse effect on paddling and cultural activities associated with the outrigger canoe *Malia*. Mitigation measures, conditions, and best management practices (BMPs) are recommended herein as feasible actions to be taken by the City to reasonably protect Native Hawaiian rights, traditions, customs, and practices associated with canoe paddling. There are no additional adverse impacts to other cultural resources, traditions, customs, or practices anticipated as a result of this project.

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ABBREVIATIONS AND ACRONYMS

A.B.C.F.M.: American Board of Christian Foreign Missions

ADA: Americans with Disabilities Act

APE: Area of Potential Effect

BMP: Best Management Practice

CEQ: Council on Environmental Quality

C.F.R.: Code of Federal Regulations

CIA: Cultural Impact Assessment

City: The City and County of Honolulu

DEA: Draft Environmental Assessment

DLNR: Department of Land and Natural Resources

DPR: Department of Parks and Recreation

DTS: Department of Transportation Services

EA: Environmental Assessment

EFH: Essential Fish Habitat

FHWA: U.S. Federal Highway Administration

FL: Fill Land

HAR: Hawaii Administrative Rules

HECO: Hawaiian Electric Company, Inc.

HRS: Hawaii Revised Statutes

JaC: Jaucas Sand

LRFI: Literature Review and Field Investigation

MBTA: Migratory Bird Treaty Act

NEPA: National Environmental Policy Act

NHPA: National Historic Preservation Act

NRHP: National Register of Historic Places

NOAA: National Oceanic and Atmospheric Administration

OHRCA: O'ahu Hawaiian Canoe Racing Association

O.R. & L. Co.: O'ahu Railway and Land Company

RLS: Reconnaissance Level Survey

ROI: Range of Influence

SIHP: State Inventory of Historic Places

SLH: Session Laws of Hawaii

TMK: Tax Map Key

USDA: U.S. Department of Agriculture

USGS: U.S. Geological Survey

USFWS: U.S. Fish and Wildlife Service

1. PROJECT DESCRIPTION

Consulting is preparing a Cultural Impact Assessment (CIA) for the Ala Wai Bridge Project. The City and County of Honolulu (City) proposes to utilize funds from Federal-Aid Project No. TAP-0300(159), administered by the U.S. Federal Highway Administration (FHWA), and in coordination with the Hawaii Department of Transportation (HDOT), to complete the engineering, environmental documentation, and permitting for the project. The proposed bridge will span the historic Ala Wai Canal, which was added to the Hawai'i Register of Historic Places in 1992. The purpose of the Ala Wai Bridge Project is to improve access for people travelling by foot or by bicycle across the Ala Wai Canal between Ala Moana Boulevard and the Manoa/Palolo Stream and to connect the Waikiki, McCully, and Moiliili neighborhoods, businesses, parks, schools, and recreational activities.

The federal share of project funding is 80 percent and the City is providing a required 20 percent match. The project is currently programmed in the O'ahu Metropolitan Planning Organization (OahuMPO) Transportation Improvement Program for federal fiscal years 2020, 2021, 2022, 2023, and 2024.

A draft environmental assessment (DEA) is being prepared per Hawaii Revised Statutes Chapter 343 and the National Environmental Policy Act (NEPA), that will provide an analysis of the benefits and anticipated effects of the proposed project on the environment and in the Waikiki ahupua'a in Kona moku and its adjacent communities.

The proposed design of the bridge is a cable-stayed design with an asymmetric configuration that utilizes a main pylon sited on the mauka side of the canal (Figure 1). Lighting would be incorporated on the bridge deck, cables, and bridge features itself. The tower would include facets designed to create shadows and reflect light based on the time of year and atmospheric condition. The proposed bridge would be approximately 20 feet wide to accommodate people walking and bicycling. Makai of the canal, the project would involve improvements on the Ala Wai Promenade to accommodate the makai ramp, which would be designed to meet Americans with Disabilities Act (ADA) guidelines. On the mauka end of the bridge, a 180-foot tower would straddle a cast-in-place deck that would cantilever over the water. The mauka ramp would require minimal excavation. The mauka ramp would involve tie-ins to the existing Ala Wai Neighborhood Park and existing pedestrian and bicycle path along the canal. Pedestrian and bicycle improvements would also be constructed between the mauka end of the bridge and University Avenue through the existing Ala Wai Neighborhood Park parking lot.

No permanent structures would be installed in the Ala Wai Canal. For construction of the bridge deck, two construction methods are being considered: precast method and a cast in

place method. The bridge deck would be constructed in a mauka-to-makai sequence and direction. For the precast method, flexifloat pontoon barges would be used to transfer precast deck panels from the staging area into position along the bridge alignment. . In order to stabilize the barges with the tide, two temporary spud columns would extend from the side of the barge down to the mud line of the canal. For the cast in place method, barges would not be needed and instead traveling formwork would be used along the bridge alignment to cast the deck in 20 foot lengths

Portions of the Ala Wai Neighborhood Park and parking lot would be temporarily closed during construction; however, the park facilities would remain open.

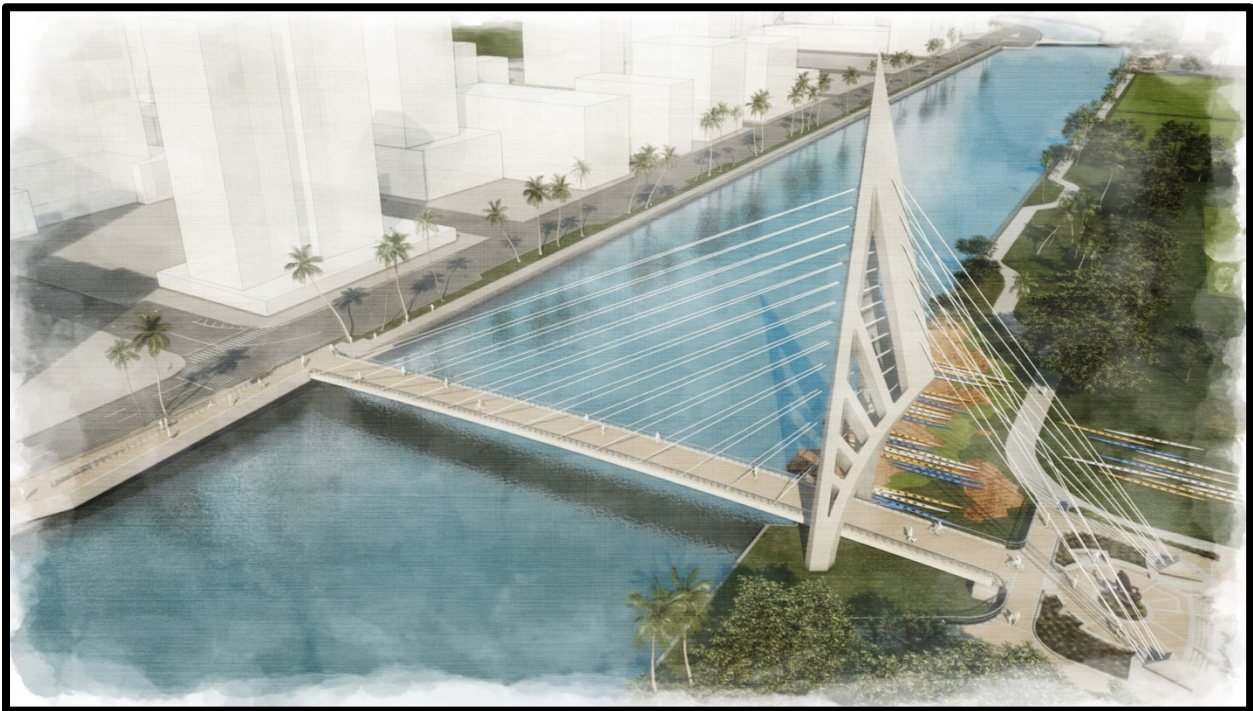


Figure 1. Aerial View of Proposed Bridge

After bridge construction is complete, the parking lot would be reopened and improved. The existing canoe hale would remain in place during construction; however, access would be limited due to the immediate construction area and safety concerns. Portions of the Ala Wai Canal would also be closed temporarily during bridge deck construction for safety reasons. Upon construction completion, the Canal would be reopened and the portions of the Ala Wai Neighborhood Park and parking areas that were disturbed would be restored and landscaped.

1.1 Purpose and Need

The overall purpose of the project is to improve access for people traveling by foot or by bicycle across the Ala Wai Canal between Ala Moana Boulevard and the Mānoa/Palolo Stream. The project's goal is to improve multimodal network connectivity and enhance

public safety for people walking and bicycling. The proposed bridge is in support of numerous regional and area plans that have been developed in the last two decades, particularly fulfilling part of the broader Honolulu Complete Streets Program, which implements projects to improve safety, accessibility, and comfort for all people walking, bicycling, accessing transit, and driving.

The project will provide safety from traffic, improve nonmotorized emergency evacuation and public safety, provide Complete Streets connectivity, improve travel time and convenience, and provide affordable access.

1.2 Needs and Benefits of the Proposed Action

1.2.1 Safety from Traffic

Travel time, safety, and convenience were the top three priorities cited by respondents to a 2018 origin-destination survey, regarding making the decision to walk or bicycle across the Ala Wai Canal (CCH 2018a). A history of collisions involving people walking and bicycling on and near existing canal crossings indicates the need for an additional safe, comfortable, convenient crossing of the canal that reduces the travel time and exposure for people walking and bicycling. Between 2012 and 2016, 17 car collisions involving people walking and bicycling were reported on the existing bridges (OahuMPO 2018). Survey respondents agreed that existing bridges over the canal are congested (79 percent) (CCH 2018a). Consistent with the Complete Streets Objective 1 to improve safety (CCH 2012), respondents who bicycle, walk, or ride scooters strongly agreed that the existing facilities are unsafe (76 percent), uncomfortable (65 percent), and out of the way (67 percent).

1.2.2 Improved Nonmotorized Emergency Evacuation and Public Safety

All existing evacuation routes out of Waikiki rely on three existing vehicle bridges (Ala Moana Boulevard, McCully Street, and Kalakaua Avenue) concentrated in the west end of the neighborhood and a narrow land connection to Kapahulu on the east end of the neighborhood. Waikiki hosts 32,000 regular employees and 4 million visitors annually. Evacuation options by foot and by bicycle for both residents and tourists are imperative in the event of a tsunami or emergency. A new walking and bicycling connection crossing the Ala Wai Canal can serve as an alternative evacuation route out of Waikiki in the event of an emergency. In addition, per the USACE's Ala Wai Canal Flood Risk Management Project, during future flood events the existing vehicle bridges over the Ala Wai may be impacted and may not be reliable, further reinforcing the need for a new, safe emergency evacuation route and bridge over the Ala Wai Canal (USACE 2017).

The Ala Wai Canal was constructed to serve as a drainage canal for the entire Ala Wai Watershed (approximately 1,358 acres). Therefore, the project must maintain the

effectiveness of the drainage and flood control system through keeping unobstructed flow. As a function of coordinating the proposed project with other currently planned projects on the Ala Wai Canal, CCH was made aware of the USACE Flood Risk Management Project for the Ala Wai Canal. In order to protect the lands adjacent to the canal from a catastrophic 100-year flood event, the USACE intends to enhance the canal's capacity in the future. To increase the canal capacity, the canal will be dredged to remove sediment deposits, and a combination of floodwalls and levees are being planned for both sides of the Ala Wai Canal as part of a separate USACE project. During the proposed project planning and coordination effort, the USACE advised CCH that the USACE's hydrology model would not be able to accommodate any physical structures in the canal. The USACE also provided CCH with a minimum 100-year flood water elevation of 11.3' mean sea level (msl) that the proposed bridge would need to clear vertically, in order to convey flood waters in the canal properly during a 100-year flood event. Based on these requirements from the USACE, the proposed project needs to clear span the Ala Wai Canal thereby avoiding any obstruction to the flow of flood waters through the drainage canal. Furthermore, incorporating the USACE's flood risk management requirements and sea level rise resiliency into the proposed project helps ensure the aforementioned nonmotorized evacuation outlet and public safety is maintained in the event of emergency.

1.2.3 Complete Streets Connectivity

The Ala Wai Canal was identified by the 2013 Waikiki Regional Circulator Study as a barrier in Honolulu's multimodal transportation network between McCully Street and Kapahulu Avenue. It decreases pedestrian and bicycle connectivity between the Waikiki and McCully-Moiliili neighborhoods. In line with the Complete Streets Objectives 3 and 4 to protect and promote accessibility and mobility for all and to balance the needs and comfort of all users (CCH 2012), over half of the survey respondents indicated "lack of connections" and "poor infrastructure" as barriers that prevented them from bicycling or walking more often across the canal (CCH 2018a).

1.2.4 Travel Time and Convenience

The 2018 survey (CCH 2018a) indicated that travel time and convenience are key factors influencing people's travel decisions: 75 percent of people responding to the survey identified travel time as a top travel priority, and 57 percent selected convenience.

The 2018 survey indicated that people walking and bicycling represent 65 percent of travelers who cross the canal most frequently (several times a day) (CCH 2018a). There is currently no direct connection for people walking and bicycling that would support Honolulu's progress toward the Complete Streets Objective 7, which encourages opportunities for physical activity (CCH 2012). Furthermore, the lack of comfort and convenience of active travel modes decreases public health because there is a limited

number of people walking and bicycling over the canal, which is in line with lower levels of physical activity, chronic disease, and obesity.

The areas within convenient walking and bicycling distances of central Waikiki, which the new crossing over the Ala Wai Canal would serve, host 96,000 residents, 87,000 employees, and 23,000 students (United States Census Bureau 2010). The appearance and experience of the canal plays a role in not only the quality of life of these surrounding areas but also in Waikiki's role as a world-class destination attracting 4 million visitors annually (Waikiki Business Improvement District Association 2010). Bolstering the economic vibrancy and environmental vitality of the Ala Wai Canal with quicker, attractive access to destinations and public spaces would enhance the canal as a regional destination.

1.2.7 Affordable Access

Upwards of 25 percent of Waikiki, McCully, and Moiliili residents do not own a car and regularly commute by means other than a private automobile (OahuMPO 2018). Additionally, these neighborhoods are home to relatively high proportions of transportation marginalized residents, with 17 percent of residents over 65 years of age and 7 percent of households living under the poverty level (United States Census Bureau 2010). In Hawaii, the poverty level for a family of three is \$23,900. With housing costs averaging 36 percent of income, and transportation costs accounting for 14 percent of income, many low-income Honolulu residents experience affordability challenges (Bureau of Labor Statistics 2020). Increasing the convenience and comfort of walking and bicycling for residents around the canal provides lower-cost transportation options for people who would benefit the most and are most likely to walk or bicycle.

2. NEED FOR A CULTURAL IMPACT ASSESSMENT

A DEA has been prepared to comply with both Hawaii Revised Statutes (HRS) Chapter 343 and the National Environmental Policy Act (NEPA) in determining whether or not the proposed action would have significant adverse effects on the human environment.

As stated above, the proposed action would be largely funded by FHWA; this federal funding subjects the project to the environmental review requirements of NEPA, prescribed under 40 Code of Federal Regulations (C.F.R.) Parts 1500 to 1508 (Council on Environmental Quality [CEQ]). FHWA serves as the lead federal agency, or administrator, responsible for the project's compliance with NEPA documentation and processing requirements, as provided in 23 C.F.R. Part 771, Environmental Impact and Related Procedures. The NEPA determination of impact significance is related to the type of document and process that would be required to comply with NEPA for a proposed project.

Under HRS Chapter 343, agency actions or government actions are carried out by the proposing agency. The proposing agency is responsible for preparing the environmental assessment (EA) and defining the reasons to support the determination on the EA. For the proposed action, the City's Department of Transportation Services (DTS) is the proposing agency.

2.1 Regulatory Background

Articles IX and XII of the State Constitution, other state laws, and the courts of the state require government agencies to protect and preserve cultural beliefs, practices, and resources of Native Hawaiians and other ethnic groups. To assist decision makers in the protection of cultural resources, Chapter 343, HRS and Hawaii Administrative Rules (HAR) § 11-200 rules for the environmental impact assessment process require project proponents to assess proposed actions for their potential impacts to cultural properties, practices, and beliefs.

This process was clarified by the Act 50, Session Laws of Hawaii (SLH) 2000. Act 50 recognized the importance of protecting Native Hawaiian cultural resources and required that EAs include the disclosure of the effects of a proposed action on the cultural practices of the community and state, and the Native Hawaiian community in particular. Specifically, the Environmental Council suggested the CIAs should include information relating to practices and beliefs of a particular cultural or ethnic group or groups. Such information may be obtained through public scoping, community meetings, ethnographic interviews, and oral histories.

It is important to note that while similar in their areas of studies, archaeological surveys and CIAs are concerned with distinct and different foci. Archaeological studies are primarily concerned with historic properties and tangible heritage, whereas CIAs look at cultural practices and beliefs, which can be associated with a specific location, but also often intangible in nature.

2.2 Compliance

The State and its agencies have an affirmative obligation to preserve and protect Native Hawaiians' customarily and traditionally exercised rights to the extent feasible.¹ State law further recognizes that the cultural landscapes provide living and valuable cultural resources where Native Hawaiians have and continue to exercise traditional and customary practices, including hunting, fishing, gathering, and religious practices. In *Ka Pa'akai*, the Hawai'i Supreme Court provided government agencies an analytical framework to ensure the protection and preservation of traditional and customary Native Hawaiian rights while reasonably accommodating competing private development interests. This is accomplished through:

- 1) The identification of valued cultural, historical, or natural resources in the project area, including the extent to which traditional and customary Native Hawaiian rights are exercised in the project area;
- 2) The extent to which those resources—including traditional and customary Native Hawaiian rights—will be affected or impaired by the proposed action; and
- 3) The feasible action, if any, to be taken to reasonably protect Native Hawaiian rights if they are found to exist.

The CIA was prepared under HRS Chapter 343 and Act 50 SLH 2000. The appropriate information concerning the ahupua'a of Waikiki has been collected, focusing on areas near or adjacent to the project area. A thorough analysis of this project and potential impacts to cultural resources, historical resources, and archaeological sites is included in this assessment.

The present analyses of archival documents, oral traditions (chants, mele (songs), and/or hula), and Hawaiian language sources including books, manuscripts, and newspaper articles, are focused on identifying recorded cultural and archaeological resources present on the landscape, including: Hawaiian and non-Hawaiian place names; landscape features (ridges, gulches, cinder cones); archaeological features (kuleana parcel walls, house platforms, shrines, heiau (places of worship), etc.); culturally significant areas (viewsheds, unmodified areas where gathering practices and/or rituals were performed); and significant biocultural

¹ Article XII, Section 7 of the Hawai'i State Constitution, *Ka Pa'akai O Ka 'Āina v. Land Use Commission*, 94 Haw. 31 [2000] (*Ka Pa'akai*), Act 50 SLH 2000.

resources. The information gathered through research helped to focus interview questions on specific features and elements within the project area.

Interviews with lineal and cultural descendants are instrumental in procuring information about the project area's transformation through time and changing uses. Interviews were conducted with recognized cultural experts and summaries of those interviews are included herein.

The DEA will provide an overview of cultural and historic resources in the project area using thorough literature review, community and cultural practitioner consultation, and high-level, project-specific surveys. The DEA will focus on identifying areas in which disturbance should be avoided or minimized to reduce impacts to historic properties or culturally important features. The paramount goal is to prevent impacts through avoidance of sensitive areas and mitigating for impacts only if avoidance is not possible.

Environmental factors potentially influencing the distribution of historic properties will also be evaluated in the DEA. The resulting data will be analyzed to develop a general settlement pattern model for the area that helps estimate the likely types and distribution of historic properties. The potential significance and required treatment of expected historic properties will also be summarized. The goal of this work is to develop recommendations to assist with future infrastructure planning that minimizes adverse effects upon historic properties.

The Range of Influence (ROI) for impacts to cultural resources and historic properties includes the project area and localized surroundings. This CIA also reviews some of the resources primarily covered by the DEA, archaeological literature review and field investigation (LRFI), and architectural reconnaissance level surveys (RLS). It primarily researches and reviews the range of biocultural resources identified through historical documents, traditional knowledge, information found in the Hawaiian language historical cache, and oral histories and knowledge collected from cultural practitioners and experts.

2.3 Coordination and Compliance with Section 106 of the National Historic Preservation Act

This report shall also support the project's obligations under the National Historic Preservation Act (NHPA), Section 106, 36 C.F.R. 800 et seq (Section 106). The City, in coordination with the FHWA – Hawai'i Division determined per Section 800.3(a) that the project is an undertaking as defined under Section 800.16(y), because the project is funded in whole or in part under the direct or indirect jurisdiction of FHWA and carried out with Federal financial assistance. The project is also in need of Federal approval.

The agencies further determined per Section 800.3(a) that due to the nature of the activities, the project involves a type of activity that has the potential to cause effects on historic properties. Per 800.3(b) the agencies are coordinating their Section 106 review with the overall planning schedule and other reviews required for the project.

This report serves to meet the agencies' obligations under Section 106 by supporting good faith efforts to identify historic properties that may be eligible for the National Register of Historic Properties (NRHP). This report shall complete the following:

- Consultation efforts as required under Section 106;
- Efforts to involve the public in the planning and consultation process;
- Good faith efforts to gather information from any Native Hawaiian organizations or other consulting parties to assist in identifying properites which may be of religious or cultural significance;
- Support the evaluations of historic significance to be conducted under the project's LRFI, to be conducted by Honua Consulting, and RLS, to be conducted by Mason Architects;
- Support the assessment of adverse effect determinations to be made by the agencies based on this CIA, the LRFI, and RLS.

2.4 Methodology

The approach to developing the CIA is as follows:

I. Gather Best Information Available

- A. Gather historic cultural information from stories and other oral histories about the affected area to provide cultural foundation for the report;
- B. Inventory as much information as can be identified about as many known cultural, historic, and natural resources, including previous archaeological inventory surveys, CIAs, etc. that may have been completed for the possible range of areas; and
- C. Update the information with interviews with cultural or lineal descendants or other knowledgeable cultural practitioners.

II. Identify Potential Impacts to Cultural Resources

III. Develop Reasonable Mitigation Measures to Reduce Potential Impacts

- A. Involve the community and cultural experts in developing culturally appropriate mitigation measures; and

- B. Develop specific Best Management Practices (BMPs), if any are required, for conducting the project in a culturally appropriate and/or sensitive manner as to mitigation and/or reduce any impacts to cultural practices and/or resources.

While numerous studies have been conducted on this area, very few have effectively utilized Hawaiian language resources and Hawaiian knowledge. This appears to have impacted modern understanding of this location, as many of the relevant documents are native testimonies given by k̄anaka (Hawaiians) who lived on this land.

Puakea Nogelmeier (2010) discusses the adverse impacts of methodology that fails to properly research and consider Hawaiian language resources. He strongly cautions against a monorhetorical approach that marginalizes important native voices and evidence from consideration, specifically in the field of archaeology. For this reason, Honua Consulting consciously employs a polyrhetoical approach, whereby all data, regardless of language, is researched and considered (Nogelmeier, 2010). To fail to access these millions of pages of information within the Hawaiian language ^{DRAFT} caché could arguably be a violation of Act 50, as such an approach would fundamentally fail to gather the best information available, especially considering the voluminous amount of historical accounts available for native tenants in the Hawaiian language.

3. DESCRIPTION OF PROJECT AREA AND AREA OF POTENTIAL EFFECT (APE)

Kona moku is divided into six ahupua'a (from east to west): Waikīkī, Honolulu, Kapālama, Kalihi, Kahauiki, and Moanalua (Figure 2). The project area is located within the coastal zone of Waikīkī in the area of Kālia, approximately 10 ft (3 m) above mean sea level. The project area is approximately 1,515 ft (462 km) mauka from Waikīkī Beach, which is the closest coastline along the southeast shore of O'ahu (Figure 3).

Waikīkī was once a place heavily inhabited by ali'i and people of royal lineages. After Mā'ilikūkahi became Mō'i (King) of O'ahu in the mid to late 1400s he moved his royal court from Waialua to Waikīkī and became the first ali'i (chief) to rule out of the Kona moku. This trend was kept by O'ahu ali'i and continued into the Kamehameha monarchy. According to Native Hawaiian historian and kahu ali'i (royal guardian in the family of a high chief), John Papa ʻĪʻi, Kamehameha I formerly dwelt part-time at Helumoa in Pua'ali'ili'i in Waikīkī in a house named Kuihelani where he helped to maintain the large gardens kept there. Kamehameha was known to be an active farmer throughout the Kona moku and had several homes kept near large farming projects. The Hawaiian monarchy ruled out of the Kona district, namely Waikīkī and throughout Honolulu, up to the overthrow of Queen Lili'uokalani in 1893. Queen Lili'uokalani had an estate and two homes in Waikīkī: Paoakalani and Kealohilani.

Before Kamehameha conquered O'ahu, Kahahana, the grandson of Kūali'i, ruled O'ahu as Mō'i. Kahahana was sacrificed by his hānai (adoptive) father and ali'i of Maui, Kahekili, in Waikīkī at Helumoa heiau in the late 1700s. Helumoa means chicken scratch which alludes to the nature of Helumoa heiau, a luakini heiau (sacrificial heiau). Chickens used to scratch at the earth where bodies were sacrificed in order to find maggots in the victim's bodies. Helumoa is also the name of an 'ili 'āina (small land section) within the ahupua'a of Waikīkī.

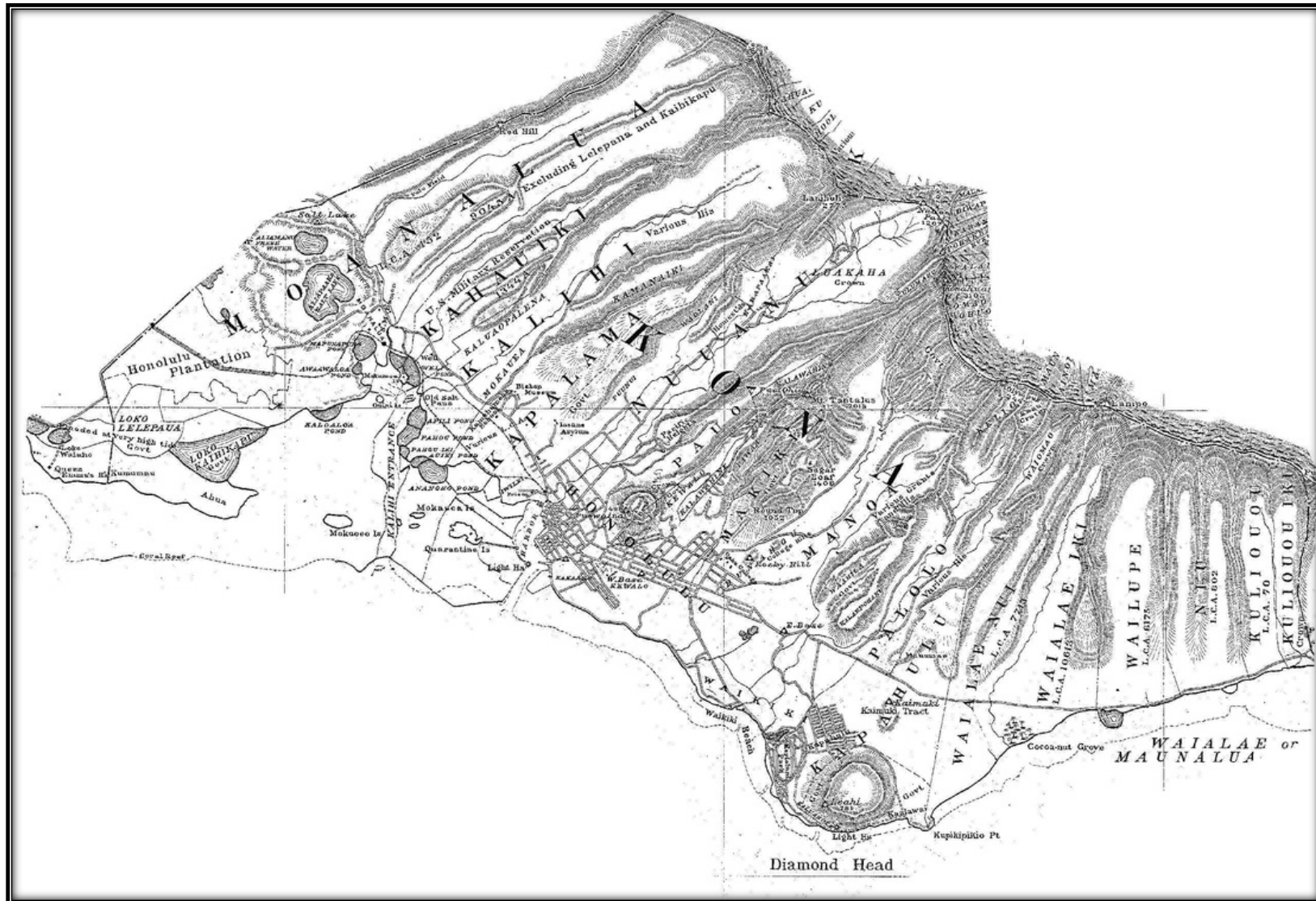


Figure 2. The ahupua'a within the moku of Kona, O'ahu (1902, Hawaii Government Survey Map #2374)

Description of Project Area and Area of Potential Effect

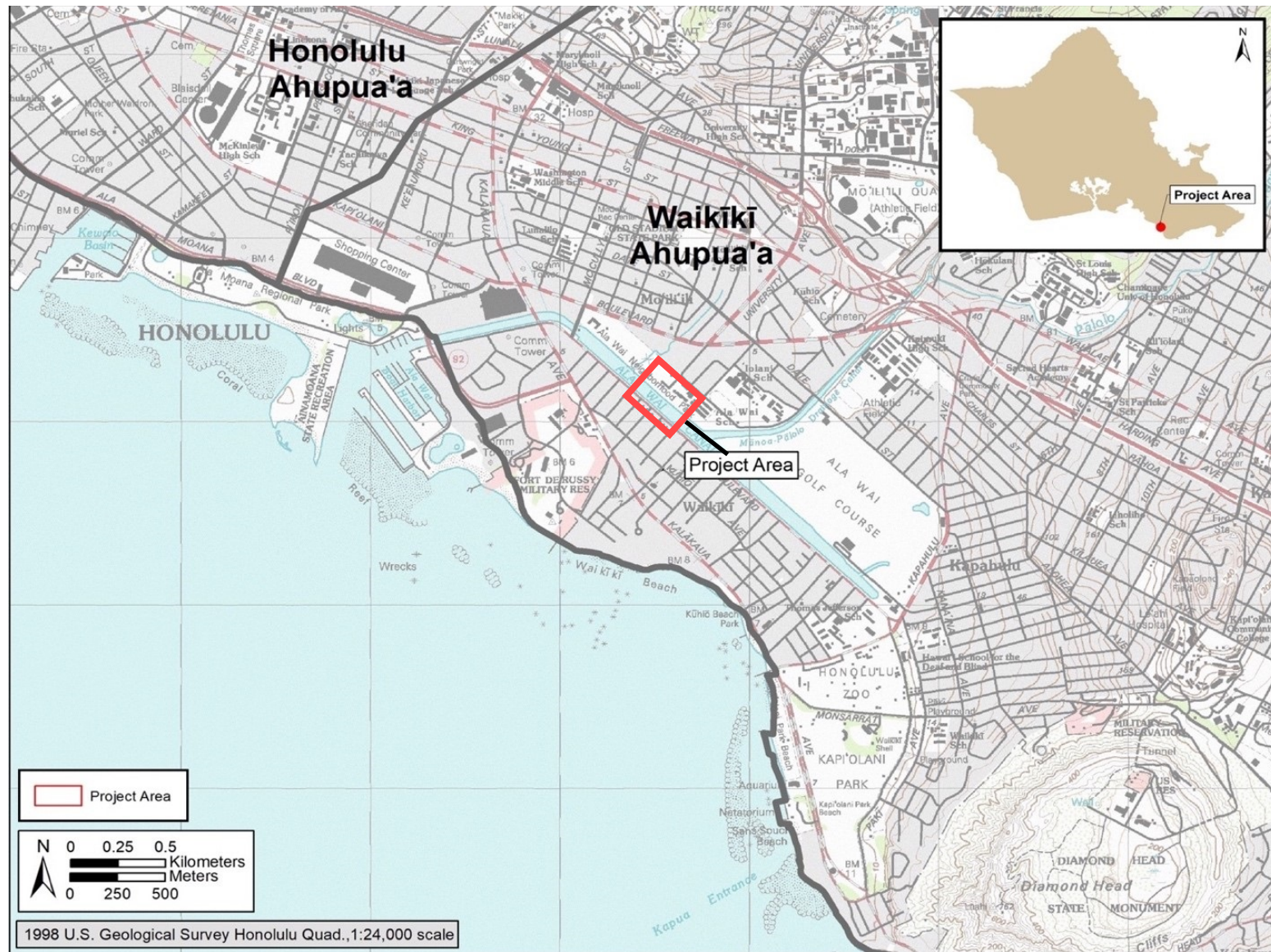


Figure 3. Portion of a 1998 Honolulu U.S. Geological Survey (USGS) Topographic Quadrangle Map, showing the location of the Project Area

3.1 Places Names of Waikīkī

The traditional knowledge imbedded in place names reveals the history of place, people, and the depth of their traditions. Although fragmented, the surviving place names describe a rich culture. On these lands are found many place names that have survived the passing of time. The occurrence of place names demonstrates the broad relationship of the natural landscape to the culture and practices of the Hawaiian people. In “A Gazetteer of the Territory of Hawaii,” Coulter observed that Hawaiians had place names for all manner of features, ranging from “outstanding cliffs” to what he described as “trivial land marks” (1935:10). In 1902, W.D. Alexander, former Surveyor General of the Kingdom (and later Government) of Hawai‘i, wrote an account of “Hawaiian Geographic Names.” Under the heading “Meaning of Hawaiian Geographic Names” he observed:

It is very difficult, if not impossible, to translate most of these names, on account of their great antiquity and the changes of which many of them have evidently undergone. It often happens that a word may be translated in different ways by dividing it differently. Many names of places in these islands are common to other groups of islands in the South Pacific, and were probably brought here with the earliest colonists. They have been used for centuries without any thought of their original meaning... (Alexander, 1902:395)

History further tells us that named locations were significant in past times and it has been observed that “Names would not have been given to [or remembered if they were] mere worthless pieces of topography” (Handy et al., 1972:412).

In ancient times, named localities served a variety of functions, telling people about: (1) places where the gods walked the earth and changed the lives of people for good or worse; (2) heiau or other features of ceremonial importance; (3) triangulation points such as ko‘a (ceremonial markers) for fishing grounds and fishing sites (4) residences and burial sites; (5) areas of planting; (6) water sources; (7) trails and trail side resting places (o‘io‘ina), such as a rock shelter or tree shaded spot; (8) the sources of particular natural resources/resource collections areas, or any number of other features; or (9) notable events which occurred at a given area. Through place names knowledge of the past and places of significance was handed down across countless generations. There is an extensive collection of native place names recorded in the mo‘olelo (traditions and historical accounts) published in Hawaiian newspapers.

Honua Consulting developed a list of 17 place names from the ahupua‘a of Waikīkī in the vicinity of the project area, which includes but is not limited to the following places and terms, to help guide research and analyses (Table 1). The development of this list stemmed

from extensive research into a wide range of documents related to the project area. At the time of the Māhele 'Āina, few kuleana land applications were submitted by native tenants. In many cases, land divisions would be referred to as both ahupua'a and 'ili, depending upon the document. It was also unclear from documents where land was identified as 'ili as to if the 'ili were simply a subdivision of larger ahupua'a or if they were 'ili kūpono, distinct land areas unto themselves. From the historical land records, there appeared to be little concern for specific boundaries, as foreigners, many of them missionaries who converted to businessmen, eagerly maneuvered their relationships with the new formalized government to acquire themselves strategically located parcels of land that proved valuable as new economy industries like sugar developed on O'ahu.

Table 1. Selected Place Names of Waikīkī Ahupua'a in Vicinity of the Project Area

Inoa 'Āina	Ahupua'a and Description
'Āpuakēhau	Waikīkī. Old stream near the present Moana Hotel, probably named for a rain. Cited in Pukui et al., 1974.
Hamohamo	Waikīkī. Area near 'Ōhua Avenue, once belonging to Queen Lili'uokalani. Cited in Pukui et al., 1974.
Helumoa	Waikīkī. Old land division near the Royal Hawaiian Hotel at Helumoa Street, and site of a heiau where Kahahana was sacrificed. Cited in Pukui et al., 1974.
Kaihikapu or Kalihikapu	Kālia-Waikīkī. An ancient fishpond, passed by the trail from Waikīkī to Honolulu. Cited in 'Ī'ī, 1959.
Kaipunui	Kālia-Waikīkī. Two adjoining fishponds. Cited in Jordan and Evermann, 1901.
Kālia	Waikīkī. An 'ili land of the coastal region of Waikīkī, noted for its numerous salt works and fishponds. "The trail from Kalia led to Kukuluaeo" ('Ī'ī, 1959). Cited in 'Ī'ī, 1959; Pukui et al., 1974; traditions and historical accounts, Māhele Claims 97 F.L., 100 F.L., 101 F.L., and 387; historical surveys; Register Map No.'s 111 and 1090.
Kaluahole	Waikīkī-Honolulu. Coast between Waikīkī and Black Point, Honolulu. Cited in Pukui et al., 1974.

Inoa 'Āina	Ahupua'a and Description
Kapu'uiki	Kālia-Waikīkī. A fishpond. Cited in Jordan and Evermann, 1901.
Kawehewehe	Waikīkī. Reef entrance and channel off Grey's Beach, just east of the Halekūlani Hotel. The sick were bathed here as treatment. The patient might wear a seaweed lei and leave it in the water as a request that his sins be forgiven, the lei being a symbol. Cited in Pukui et al., 1974.
Loko Ōpū	Waikīkī. A land area and dune banked pond claimed by Kamehameha V, situated between Malo'okahana and Miki. Cited in Register Map No. 1090.
Malo'okahana	Waikīkī. A land area adjoining Kālia, and also known as "Little Britain" in the historical period. Cited in Land records, historical accounts and surveys; Register Map No. 1090.
Miki	Waikīkī. A land area awarded to native historian, John Papa 'Ī'i. Cited in Māhele Claim 8241; historical accounts; Register Map No. 1090.
Pāweo	Kālia-Waikīkī. Two fishponds. Cited in Jordan and Evermann, 1901.
Pi'inaio	Waikīkī. Former stream to the west of Fort DeRussy. Cited in Bishop, 1881.
Pua'ali'ili'i	Waikīkī. Beach area at Waikīkī, Honolulu, approximately between 'Āpuakēhau and Helumoa. Kamehameha I's houses were here. Cited in Pukui et al., 1974.
Ulukou	Waikīkī. Where Moana Hotel is located. Cited in Pukui et al., 1974.
Uluniu	Waikīkī. Avenue in Waikīkī. Cited in Pukui et al., 1974.

3.2 Physical Environment

The project area was observed to be predominantly comprised of introduced grasses and trees during the pedestrian survey as a result of extensive commercial development; the proposed project will have no impact on endangered or native species.

The annual high temperature is 84.6°F (29.2°C) and the annual low temperature is 69.7°F (20.9°C), with an average temperature of 77.1°F (25.1°C) (NOAA, 2019). Annual precipitation is 22.35 inches (56.77 cm), where December is the wettest month with an average of 4.01 inches (10.19 cm) per month and June is the driest month with an average of 0.46 inches (1.17 cm) per month (NOAA, 2019).

3.2.1 Soil Composition

The project APE is located within the low-lying inland coastal zone of Waikīkī, approximately 2,000 ft (609.6 m) mauka (inland) of the Waikīkī Beach shoreline and at an elevation of approximately 0-8 ft. (0-2.4 m) above mean sea level. The average rainfall in this area is between 0.9 inches (22.6 millimeters) in December to 4 inches (101.4 mm) in July, with a mean of 25 inches (636 mm) per year (Giambelluca et al. 2013). Temperatures in this region typically range from 71 to 84 degrees Fahrenheit (U.S. Climate Data 2020). There is no natural vegetation present along the Ala Wai Canal. The natural soil of the project APE was likely originally wetland deposits overlying Jaucas sand which developed from natural erosion of the nearby coral reef. In some areas of Waikīkī the sand was naturally covered with alluvium washed down from the uplands. The land was drastically changed in the 1920s and early 1930s during construction of the Ala Wai Canal, the Ala Wai Community Park, and the Ala Wai Golf Course. Today, the Ala Wai Canal is used frequently by local canoe paddlers.

According to U.S. Soil Survey Data, the soils underlying the project APE largely consist of mixed fill land (FL) with a small portion of Kawaihapai Clay Loam (0-2% slopes, KIA) within the far eastern extent (Figure 4). Fill land “consists of areas filled with material from dredging, excavation from adjacent uplands, garbage, and bagasse and slurry from sugar mills” (Foote et al. 1972:31). Mixed fill land occurs in areas around Pearl Harbor and Honolulu, near the ocean, and typically are used for urban development.

The Kawaihapai soil series consists of well-drained soils in drainage ways and alluvial fans on coastal plains of O‘ahu and Moloka‘i (Foote et al. 1972:63). The soils were formed from basic igneous rock of the humid uplands that washed down slope as alluvium. They are typically level to moderately sloping and the natural vegetation includes guava (*Psidium guajava*), honohono (Hawaiian mint, *Haplostachys haplostachya*), kukui (*Aleurites moluccanus*), and hala (*Pandanus tectorius*). Kawaihapai Clay Loam, 0-2% slopes (KIA), is found on smooth slopes where permeability is moderate, runoff is slow, and the erosion hazard is no more than slight (Foot et al. 1972:64). This soil type is commonly used for sugarcane, truck crops, pasture and orchards.

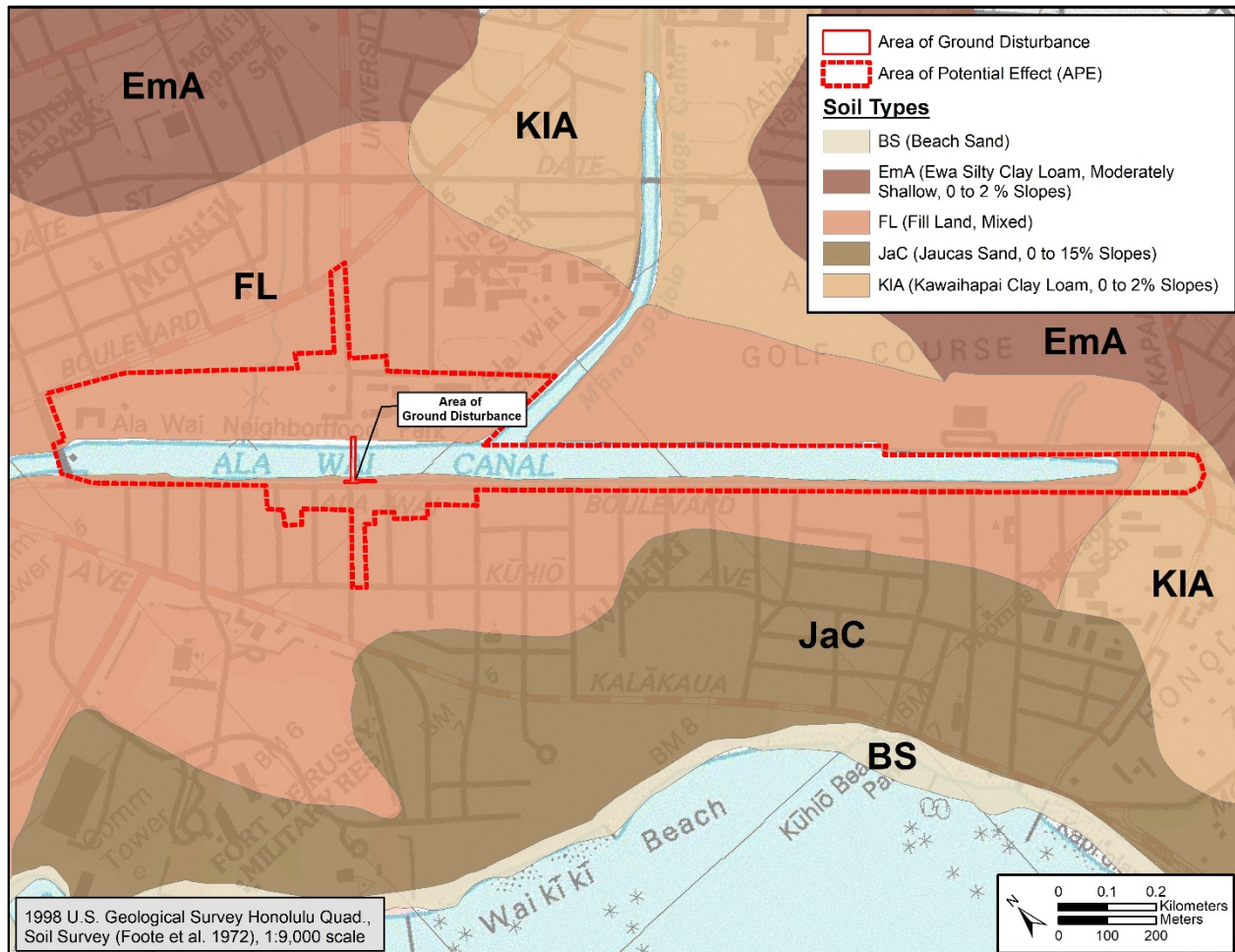


Figure 4. Portion of a 2013 USGS topographic map with soil series overlay showing anticipated soils within the project area (Foote et al. 1972)

3.2.2 Built Environment

The proposed project spans the Ala Wai Canal and is located on the Island of O'ahu in the City and County of Honolulu, district of Waikīkī. The Ala Wai Canal is a human-made waterway that forms the boundary of the Waikīkī district and is approximately two miles long. The canal separates Waikīkī from the Makiki, Mō'ili'ili, and Ala Moana neighborhoods. The project area is zoned Waikīkī Special District according to Honolulu zoning. The proposed alignment would span the canal, connecting to University Avenue mauka (inland) of the canal and Kalaimoku Street makai (seaward) of the canal (Figure 5).

The existing conditions along the makai side of the proposed alignment consist of the Ala Wai Canal promenade. The promenade is considered a part of the Ala Wai Boulevard right-of-way and is owned by the City. Maintenance along the promenade is performed by the Department of Facility Maintenance. Repairs and maintenance to the Ala Wai Canal wall are included in the ongoing State Department of Land and Natural Resources (DLNR) dredging

project. The promenade is frequented by pedestrians, commuters, and tourists, running from Kapahulu to Ala Moana. Along the promenade the available width is approximately 30 feet from the top edge of the canal wall to the outside edge of the existing bicycle lane.

The existing conditions along the mauka side of the proposed alignment consist of the Ala Wai Neighborhood Park and Ala Wai Elementary School. The Ala Wai Neighborhood Park is owned by DLNR and managed by the City's Department of Parks and Recreation (DPR). Within the Ala Wai Neighborhood Park, the Ala Wai Community Gardens, canoe clubhouse and launch ramps, bicycle path, and parking lot currently exist in the vicinity of the proposed mauka bridge landing. Park users include the community gardeners, paddlers, and school groups in addition to area residents and park visitors.

A map with the proposed project area of potential effect (APE) is provided herein (Figure 6). The proposed APE is approximately 91 acres and the boundaries include the bridge project site, temporary staging, contractor access, parking areas, the portion of the historic Ala Wai Canal that is within the view plane of the proposed bridge (a small portion which will be temporarily closed during construction), adjacent buildings (such as Ala Wai Elementary School), as well as individual properties on both side of the canal that are anticipated to have a prominent view of the new bridge. Additionally, the public right-of-ways at University Avenue and Kalaimoku Street have been included within the APE since they will have prominent views of the bridge infrastructure. Mason Architects compiled a table of the Tax Map Keys (TMKs) within the Ala Wai Bridge proposed APE (Table 2).

Description of Project Area and Area of Potential Effect



Figure 5. Project Area outlined in white dashes

Description of Project Area and Area of Potential Effect

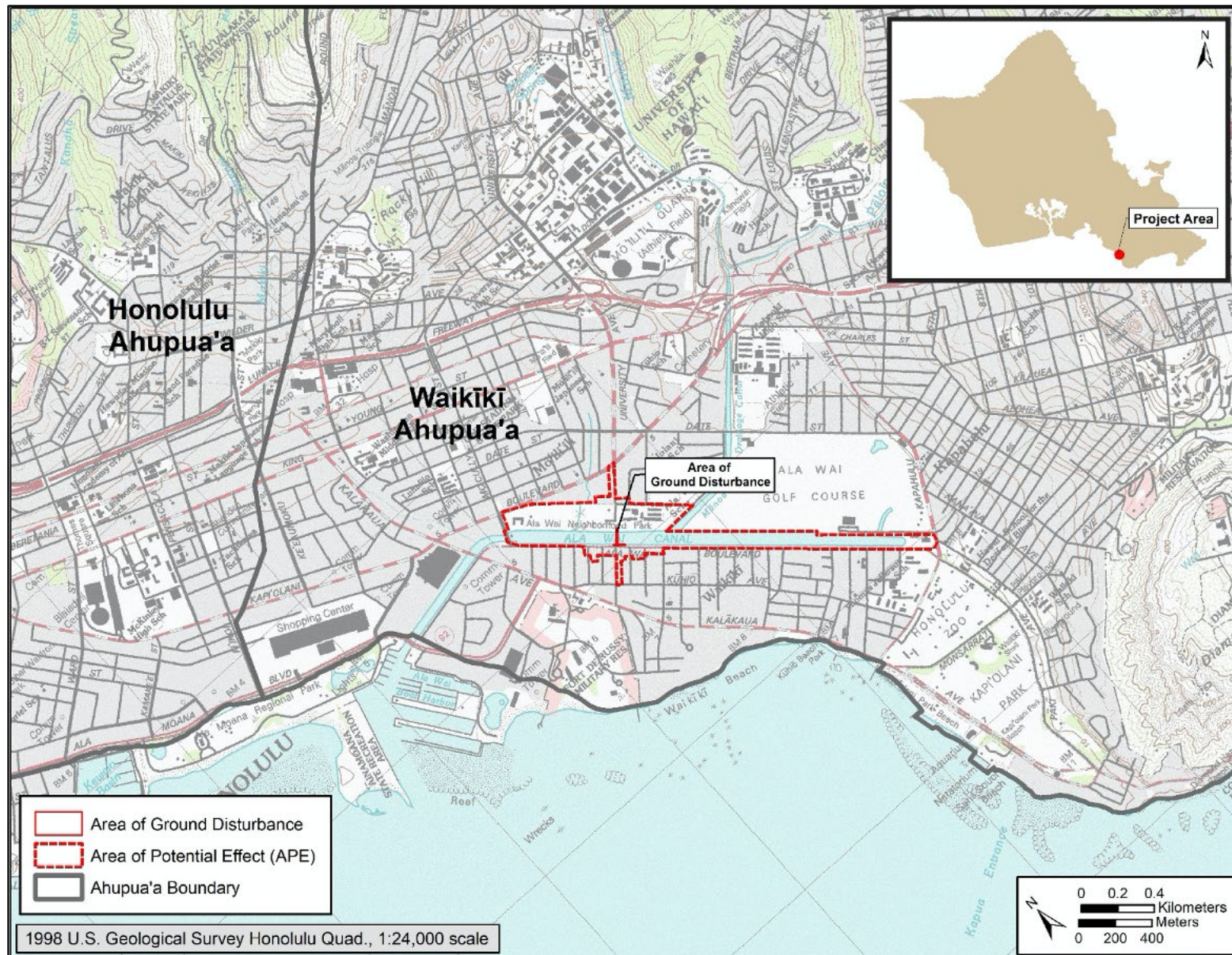

















Figure 6. Proposed Project APE

Table 2. *TMKs within the APE (as compiled by Mason Architects)*

Name/Address/TMK	Year Built	Photo
MAUKA BANK		
Ala Wai Canal (no TMK)	1921-1927	
McCully Street Bridge (no TMK)	1959	
Ala Wai Community Park 2015-2021 Kapiolani Blvd. [1] 2-7-036:005 [1] 2-7-036:001	1936	
Ala Wai Clubhouse at Ala Wai Community Park (Ala Wai Recreation Center) 2015 Kapiolani Blvd. [1] 2-7-036:005	1936	
Ala Wai Community Park North Lua [1] 2-7-036:001	Post-1968	
Ala Wai Community Park Ballfield Improvements [1] 2-7-036:001	Post-1968	
Ala Wai Community Park Trail [1] 2-7-036:001	Post-1968	
University Halau / Waikiki Surf Club/ <i>Malia</i> Koa Canoe [1] 2-7-036:001	1988	

Description of Project Area and Area of Potential Effect

Name/Address/TMK	Year Built	Photo
<i>Malia</i> Koa Canoe / University Halau [1] 2-7-036:001	1933	
Ala Wai Community Park South Lua [1] 2-7-036:001	Post-1968	
Ala Wai Plaza Condominium 500 University Ave. [1] 2-7-013:002	1970	
University Avenue south of Kapiolani Blvd. Public right-of-way viewplane (no TMK)	Ca. 1970	
Ala Wai Cove Condominium 509 University Ave. [1] 2-7-013:011	1961	
Ala Wai Elementary School 503 Kamoku St. [1] 2-7-036:007	1954	
Waikiki-Kapahulu Library 402 Kapahulu Ave. [1] 2-7-036:006	1952	

Name/Address/TMK	Year Built	Photo
MAKAI BANK (Entries progress westward from Waikiki Library to Kuamoo St.)		
Ala Wai Blvd. public right-of-way viewplane only facing northwest (no TMK)	1929	
Aston Coconut Plaza (Highrise) 450 Lewers St. [1] 2-6-017:028	1966 Effective year built 1996	
2169 Ala Wai Blvd. (single family) Lamber Lau Tr. [1] 2-6-017:034	2017	
2167 Ala Wai Blvd. (building 1 is 2-family; building 2 is single family) Lambert Lau Tr. [1] 2-6-017:033	1934 Effective year built 1984	
2163 Ala Wai Blvd. (single family) Lambert Lau Tr. [1] 2-6-017:025	1988	
2153 Ala Wai Blvd. (8-unit apartment) Arial Realty Inc. [1] 2-6-017:029	1949	
Rosalei Apartments (12-story highrise) 445 Kaiolu St. [1] 2-6-017:004	1955	
2121 Ala Wai Blvd. (highrise) [1] 2-6-017:003	1979	

3.2.3 Archaeological Sites and Features

Honua Consulting is preparing an LRFI in concurrence with this CIA to comply with HRS Chapter 6E. Archaeological sites in the vicinity of the property are listed and described in the following table; they are identified by their State Inventory of Historic Places (SIHP) numbers (**Table 3**). A more detailed description of the sites can be found in the LRFI (DiVito et al., 2019). Following **Table 3** are maps identifying the previously documented sites and studies in the vicinity of the project area (**Figures 7 and 8**).

Table 3. Archaeological Sites Documented Within the Vicinity of the Project Area

SIHP # 50-80-14	Site Description	Site Significance	Notes	Reference
-0060	Waikīkī / “Waikīkī Wizard Stones”	Not stated	The McAllister area is not defined	McAllister, 1933; Paglinawan, 1995/1996
-1382	Battery Randolph	On NRHP, Artillery District of Honolulu	Southeastern portion of Fort DeRussy	U.S. Army Support Command Hawaii, 1983
-1388	Ala Wai Park Clubhouse	Criterion A		Hibbard, 1988
-3706	Human remains and historic trash deposit	Unknown	331 Saratoga Road	Bishop Museum, 1961
-4127	Skeletal remains of a fetus and nine individuals and a deeply buried cultural deposit	Unknown		Neller, 1984; Pietruszewsky, 1992

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SIHP # 50-80-14	Site Description	Site Significance	Notes	Reference
-4570	Subsurface cultural deposits, feature, and human burials	Criteria D and E	Fort DeRussy, Kālia Road	Davis, 1989, 1992; Denham and Pantaleo, 1997a/1997b; Raff-Tierney et al., 2017
-4573	Loko Kaipuni Fishpond Complex (4 ponds)	Criterion D	Fort DeRussy, Kalākaua Ave Part of the Kālia Fishponds	Davis, 1989; Putzi and Cleghorn, 2002
-4574	Loko Paweo I Fishpond	No longer significant	Fort DeRussy, Ala Moana Blvd. and Kālia Rd., Part of the Kālia Fishponds	Davis, 1989; Denham and Pantaleo 1997a/b; Putzi and Cleghorn, 2002
-4575	Loko Ka'ihikapu Fishpond	No longer significant	Fort DeRussy, Part of the Kālia Fishponds	Davis, 1989; Denham and Pantaleo 1997b
-4576	Loko Paweo II Fishpond	Criterion D	Fort DeRussy, Part of the Kālia Fishponds	Davis, 1989; Denham and Pantaleo 1997b
-4577	Loko Kapu'uiki Fishpond	Criterion D	Fort DeRussy and 280 Beach Walk, Part of the Kālia Fishponds	Davis, 1989; Belluomini et al., 2016

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SIHP # 50-80-14	Site Description	Site Significance	Notes	Reference
-4579	L.C.A. 1758:3	Criteria D and E	Fort DeRussy	Davis, 1989; Denham and Pantaleo, 1997b
-4890	Skeletal remains of single individual	Unknown	Intersection of Kalākau Ave. and Kuamo'o St.	McMahon, 1994
-4907	Skeletal remains of two individuals	Unknown		Bath and Kawachi, 1989
-4966	Pre-contact cultural deposit with human burials	Criteria D and E	Fort DeRussy	Denham and Pantaleo 1997a
-4970	'Auwai and Bund System	No longer significant	Fort DeRussy, Part of the Kālia Fishponds	Davis, 1989; Denham and Pantaleo, 1997b
-5301	Single in-situ human burials	Unknown	Preserved in place	Jourdane, 1995
-5459	'Auwai and lo'i	Unknown		McDermott et al., 1996
-5460	Single native Hawaiian burial	Unknown		McDermott et al., 1996
-5744	Two human burials	Unknown	Kalākaua Ave. and 'Ena Rd.	Perzinski et al., 1999

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SIHP # 50-80-14	Site Description	Site Significance	Notes	Reference
-5796	Pre-historic to 20th century wetland surface	Criterion D	King Kalākaua Plaza	LeSuer et al., 2000; Yucha et al., 2009; Sroat et al., 2011; Pammer et al., 2014; Morris and Hammatt, 2015; Martel and Hammatt, 2017
-5856	Human burials	Criteria D and E	Three human burials, Features A, B, and C	Bush et al., 2002; Winieski et al., 2002
-5863	Human burials	Criteria D and E	Four human burials at two locations	Winieski et al., 2002
-5864	Human burial	Criteria D and E	Kalākaua and Dukes Lane	Bush et al., 2002
-5937	Human burial	Criteria D and E	Reinterred; left in-situ	Elmore and Kennedy, 2001
-5940	Cultural layer	Unknown	Extends from Ka'iulani Ave. to Kealohilani Ave.	Winieski et al., 2002
-6407	Agricultural soils modified living surface	Unknown	Documented portion of a paukū/kuāuna (bank of taro patch)	Borthwick et al., 2002; Tulchin et al., 2004

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SIHP # 50-80-14	Site Description	Site Significance	Notes	Reference
-6680	Pond field or lo'i sediments	Unknown		McIntosh and Cleghorn, 2004
-6682	Buried A-Horizon associated with 'Āinahau Estate	Criterion B	No further work recommended	Chiogioji, 2004
-6705	Secondarily deposited human skeletal remains	Criterion E	Monitoring recommended	Chiogioji, 2004
-6706	Stream bed, segment of 'Āpuakēhau Stream	Criterion D	No further work recommended	Chiogioji, 2004
-6707	Stone retaining wall, lo'i wall	Criteria A, B, C, D, E	Data recovery conducted	Chiogioji, 2004; Tulchin et al., 2004
-6819	Human burial	Criteria D and E	2284 Kalākaua Ave	O'Leary et al., 2005
-6873	Human burial	Criteria D and E	Allure Waikīkī Condominium, 1837 Kalākaua Ave.	Bell and McDermott, 2006
-6874	Subsurface cultural deposit	Criterion D	Allure Waikīkī Condominium, 1837 Kalākaua Ave.	Bell and McDermott, 2006
-6875	Human burial	Criterion D and E	Allure Waikīkī Condominium, 1837 Kalākaua Ave.	Bell and McDermott, 2006

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SIHP # 50-80-14	Site Description	Site Significance	Notes	Reference
-7015, -7016, -7017, -7018	Human remains	Criteria D and E	Trump International Hotel Waikīkī	Mentioned in Welser and McDermott, 2018
-7041	Intact traditional Hawaiian burial	Criteria D and E	Royal Hawaiian and Sheraton Hotels	Runyon et al., 2015
-7055	Human remains	Criteria D and E	280 Beach Walk	Belluomini et al., 2016
-7065	Kawaiaha'o Waikīkī Branch Church and Cemetery lot	Criterion D	Princess Ka'iulani Hotel	Runyon et al., 2010; Burke, 2014
-7066	Cultural layer	Criterion D	Princess Ka'iulani Hotel	Runyon et al., 2010
-7067	Intact human burial	Criteria D and E	Princess Ka'iulani Hotel	Runyon et al., 2010
-7068	Cultural layer	Criterion D	Diamond Head Tower, Moana Surfrider	Thurman et al., 2009
-7069	Historic trash pit	Criterion D	Diamond Head Tower, Moana Surfrider	Thurman et al., 2009
-7118	Cultural layer	Criterion D	Royal Hawaiian and Sheraton Hotels	Runyon et al., 2015

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SIHP # 50-80-14	Site Description	Site Significance	Notes	Reference
-7119	Buried A-horizon	Criterion D	Contained pit features and disarticulated human remains; Royal Hawaiian and Sheraton Hotels	Runyon et al., 2015
-7598	Cultural layer	Criterion D	133 Ka'iulani St.	Inglis et al., 2014
-7599	Human remains	Unknown	Single human vertebra; 133 Ka'iulani St.	Inglis et al., 2014
-7714	Two human burials	Criteria D and E	Both burials preserved in place	Medina and Hammatt, 2014
-7761	Historic refuse fill layer	Criterion D	280 Beach Walk	Belluomini et al., 2016
-7813	Historic foundation slab and debris layer	Unknown	Waikiki Trade Center	Manirath et al., 2015
-7930	Subsurface cultural layer and wetland	Criteria A, D, and E	413 Seaside Ave.	Thurman et al., 2016
-7952	Loko Ka'ohai Fishpond	Criterion D	280 Beach Walk	Belluomini et al., 2016
-8175	Ala Wai Villas	Criterion C	2455 Ala Wai Blvd.	Minatoishi and Besl, 2017

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SIHP # 50-80-14	Site Description	Site Significance	Notes	Reference
-8191	Subsurface cultural deposits associated with features and a human burial	Criteria D and E	Monitoring and burial treatment plan recommended	Raff-Tierney et al., 2018
-8192	Structural remains	Criterion D	Monitoring recommended	Raff-Tierney et al., 2018
-8193	Isolated human cranial fragments in fill material	Criteria D and E	Burial treatment plan recommended	Raff-Tierney et al., 2018
-9500	Human burials	Unknown	Construction of Hale Koa Hotel	Kimble, 1976
-9550	Human burial	Unknown	Kuroda Parade Ground	Streck, 1992
-9757	Ala Wai Canal	Criterion A	Within the Project APE	Steele, 1992
-9762	Hawaiian Canoe "Malia"	Criteria A and C	NRHP #93001385	Travers, 1993
-9957	Human burials and historic trash concentrations	Unknown	Halekūlani Hotel	Neller, 1981; Davis, 1984

Description of Project Area and Area of Potential Effect

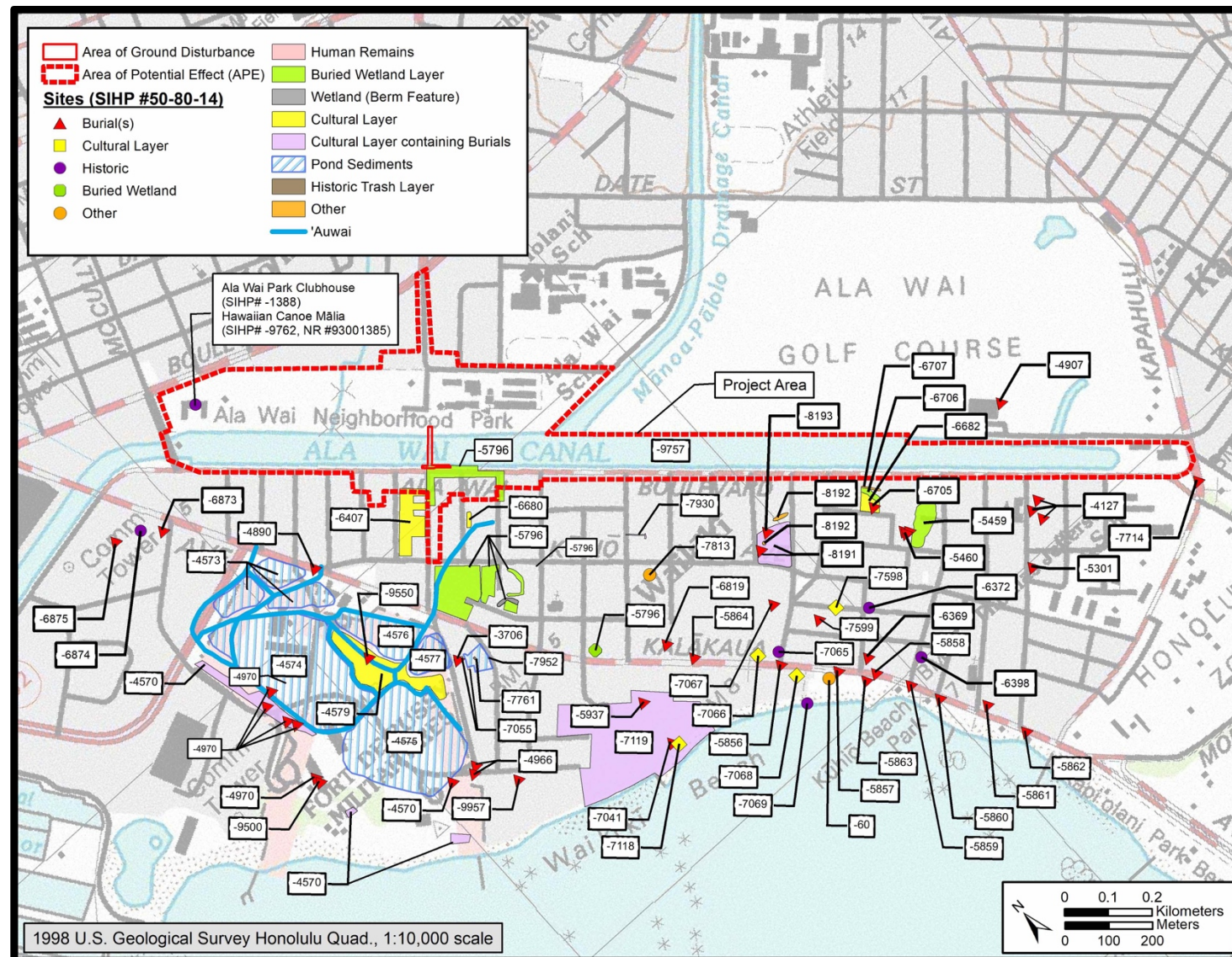


Figure 7. Portion of a Honolulu 1998 USGS Topographic Quadrangle map showing previous archaeological sites in the vicinity of the project area

Description of Project Area and Area of Potential Effect

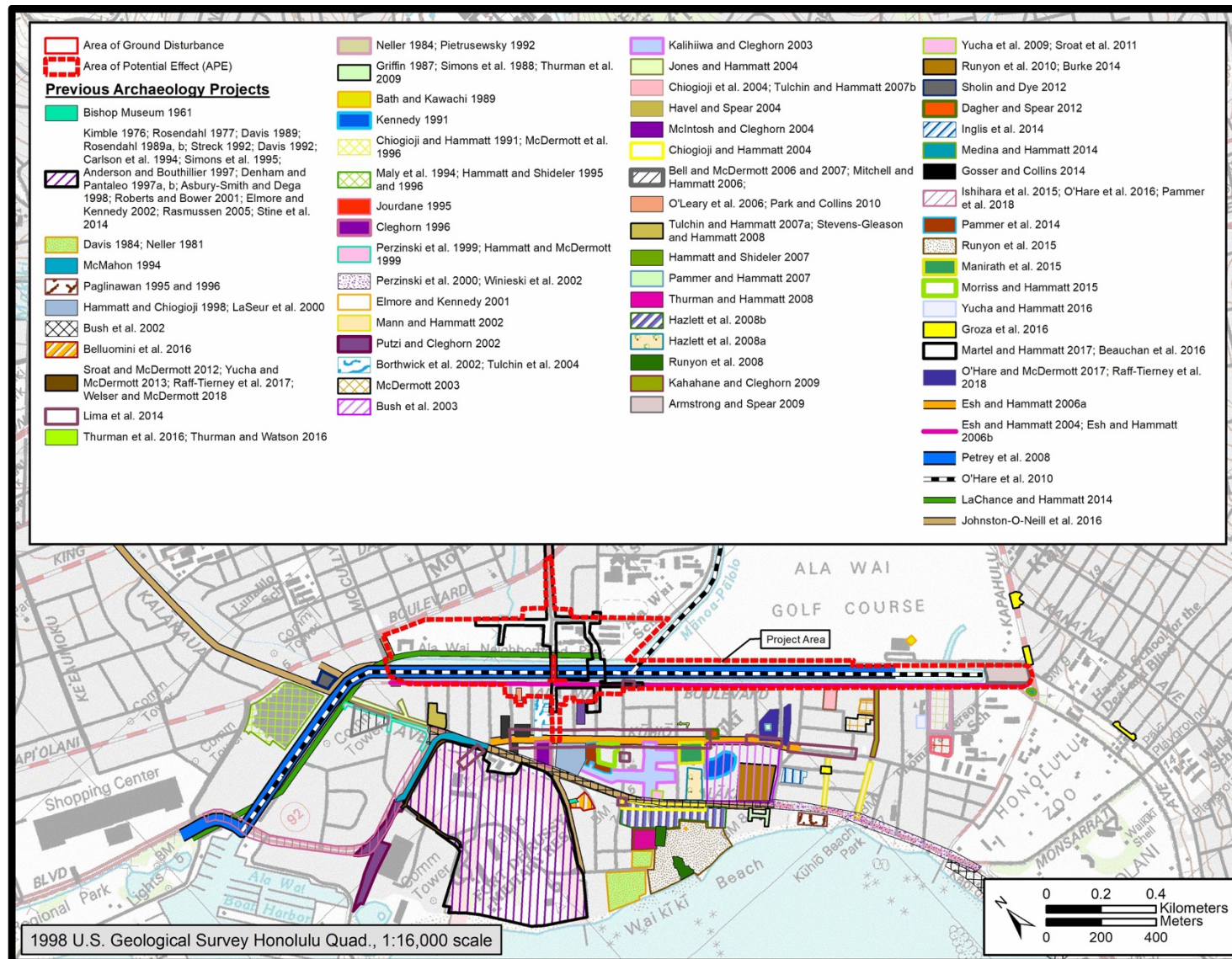


Figure 8. Portion of a Honolulu 1998 USGS Topographic Quadrangle map showing previous archaeological studies in the vicinity of the project area

4. CULTURAL HISTORY OF WAIKĪKĪ

Long favored by Ali'i (chief or royalty) and Akua (gods) alike, Waikīkī claims a rich history. Extensive mo'olelo tell of ali'i who could become the winds and the rains. Blessed with an extensive natural fresh water supply, Waikīkī enjoyed extensive traditional agricultural activities throughout its ahupua'a.

Archaeological research and traditional mo'olelo differ as to when Polynesians settled Hawai'i and which island was settled first. Archaeology points to O'ahu being settled first, with the most recent data indicating Waimanalo and Kailua being the first settled (Kanahele, 1995). Some mo'olelo highlight the journey of Kumukahi from Kahiki, to Hawai'i Island, to the eastern most point of the island, then to the peninsula that now bears his name, marking this as the first point of settlement (Pukui et al., 1974).

What is perhaps most important to understand about the history of Hawai'i is that both the Wā Akua (Time of the Gods) and Wā Kānaka (Time of Man) significantly shaped and impacted the environment. Wā Akua developed many of the natural heritage features that still grace the islands today while Wā Kānaka developed the stories that gave those features their significance. More recently, humans have also adversely impacted many of those same features, degrading them from their original condition.

While it is unclear as to the exact date when kānaka settled the Waikīkī ahupua'a, it is clear that the ahupua'a was an early favorite of maka'āinana (commoners) and ali'i alike. Numerous ali'i spent time in Waikīkī, including Lā'ie-lohelohe, daughter of Kalamakua and Kelea, who was born in Helumoa and raised at Kaluaokau in Waikīkī (Kamakau, 1991). She married the high chief of Maui, Pi'ilani, and their marriage was a very significant political union between the chiefs of O'ahu and Maui. Lā'ie-lohelohe returned to O'ahu to give birth to the last of their four children, a son, Kiha-a-Pi'ilani. He was born at 'Āpuakēhau in Waikīkī and a stone was placed to mark the location of this royal birth (Kamakau, 1991).

After his birth, Kiha-a-Pi'ilani was taken by kahuna (royal advisors) to be raised at the heiau at Kamō'ili'ili.² This heiau was known as Mau'oki, and it was a well-known and revered place. Traditional Hawaiian historians believed that Menehune (mythical beings) built this heiau, as well as many additional heiau and fishponds across O'ahu.

Ka-hānai-a-ke-akua was reared in Waolani; Ka-hihi-kū-o-ka-lani was another name for him. Kahano-a-Newa was the one who reared him. Kahano was the one who stretched his hands out to the Pillars of Kahiki, and on his arms came to the people called the Menehune. They were brought to be workers for Ka-

² This area is today known as Mō'ili'ili.

hihi-kū-o-ka-lani. It is said that they were the makers of the kuapā fishponds of O‘ahu and of the heiau Mau‘oki, Kaheiki, Kawa‘ewa‘e, ‘Eku, Kamōali‘i, and Kua‘ōkala. Kū-leo-nui was their public crier.

The Menehune lived at Kailua, and Kū-leo-nui called to them from above Mānoa. This was his call: “O Menehune of Kailua – to work!” “What is the work?” “To build a house; the bones of birds to be the posts, the bones of the birds to be the rafters, the bones of the birds to be the thatching sticks, the intestines o birds to be the thatching cords.” They answers, “That is not a big job; that is quickly done by uniting of effort” (Kamakau, 1991:31).

Historians noted that is was the great O‘ahu chief Ma‘ilikūkahi, the creator of the ahupua‘a system born at Kūkaniloko, who established Waikīkī as a center of power for the Kona district on O‘ahu, which included the areas of Moanalua, Kahauiki, Kalihi, Kapālama, Honolulu (Nu‘uanu and Pauoa), Waikīkī (Makiki, Mānoa, and Pālolo), Waialae Nui, Waialae Iki, Wailupe, Niu, Kuliouou, and Maunalua (Handy et al., 1972; Sterling and Summers, 1978).

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O‘ahu’s greatest period of prosperity was under the Ma‘ilikūkahi family dynasty, which lasted for several hundred years until the time of Kamehameha. Prior to Ma‘ilikūkahi, descendants of the Kumuhonua family line had ruled O‘ahu. Ma‘ilikūkahi was chosen to be King by a complex process held by high-ranking chiefs and priests who were unsatisfied with the reign on the current King, Haka. Haka was removed from power for the poor treatment of his people and put to death. Ma‘ilikūkahi was installed as King in his place.

Upon becoming King, Ma‘ilikūkahi moved his court to Waikīkī, where he established his center of power, created the ahupua‘a system, and distributed responsibility for managing lands to his subjects. While an unprecedented move, it proved to be a tremendously successful one that persists to this day and began an era of unparalleled prosperity for the island. Ma‘ilikūkahi would become a beloved mō‘ī. His people thrived under his rule and his descendants had many famed stories in Waikīkī.

Historical accounts of the Mānoa and Pālolo valleys and the floodplain at the base of Ko‘olau Range emphasize the quantity of agricultural fields. The area between Mānoa Valley and the sea was one continuous spread of taro land and fishponds. “In localities like...Mānoa on Oahu, where there was extensive and continuous taro cultivation of contiguous lo‘i, houses were not far apart, land holdings were interlocking and the systems of waterways were controlled and serviced collectively” (Handy et al., 1972:290).

In 1825, Bloxam described several hundred fishponds extending a mile inland from the shore (Bloxam, 1925). By 1901, only 14 fishponds were in use in the area. A quarter century later,

McAllister observed that “all of this land has been drained and filled: neither fishponds or taro lands have survived” (1933:76).

In 1845, Honolulu became the capital of Hawai‘i and as political activities focused on Honolulu and businesses in the immediate coastal-harbor zone grew, the inland valleys began to experience rapid changes in settlement to support the growing community (Rosendahl, 1998). The Māhele ‘Āina of 1848 also represented a turning point in Hawaiian land use, as the Māhele allowed the outright purchase of land. Testimony from the Land Commission Awards indicated that wetland taro production dominated the coastal plain and valleys (Māhele ‘Āina Documents, 1848-1856).

Historical accounts provide a broader perspective on the patterns of land use and occupation in the area. Pālolo Valley was the site of extensive wetland taro cultivation, with irrigated terraces along both sides of the stream and below the end of the valley. Terraces were also located along the steep slopes in the upper reaches of Pālolo Valley, along the Wai‘ōma‘o and Pūkele Streams (Handy et al., 1972). In upper Mānoa, all level land in the valley bottom was developed into broad taro flats. The terraces extended along Mānoa Stream as far as there was suitable land for irrigating (Handy et al., 1972).

Other historical developments relevant to the project area are associated with the Kanewai area. Kanewai Pool is a significant feature in Hawaiian legend and history although the exact location of the underground pool is unknown:

Kanewai was the name of a large underground pool on the inland side of King Street, near what is now the quarry. Its waters, the “healing waters of Kane”, were much sought by the Hawaiians. Queen Liliuokalani was much interested in the pool. The ancient Hawaiians said that wise fish from the sea used to swim up to this pool, over hear the plans of the native fishermen, who frequented the vicinity and then float back to the ocean to warn their finny friends (Sterling and Summers, 1978:281).

Kamakau (1961) mentions the lands of Kamoku while telling the story of how Kamehameha came to build the temple of Pu‘ukohola at Kawaihae in Kohala. Kapoukāhi was a renowned priest of the Hulihonua (diviners) class; he was originally from Kaua‘i, but when Kahekili added Kaua‘i and O‘ahu to his kingdom, this great prophet came to live on O‘ahu with Kahekili (Kamakau, 1961). Kapoukāhi was living at Kamoku when Kamehameha sent out his aunt, Ha‘alo‘u, to ask Kapoukāhi what Kamehameha must do to achieve his goal of unifying the islands under his rule. Kapoukāhi instructed Kamehameha to build a great house for his god at Pu‘ukohōā: “If he makes this house for his god, he can gain the kingdom without a scratch to his own skin” (Kamakau, 1961:150).

Waikīkī has long been a residence of Hawaiian royalty (Beckwith, 1970; Fornander, 1996:89). The Legend of Kalaunuihewa describes the warring chief of Kaua‘i and land reforms conducted to strengthen power of the ali‘i and stabilize control over the growing population (Beckwith, 1970:382-383). Several “wise and just” chiefs of O‘ahu ruled from Waikīkī:

With Mailikukahi, Waikīkī became the ruling seat of chiefs of Oahu. He carried out strict laws, marked out land boundaries, and took the firstborn son of each family to be educated in his own household. He honored the priests, built heiaus [temples], and discountanced human sacrifice” (Beckwith, 1970:383).

The renowned John Papa ‘Ī‘i was born in Kawehewehe, Waikīkī and he recounted the setting during his early years:

Kamehameha’s houses were at Puaaliili, Makai of the old road, and extended as far as the west side of the sands of Apuakehau. Within it was Helumoa, where Kaahumana ma went to while away the time. The king built a stone house there, enclosed by a fence; and Kamalo, Wawae, and their relatives were in charge of the royal residence. Kamalo and Wawae were the children of Luluka and Keaka, the childhood guardians of Kamehameha. This place had long been a residence of chiefs. It is said that it had been Kekuapoi’s home, through her husband Kahahana, since the time of Kahekili (‘Ī‘i, 1959:17).

A traditional trail system through Honolulu, Mānoa Valley, and Waikīkī was described by ‘Ī‘i (1959). The trail stretched from Kawaiahao (in Honolulu) through coconut groves, along fishponds, “then through the center of Helumoa of Puaaliili, down to the mouth of the Apuakehau stream; along the sandy beach of Ulukou to Kapuni, where the surfs roll in” (‘Ī‘i, 1959:92).

While the bio-cultural landscape known to the ancient Hawaiians has been radically altered, it is warranted to say that the history of the land is more than what is seen on the surface. For Hawaiians, it is the very core of their being and the essence of their spirit. Place names evoke a deep cultural attachment to place and heritage and connect people to their ‘āina, mo‘olelo, and kūpuna (iwi a me ka uhane pū). One such expression of this relationship is found in a speech made by then Prince David Kalākaua in 1872.

Following the death of Lot Kapuāiwa (Kamehameha V) on December 11, 1872, Prince David Kalākaua was among a group of four likely candidates to assume the rule and throne of the Hawaiian Islands. By December 28, 1872, two candidates stood ahead of the others, Prince William Charles Lunailo and Prince Kalākaua. In a passionate speech presented by Prince Kalākaua on December 28, 1872, he called out to the Hawaiian people, referencing his own

lineage and the ascendancy of Kamehameha I as the ruler of the Hawaiian Islands. In his speech, reference was made to the shores of Kuloloia fronting what is now downtown Honolulu. This call strikes a chord in the hearts of some Hawaiians in the present day.

...O my people, my countrymen from old, arise, this is the voice! Ho, all ye tribes and sections. Ho, mine own ancient people, the people who took hold and built up the kingdom of the Kamehamehas from the blow struck at the water of Keomo³ to the final union of the islands at the sea beach of Kuloloia, arise, this is the voice...! (*The Daily Bulletin*, 1884:4)

While the election held on January 1, 1873 was carried by Prince (subsequently King) Lunalilo, the new King died on February 3, 1874. On February 13, 1874, Prince (become King) Kalākaua took the oath of office, and served as King until his own death on January 20, 1890.

The fact that elder natives and others wrote about the traditions of place across the length of the rail route and that the history is still accessible in the modern day—in some instances cited in the memories of oral history/consultation program participants—leads us to conclude that the traditional cultural value of the lands has not been forgotten. The lack of surface evidence in areas formerly documented as being cultural landscapes is not the evidence of absence.

Throughout the islands, places once cultivated as plantation fields, covered under roads, or built over by modern structures have been found to be rich in cultural layers, some lying just inches below the surface. Historical accounts also confirm that past construction has uncovered traditional and historic treasures, human remains, and the evidence of past generations. One must expect that the lands in the Honolulu-Waikīkī region which have been made by the filling in of former fishponds and other traditional sites are still home of once significant traditional properties, and evidence of Hawaiian skills in resource management.

This section incorporates diverse facets of history from Kālia, in the ahupuaʻa of Waikīkī, Kona District, island of Oʻahu (Figure 9).

4.1 He Māhelehele o Nā Moʻolelo (Excerpts of Traditional Accounts)

Hawaiian moʻolelo are the record of native beliefs, customs, practices, and history. The very landscape of Hawaiʻi is storied and alive, and facets of the land are held as sacred and storied places (wahi pana). At some point in history, each place name was associated with a

³ Keomo situated in Keʻei, South Kona, the “place of the great battle of Kamehameha and Keeaumoku with Kiwalao, the battle called Mokuohai” (G.L. Kapeau to Keoni Ana, March 29, 1848. HSA, Interior Department, Mics. Box No. 142).

tradition—ranging from the presence and interactions of the gods with people, to documenting an event, or the characteristics of a given place.

Unfortunately, many of those mo‘olelo have been lost. But some traditions of named places, though fragmented, have survived the passing of time. Even more place names remain in the modern vocabulary, while their origins may have been forgotten, they are still indicators of traditional cultural value. Thus, through mo‘olelo we are able to glimpse into the history of the land and people of the Waikīkī region.

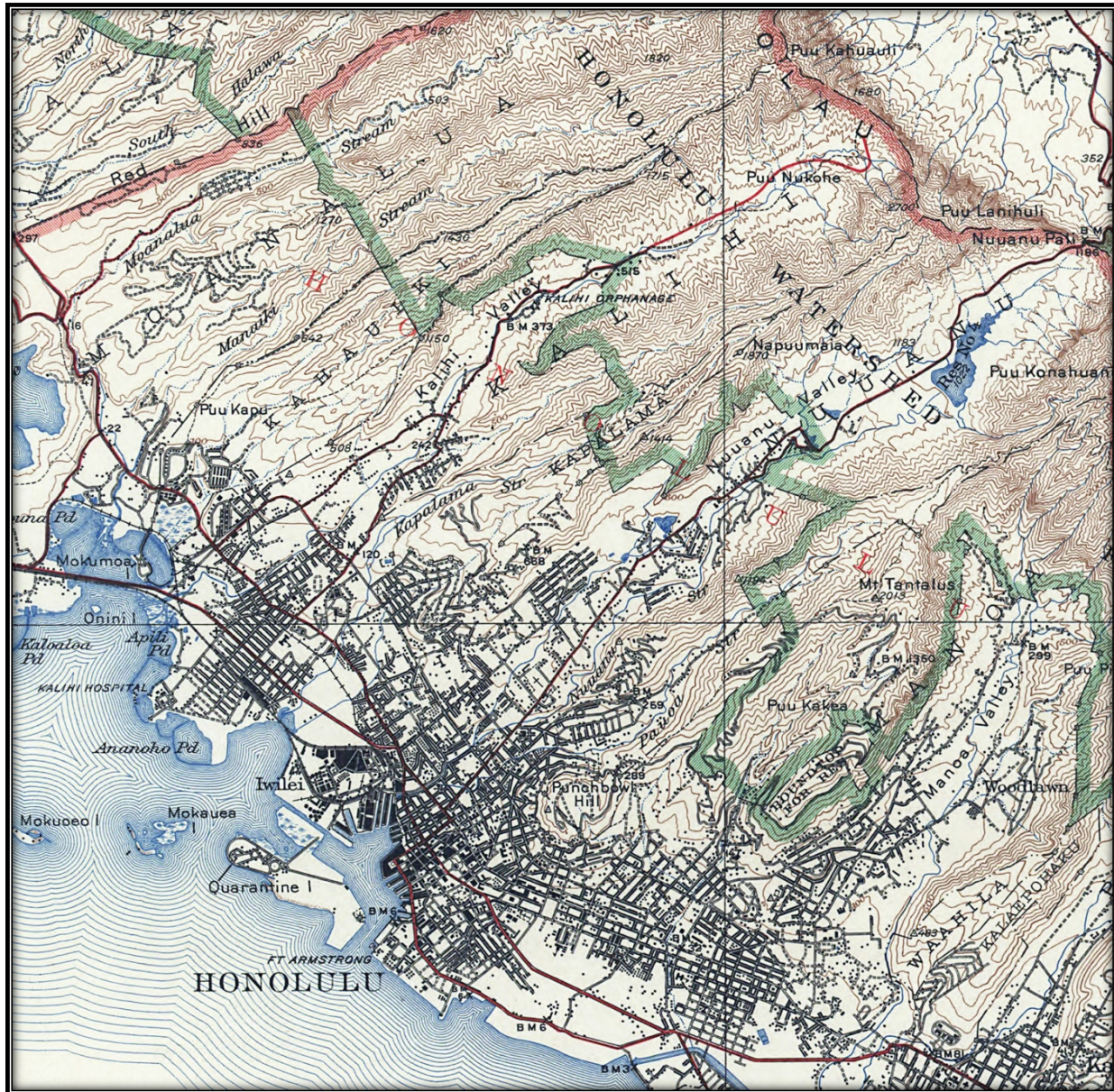


Figure 9. Portion of 1938 Topographic Map of the Island of O‘ahu – Region of Ahupua‘a around Kahauiki and Kālia, Waikīkī (Library of Congress, No. CT00069)

The following narratives are generally organized chronologically by period of time or by the

events being described, such as when the gods walked the land, touching the lives of the people, or when chiefs engaged in conflicts on the land. In some instances when the mo'olelo span generations speaking of the transmission of traditional knowledge and beliefs, the narratives in history are linked together. It will also be noted that in a number of instances, wahi pana were named in the traditions as a means of commemorating notable events in history.

Transcripts and/or translations of the Hawaiian language accounts are given either verbatim, or in summary of longer narratives, with emphasis on the key events—their association with akua, 'āina and kānaka of the Waikīkī region of O'ahu. The citations span the period from antiquity to the 1920s. We have elected to include many of the Hawaiian language transcripts in this study in an effort to provide present and future generations with easy access to these important narratives as a means of fostering on-going cultural attachment to place, and for educational and interpretive purposes. In this way, the kūpuna (elders/ancestors) speak for themselves, and pass their voices on to inspire continued knowledge of place, practice and use of the native place names.

4.1.1 Kou and the Honolulu Region in the Tradition of Hi'iaka-i-ka-poli-o-Pele

Noted places in the region were described in the tradition of Pele & Hi'iaka (Kapihenui, 1861-1862; Hoouluamahie, 2008; Desha and Keonaona, 1924-1928). Hi'iaka-i-ka-poli-o-Pele, youngest and beloved sister of Pele, goddess of the volcano, was sent to fetch Kaua'i chief, Lohi'au, from Kaua'i and return with him to Kīlauea on Hawai'i. This epic account includes site history, place name documentation, and accounts of noted figures throughout the Hawaiian Islands. While in the Honolulu region, events focused on games of kilu.⁴ Most notable in this account is the reference to Pele'ula, a chiefess of the area, and for whom an old section of Honolulu was named. The tradition includes a number of mele (chants) and poetical references to noted places between the Kapālama and Waikīkī section of Kona, O'ahu. Hawaiian historian John Papa 'Ī'ī observed in the early 1800s that "Peleula was covered with healing heiaus, where offerings were made, and methods of healing were taught" ('Ī'ī, 1959:46).

Summarizing the tradition of Hi'iaka's visit with the chiefess Pele'ula in the regions of Kou and Honolulu, Gessler wrote that:

Hi'iaka and Lohi'au, immortal lovers of legend, entered this harbor in the course of their voyage from Kaua'i to Hawai'i, and a little farther up the valley [in the Nu'uānu and Vineyard streets vicinity] Hi'iaka's skill at the game of kilu

⁴ Kilu is a Hawaiian game in which a gourd, a coconut shell, cut in half, are tossed at an opponent's pob (something like horseshoes). The individual who successfully hits the pob that he or she had selected was the winner and could claim a kiss or some other favor from the opponent (see Malo, 1951:216).

won her sweetheart from the wiles of the local enchantress Pele'ula (1942:6).

4.1.2 The Traditions of Aiai – Establishment of Kū'ula and Ko'a in the Kona District

In 1901 and 1902, the *Hawaiian Annual and Almanac* published a detailed article series with portions written by L.D. Keli'ipio, Moses (Moke) Manu, and other sections compiled by M.K. Nakuina and S.N. Emerson. These important narratives include descriptions of fishing customs, the diversity of species in the Hawaiian fisheries, and a wide range of ceremonial observances associated with the gods and practices of the lawai'a. The narratives also include references to resources across the main Hawaiian Islands:

Hawaiian Fish Stories And Superstitions.

Furnished the Annual by L. D. Keliipio, ex-Fish Inspector, Board of Health, translated by M. K. Nakuina.

The following narration of the different fish here given is told and largely believed in by native fishermen. All may not agree as to particulars of this version, but the main features are well known and vary but little. Some of these stories are termed mythical, in others the truth is never questioned and together they have a deep hold on the Hawaiian mind. Further and confirming information may be obtained from fishermen and others, and by visiting the market the varieties here mentioned may be seen almost daily.

In the olden time certain varieties of fish were tabued and could not be caught at all times, being subject to the kapu of Kuula, the fish-god, who propagated the finny tribes of Hawaiian waters. While deep sea fishing was more general, that in the shallow sea, or along-shore, was subject to the restrictions of the konohiki of the land, and alii's, both as to certain kinds as well as periods. The sign of the shallow sea kapu prevailing was by branches of the hau tree placed all along the shore. The people seeing this token of the kapu respected it, and any violation thereof in ancient time was said to be punishable by death. While this kapu prevailed the people resorted to the deep sea stations for their food supply. With the removal of the hau branches, indicating the kapu was lifted, the people fished as they desired, subject only to the makahiki tabu days of the priest, or alii, when no canoes were allowed to go out upon the water.

The first fish caught by fishermen, or anyone else, was marked and dedicated to Kuula. After this offering was made, Kuula's right there in being thus recognized, they were free from further oblations so far as that particular variety of fish offered was concerned. All fishermen, from Hawaii to Niihau, observed this custom religiously. When the fishermen caught a large supply, whether by the net, hook or shell, but one of a kind, as just stated, was reserved

as an offering to Kuula; the remainder was then free to the people.

Deified Fish Superstition.

Some of the varieties of fish we now eat were deified and prayed to by the people of the olden time, and even some Hawaiians of today labor under like superstition with regard to sharks, eels, oopus, and some others. They are afraid to eat or touch these lest they suffer in consequence, and this belief has been perpetuated; handed down from parents to children, even to the present day. The writer was one of those brought up to this belief and only lately has eaten the kapu fish of his ancestors without fearing a penalty therefore.

Story of the Anae-Holo.

The anae-holo is a species of mullet unlike those of the shallow water, or pond variety, and this story of its habit is well known to any kupa (native born) of Oahu.

The home of the anae-holo is at Honouliuli, Pearl Harbor, at a place called Ihuopalaai. They make periodical journeys around to the opposite side of the island, starting from Puuloa and going to windward, passing successively Kumumanu, Kalihi, Kou, Kalia, Waikīkī, Kaalawai and so on, around to the Koolau side, ending at Laie, and then return by the same course to their starting point. This fish is not caught at Waianae, Kaena, Waialua, Waimea or Kahuku because they do not run that way, though these places are well supplied with other kinds. The reason given for this is as follows:

Ihuopalaai had a Kuula, and this fish-god supplied anaes. Ihuopalaai's sister took a husband and went and lived with him at Laie, Koolauloa. In course of time a day came when there were no fish to be had. In her distress and desire for some she bethought herself of her brother, so she sent her husband to Honouliuli to ask Ihuopalaai for a supply, saying: "Go to Ihuopalaai, my brother, and ask him for fish. If he offers you dried fish refuse it by all means, do not take it, because it is such a long distance that you would not be able to carry enough to last us for any length of time."

When her husband arrived at Honouliuli he went to Ihuopalaai and asked him for fish. His brother-in-law gave him several large bundles of dried fish, one of which he could not very well lift, let alone carry a distance. This offer was refused and reply given according to instruction. Ihuopalaai sat thinking for some time and then told him to return home, saying: "You take the road on the Kona side of the island; do not sit, stay, nor sleep on the way till you reach your own house."

The man started as directed and Ihuopalaai asked Kuula to send fish for his sister, and while journeying homeward as directed a school of fish was following in the sea, within the breakers. He did not obey fully the words of Ihuopalaai for he became so tired that he sat down on the way, but noticed whenever he did so that the fish rested too. The people seeing the school of fish went and caught them. Of course not knowing that this was his supply he did not realize that the people were taking his fish.

Reaching home he met his wife and told her he had brought no fish but had seen many all the way, and pointed out to her the school of anae-holo which was then resting abreast of their house. She told him it was their supply, sent by Ihuopalaai, his brother-in-law. They fished and got all they desired, whereupon the remainder returned by the same way till they reached Honouliuli where Ihuopalaai was living, and ever afterwards this variety of fish has come and gone the same way every year to this day, commencing sometime in October and ending in March or April.

DRAFT

Expectant mothers are not allowed to eat of the anae-holo, nor the aholahole, fearing dire consequences to the child, hence they never touch them till after the eventful day. Nor are these fish ever given to children till they are able to pick and eat them of their own accord (Keli'ipio et al., 1901:110-113).

Aiai, Son of Ku-ula (1902).

Being part II of Ku-ula, the fish god of Hawaii.

Continued from the last Annual; translation completed by S.N. Emerson and the whole carefully revised and compared with the original.

Ko'a (Fishing Stations) on the island of O'ahu:

...Aiai then came to Oahu, first landing at Makapuu, in Koolau, where he founded a pohaku-ia (fish stone) for red fish and for speckled fish and called it Malei. This was a female rock, and the fish of that place is the uhu. It is referred to in the mele of Hiiaka, thus:

I will not go to the stormy capes of Koolau,
The sea-cliffs of Moeaau.
The woman watching uhu of Makapuu
Dwells on the ledge of Kamakani
At Koolau. The living
Offers grass twined sacrifices, Oh Malie!

From the time Aiai founded that spawning place until the present, its fish have been the uhu, extending to Hanauma. There were also several gathering places

for fish established outside of Kawaihoa. Aiai next moved to Maunalua, then Waialae and Kahalaia. At Kaalawai he placed a white and brown rock. There in that place is a hole filled with a holehole, therefore the name of the land is Kaluahole. Right outside of Kahuahui there is a station of Aiai's where he placed a large round sand-stone that is surrounded by spawning places for fish; Ponahakeone is its name.

In ancient times the chiefs selected a very secret place wherein to hide the dead bodies of their greatly beloved, lest someone should steal their bones to make fish hooks, or arrows to shoot mice with. For that reason the ancients referred to Ponahakeone as "He Lualoa no Na'lii"—a deep pit for the chiefs.

Aiai came to Kalia and so on to Kakaako. Here he was made a friend by a man named Apua, with whom he remained several days, observing and listening to the murmurs of the chief, named Kou. This chief was a skillful hiaku fisherman, his grounds being outside of Mamala until you came to Moanalua. There was none so skilled as he, and generous withall, giving akus to the people through the district.

As Aiai was dwelling with his friend Apua at Kakaako, he meandered off one day along the shore of Kuloloia, and so on to Pakaka and Kapapoko. But he did not return to the house of his friend, for he met with a young woman gathering limu (sea-moss) and fishing for crabs. This young woman, whose name was Puiwa, lived at Hanakaialama and was a virgin, never having had a husband. She herself, as the people would say, was forward to ask Aiai to be her husband, but he listened to her voice and they went up together to her home and saw the parents and relatives and forthwith were married. After living with this young woman some time a son was born to them whom Aiai named Puniaiki. During those days was the distribution of aku which were sent up from Honolulu to the different dwellings, but while others were given a whole fish they got but a portion from some neighbor. For this reason the woman was angry, and told Aiai to go to the brook and get some oopus fit to eat, as well as opae. Aiai listened to the voice of his wife. He dug a ditch; constructed a dam so as to lead the water of the brook into some pits, and thus be able to catch the oopu and opae. He labored some days at this work of theirs, and the fish and shrimps were hung up to dry.

On a certain day following, Aiai and his wife went with their child to the brook. She left their son upon the bank of the stream while she engaged herself in catching opae and oopu from the pits. But it was not long before the child began to cry, and as he cried Aiai told his wife to leave her fishing, but she

talked saucily to him. So Aiai called upon the names of his ancestors. Immediately a dark and lowering cloud drew near and poured out a flood of water upon the stream, and in a short time the dam was broken by the freshet and all the oopu and opae together with the child were swept toward the sea. But the woman was not taken by the flood. Aiai then rose up and departed, without thought of his wife.

He went down from the valley to Kaumakapili and as he was standing there he saw some women fishing for oopu on the banks of the stream, the daughter of the chief, Kikihale being with them. At that time, behold, there was caught by the female guardian of the daughter of Kikihale a very large oopu. This oopu she showed to her protégé who told her to put it into a large calabash with water and feed it with limu, so that it might become a pet fish. This was done and the oopu was tended very carefully night and day.

Aiai stood by and saw the fish lifted out of the brook and recognized it at the same time as his own child, changed from a human being into an oopu.

At this point the story of Aiai gives place to that of his child.

When the oopu was placed in a large calabash with water, it was carefully tended and fed with sea-moss for some time, but one day in seeing to this duty the guardian of the chiefess, on reaching the calabash, was startled to behold therein a human child, looking with its eyes. And the water in the calabash had disappeared. She was greatly surprised and seized with a dark foreboding, and a trembling fear possessed her as she looked upon this miraculous child.

This woman went and told the chiefess of this child they knew to have the form of an oopu, and as Kikihale heard the story of her guardian she went quickly, with grave doubts, however, of this her report, but there, on reaching the calabash, as she looked she saw indeed a child therein. She immediately put forth her hands toward the child and lifted it to her, carefully examining, its form noted its agreeable features. As the thought quickly possessed this girl she said: "Now my guardian, you and your husband take and rear this child till he is grown, then I will be his woman."

The guardian answered her: "When this child becomes grown you will be an old woman; that is, your days will be in the evening of life, while his place will be in the early morn. Will you not thereby have lasting cause for dissatisfaction and contention between you in the future?"

Kikihale answering her guardian said: “You are not to blame, these things are mine to consider for the reason that the desire is mine, not yours, my guardian.”

Just after this talking it was quickly known of this child among the chiefs and attendants, and he was nourished and brought up to adult age when Kikihale took him for her husband as she said she would, and for a time they dwelt together as man and wife without disagreement between them.

But during these days Kikihale saw plainly that her husband was not disposed to do anything for their support, therefore she mourned over it continually and angrily reproved him, finally, with these words, saying:

“Oh my husband, can you not go forth also, as others, to assist our father and the attendants in the duties of fishing, instead of eating till you are satisfied then rolling over with face upward to the ridge-pole of the house and count the ahos? It may do while my father is alive, but if he should die whence would come our support?” Thus she spoke reproachingly from day to day and the words stung Puniaiki’s heart with much pain.

And this is what he said to his wife one day: “It is unpleasant to hear you constantly talking thus. Not as wild animals is the catching of fish in the sea; they are obedient if called, and you may eat wastefully of my fish when procured. I have authority over fish, men, pigs and dogs. If you are a favorite of your father then go to him for double canoes, with their fishing appurtenances, and men to paddle them.”

When Kikihale heard these words of her husband she hastened to Kou, her father, and told him all that Puniaiki had said, and the request was promptly executed. Kikihale returned to her husband and told him all she had done.

On Puniaiki’s going down to the canoe place he found the men were making ready the canoes with the nets, rods, lines and the pearl fish-hooks. Here he lit a fire and burned up the pearl fish- hooks, at which his wife was much angered and cried loudly for the hiaku pearl hooks of her father. She went and told Kou of this mischievous action of her husband, but he answered her not a word at this act of his son-in-law, though he had supplied five gourds filled with them, a thousand in number, and the strangest thing is, that all were burned up save two only which Kou had reserved.

That night Puniaiki slept apart from his wife and he told the canoe paddlers to

sleep in the canoe sheds; not to go to their homes that night, and they obeyed his voice.

It was Kou's habit to rouse his men before break of day to sail in the malaus⁵ for aku fishing at the mouth of the harbor, for that was their feeding time, not after the sun had risen. Thus would the canoes enter the schools of aku and this chief became famous thereby as a most successful fisherman, but on this day was seen the sorcerer's work of this child of Aiai.

As Kou with his men set out always before dawn, here was this Puniaiki above at his place at sunrise. At this time on his awaking from sleep he turned his face mountainward and looking at Kaumakapili he saw a rainbow and its reddish mist spread out at that place, wherein was standing a human form. He felt conscious that it was Aiai his father, therefore he went there and Aiai showed him the place of the pa (fish-hook) called Kahuoi, and he said to his son: "Here will I stay till you return; be quick."

Upon Puniaiki reaching the landing the canoes were quickly made ready to depart, and as they reached Kapapoko and Pakaka, at the sea of Kuloloia, they went on to Ulukua, now the lighthouse location of Honolulu harbor. At this place Puniaiki asked the paddlers: "What is the name of that surf cresting beneath the prow of our canoes?" "Puuiki," replied the men.

He then said to them: "Point straight the prow of the canoes and paddle with strength." At these words of Puniaiki their minds were in doubt, because there were probably no akus at that place in the surf, but that was none of their business.

As they neared the breakers of Puuiki, below the mouth of Mamala,⁶ Puniaiki said to his men: "Turn the canoes around and go shoreward," and in returning he said quickly, "Paddle strong, for here we are on the top of a school of akus, but strange to say, as the men looked in the water they saw no fish swimming about, but on reaching Ulukua Puniaiki opened up the fish-hook, Kahuoi, from its wrapping in the gourd and held it in his hand.

At this the akus, unprecedented in number, fairly leaped into the canoes. They became so filled with the fish, without labor, that they sank in the water as they reached Kapuukolo and the men jumped overboard to float them to the beach. The canoe men wondered greatly at this work of the son-in-law of Kou

⁵ Light double canoe for quiet water fishing.

⁶ Entrance to Honolulu Harbor.

the chief, and the shore people shouted as the akus which filled the harbor, swam towards the fish-pond of Kuwili and on to the mouth of Leleo stream.

When the canoes touched shore Puniaiki seized two fish in his hands and went to join his father where he was staying, and Aiai directed him to take them up to where his mother lived. These akus were not gifts for her, but an offering to Kuula at a ko'a (station) established just above Kahuaianawai. Puniaiki obeyed the instructions of his father and on returning to him he was sent back to his mother, Puiwa, with a supply of akus. She was greatly surprised that this handsome young man, with his gift of akus for her to eat, was her own son and these were the first fruits of his labor.

The people marveled at the quantity of fish throughout the harbor so that even the stream at Kikihale was also full of akus, and Puniaiki commanded the people to take of them day and night; and the news of this visit of akus went all around Oahu. This unequalled haul of akus was a great humiliation to Kou, affecting his fame as a fisherman, but he was neither jealous of his son-in-law nor angry, he just sat silent. He thought much on the subject but with kindly feelings, resulting in turning over this employment to him who could prosecute it without worry.

Shortly afterwards Aiai arranged with Puniaiki for the establishing of kuulas, koas (stations) and fish-stones around the island of Oahu, which were as follows:

The Kou stone was for Honolulu and Kaumakapili; a kuula at Kupahu; a fish-stone at Hanapouli, Ewa. Ahuena was the kuula for Waipio; two were assigned for Honouliuli. Hani-o was the name of the ko'a outside of Kalaeloa; Kua and Maunalahilahi for Waianae; Kamalino for Waimea; and Kaihukuuna for Laiemaloo, Koolau (Keli'ipio et al., 1902:122-128).

In another version of the tradition of 'Ai'ai, he is born on O'ahu near Kaumakapili. His parents tossed him into the stream of Nu'uaniu and he floated down to an area where a rock was situated in the stream, near the former Haalilimanu Bridge. Fornander reports:

The water carried the child to a rock called Nahakaipuaumi, just below the Haalilimanu bridge, where it is seen to this day (of writing), where it floated. [King] Kipapalulu was at this time living at Kapuukolo, where his palace was situated, with his daughter, Kauaelemimo by name. One day at noon she went in bathing with her maids and discovered Aiai by a large rock. Kauaelemimo took the child as her own and brought it up... (1917:556)

4.1.3 He Kaao no Kauilani – A Tradition of Kauilani

The tradition of Kauilani spans various islands of the Hawaiian Archipelago and follows the children of chiefly parents with a godly lineage. The parents of Kauilani and Lepeamoa were Keāhua and Kauhao, both of whose names are commemorated as places in the ‘Ewa District. Kauhao’s parents were Honouliuli (k.) and Kapālama (w.); the lands which bear their names were named for them. Lepeamoa, the daughter, was born in a supernatural form, possessed of both nature and human body-forms. She participated in histories of great importance during the reign of Kākuhihewa as king of O‘ahu. The original account, “He Kaao no Kauilani,” was published in *Ka Nupepa Kuokoa* (September 18 – October 30, 1869), as submitted by S. Kapohu. Subsequently, Westervelt published an English translation of the tradition in 1915, excerpts of which are also cited below.

Ka Nupepa Kuokoa
He Kaao no Kauilani.

September 18, 1869 (page 1)

DRAFT

Kauilani was the son of Keahua (k) and Kauhao (w), and he was the younger brother of Lepeamoa (w). The family resided at Wailua Kauai, where Keahua was the high chief. Kauilani was descended from high chiefs of Kahiki and Hawaii, and both Kauilani and his elder sister, Lepeamoa, were possessed of supernatural powers.

The elders of Kauhao were Kapalama (w) and Honouliuli (k), and the lands on which they lived are now named for them. When Lepeamoa was born, she was born in the form of a hen’s egg. Discerning the supernatural nature of her granddaughter, Kapalama and Honouliuli sailed to Kauai on their canoe, Pohakuokauai, and retrieved the egg. With the egg, they then returned to Kapalama, where they cared for the egg until it hatched. While sailing from Kauai to Oahu, the canoe passed by Pokai, Waianae, and sailed along the fine shore of Kualakai, Ewa. From there, they sailed to the many harbored bays of Puuloa, and entered into the opening of Puuloa where they landed their canoe on the side of the bay. From there, they traveled along the plain to Kapalama...

[The story continues, describing the care given to the egg-grandchild, Lepeamoa, which when hatched, took the form of a beautiful bird with many brightly colored feathers.]

September 25, 1869 (page 1)

After Lepeamoa was taken to Oahu, her younger brother, Kauilani was born. He was taken and reared by his paternal grandparents, Laukaieie (k) and

Kaniaula (w), in the uplands of Wailua. Kauilani was bathed in a sacred pool, which caused him to mature quickly, and his grandparents instructed him in various skills and forms of Hawaiian combat. During this time, a god Akua-pehu-ale rose up and fought against Keahua and his people, capturing them and holding them captive. Following the instructions of his grandparents, Kauilani fought against the god, and vanquished him, returning the rule of Kauai to Keahua...

October 9, 1869 (page 4)

After the battle, Kauilani and his father were reunited, and in this way, the youth learned that he had a sister who was being raised on Oahu, by the elders of Kauhao. Kauilani determined to go and seek out his sister, and Kauhao instructed him about the lands he would pass and how he would know his sister.

She told him that he must sail from Wailua and along the coast of Waianae, and along the shore of Puuloa, where he would find a landing and the path to Kapalama. Before his departure, Kauhao also gave Kauilani a supernatural spear named Koa-wi - Koa-wa, which would help him along his journey, and lead him to his elders on Oahu.

Departing from Wailua, Kauilani traveled to the shore at Nukolii. He threw the spear, and then took off after it, across Kaieiewaho channel, sailing to Oahu. In his canoe, Kauilani passed the coast line of Waianae, and he then drew near the shore of Kualakai where the spear had landed. While Kauilani was traveling from Kauai to Oahu, two sisters, Kamalulena and Keawalau, who had been surfing at Kualakai, returned to the shore and found the spear. Seeing the spear, and recognizing its excellent quality, the sisters hid it, seeing no man who could claim it.

Shortly thereafter, Kauilani passed the coast of Waianae and landed on the shore of Kualakai to retrieve his spear. Upon landing, Kauilani saw the two sisters and noted that his spear was nowhere to be seen. Kauilani inquired of the sisters if they had seen the spear, which they denied. Kauilani discerned that they were lying, and told them so, and he then called out to his traveling companion, the spear, Koa-wi Koa-wa. The spear answered from where the sisters had hidden it, and Kauilani picked it up and threw it again. It landed near the entry way to Puuloa.

October 23, 1869 (page 4)

Arriving where the spear landed, the spear then told Kauilani to climb a wiliwili tree that was growing nearby. From there, he would see a rainbow at the shore, and a person picking limpets, octopus, and other things. That person would be Lepeamoa, Kauilani's sister. Kauilani climbed the wiliwili tree and saw a red patch of a rainbow upon the water near the shore. He asked Koa-wi Koa-wa about this, and learned that it was the rainbow shroud of his sister, who was in her bird form near the shore. Before Kauilani could approach Lepeamoa, she disappeared, returning to Kapalama. Kauilani prepared to follow, and as he drew near, Kapalama knew of his arrival, and ordered food to be prepared. As Kauilani drew near the house, Kapalama saw him and cried out, greeting her grandson. They ate together, and then Kapalama inquired about the purpose of Kauilani's journey. He explained that he wished to see his sister, Lepeamoa...

October 30, 1869 (page 4)

Before meeting her young brother, Lepeamoa tested Kauilani to determine the depth of his skills and strength, and his ability to care for himself while traveling around the islands. Kauilani demonstrated exceptional strength and skill, and Lepeamoa took her human form and greeted Kauilani. After spending ten days together, Lepeamoa instructed Kauilani to go to Waikīkī kai, where the king, Kakuhihewa was hosting Maui nui, king of Maui. Maui nui and Kakuhihewa were competing against one another, in the sport of cock-fighting (hoohakaka moa)... Kakuhihewa was losing and the stakes were the life of the king that lost... Learning that Kauilani had arrived on Oahu, Kakuhihewa, who was related to the chiefs of Kauai, sent his messengers to seek out Kauilani, in hopes that he might be able to help...

Westervelt (1915) provides the earliest translation of the events in the account of Lepeamoa, as they took place in the Honolulu-Waikīkī region. As the events unfold, Kakuhihewa and his court were assembled at Ulukou, Waikīkī (the area of the Moana Hotel):

...At this time Kakuhihewa was entertaining his sister and her husband, Maui-nui, who was king of the island of Maui. According to custom, the days were devoted to sports and gambling.

Maui-nui had a kupua, a rooster, which was one of the ancestors of Kauilani's family, but was very cruel and destructive. He could assume a different bird forms for each magic power he possessed. This, with his miraculous human powers, made him superior to all the roosters which had ever been his antagonists in cock-fighting. It was the custom of this king to take this kupua

in his rooster body, with some other chickens, and visit other chiefs, having many battles and winning large amounts of property, such as the best canoes, the finest mats and kapas, and the most royal feather cloaks, as well as the lands of the chiefs who had not been subject to him. Sometimes, when all available property had been won, he would persuade a chief to "bet his bones." This meant that the poverty-stricken chief, as a last resort, would wager his body against some of the property lost. If defeated, his life might be taken and his body sent to the most noted heiau (temple) of his opponent and placed on an altar as a human sacrifice, or the body could be burned or cooked in a fire oven and thrown into the sea.

Kakuhihewa and Maui-nui had been passing many days in this sport. When the Maui king was afraid the game might be given up, he would let some of the ordinary chickens fight, or would select the weakest from his flock. Then a large amount of property might be returned to the original owners, but he took care to lead his opponents on until their pride or their shame compelled them to wager their very last resources.

Thus, the betting had gone on from time to time until the Maui king had provoked Kakuhihewa into betting his kingdom of Oahu in an almost hopeless attempt to win back all that had been lost before.

The Oahu king realized that his brother-in-law was using a bird of magic power, but his bets had been made and word given, and he did not know of any way in which he could get sufficient magic to overcome his antagonist. He had heard about Kauilani, a wonderfully powerful young chief on Kauai, who had conquered a god of the seas and restored a kingdom to his father. He had sent messengers to Kauai to ask this young chief to come to his aid, promising as a reward the hand of his favorite and most beautiful daughter in marriage; but the days passed and no word came from Kauai. Meanwhile Kauilani came before Kakuhihewa and was announced as a young chief from Kapalama. No one thought of any connection with the noted warrior of Kauai.

The king was very much pleased with the young chief, and finally asked him if he had seen his chickens, and if he would like to go to the place where they were kept.

Kauilani saw the chickens and sent for water, which the keepers brought to him. Taking it, he sprinkled the eyes of the roosters. None of them had sufficient power to keep from shutting their eyes when the water struck their heads. Then he said to the keeper, "These birds will not be of any use for our

chief."

Then he went to see the king's tabu rooster, the one reserved by the king for any' last and desperate conflict. This he also tried and found wanting.

The keepers then sent word to the king that a strange young man with great wisdom was looking at the chickens, and the king came out and asked Kaulani about the tests.

The young chief sprinkled water as before, and then said to the king, "Perhaps your rooster has strength and perhaps he has no power."

The king said: "Ah! We see that this tabu rooster has no strength for this conflict. He closes his eyes. His enemy is very strong and very quick. We shall be defeated and belong to the king of Maui."

Then Kaulani said, "Perhaps I can find a bird of very great powers who can save us."

The king said: "If you defeat Ke-au-hele-moa⁷, the magic rooster of the king of Maui, you shall become my son. My daughter shall be your wife..." (Westervelt, 1915:229-232)

Kaulani agreed and he returned to Kapālama, where he told Lepe-a-moa and his elders about the matters at hand and the threat against the life of Kākuhihewa. Kapālama explained to the children:

"That great bird is one of our own family, and has very great power, but Lepe-a-moa has much greater power if you two work together. He must not see her until she goes out to fight with him..."

Lepe-a-moa made herself very beautiful with a glistening spotted feather cloak. Her pa-u, or skirt, was like fire, flaming and flashing. Kaulani told her she must go first, as the eldest one of the family. Thus they passed in their splendid feather dresses down to Kou (Honolulu) and out to Pawaa, the people shouting and praising the beautiful girl...

Kakuhihewa sent Kou, one of the highest officers in his government, to go after Kaulani. This Kou was the chief after whom Kou, the ancient Honolulu, was named. Kou found the young chief sleeping, and aroused him, telling him the

⁷ Westervelt writes the name "Keauhele-moa," though S. Kapohu's original texts write the name as "Kauhele-moa," which is the same spelling as given in other place name accounts and chants.

king was very sorry for the anger of his daughter, and asking him to come back to the king's house and on the morrow see the day of death.

Kauilani told Kou to return and tell the king to prepare everything for the day of battle, and hang a large kapa sheet between two posts. He pointed out two roosters which were to be taken first. The king was to send them one by one to fight. When they were killed the king was to ask for a time of rest. "After this will be the time for my battle." Thus he instructed Kou, who returned and told the king... (Westervelt, 1915:234-237)

The narratives describe a great battle between the two supernatural beings, in which Keauhelemaoa (Kaauhelemaoa) assumes many different bird-forms, is killed by Lepeamoa, and peace is brought back to the kingdom of Kākuhihewa. In the last battle, Lepeamoa—:

...whirled around the left side [of Ke-au-hele-moa]. He struck at her. As his wing was spread out she flew in and broke it, so that it fell useless by his side. Then she struck his eye, and he was entirely blind. She dashed against him, and he fell over. She clawed and picked and tore his body until it was in small pieces and his life was destroyed.

The people shouted with a loud voice: "Auwe! Auwe! [Alas! Alas!] The rooster of the king of Maui is dead! Ke-au-hele-moa is dead! The king of Maui is to die!"

The name of this rooster, it is said, was given to a place far up Palolo Valley, near Honolulu.

When the people shouted, Kauilani stood up in his splendid cloak and sash and cried out: "Aye! Aye! Dead to me. Dead to Kauilani, the child of Keahua and Kauhao!"

His sister flew to him and he took her and disappeared in the confused, moving crowd of excited people. Thus they returned to Kapalama.

The king ordered his people to make search everywhere for Kauilani... For several months the search was prosecuted. Even the mountains, hills, valleys, forests, jungles and caves were looked over as carefully as possible. By and by two chiefs, Kou and Waikīkī, saw the signs of a high chief over Kapalama's group of houses, and went up to make inquiries. They saw Kauilani and told him that the king wanted him to come back.

Kauilani sent the chiefs, Kou and Waikīkī, back to the king with the message that he would follow the next day... (Westervelt, 1915:241-244)

Saturday Press
Dictionary of Hawaiian Localities.

Kaauhelemao: A mountain ridge and pond in the mountains at the head of Palolo Valley, Oahu. It is famous as the last resting place of the wonderful goblin rock in the legend of Kaauhelemao. It is one of the sights for sightseers, and is known as a wahi pana – “famous place.”

In a series of articles titled “No ke Kaapuni Makaikai i na Wahi Kaulana a me na Kupua, a me Na’lii Kahiko Mai Hawaii a Niihau” (Traveling to See Famous/Storied Places, Learn of the Supernatural Begins, and the Chiefs of Old, from Hawai’i to Ni’ihau), Samuel M. Kamakau presents a series of traditions which also add to our understanding of important places, customs, beliefs, and events in history. In the narrative collection are found accounts from the lands of Kewalo, Kukuluāe’o, and portions of Kālia and Waikīkī. The following narratives are excerpted from the original 1865 articles and the 1991 publication of translations prepared by Mary Kawena Pukui.

*Tales and Traditions of the People of
Old.*

Kapo'i was a man of the land at Kahehuna in Honolulu. When Kapo'i went to gather pili grass at Kewalo, there around Pauoa, he found some owl eggs and then he returned home. In the evening he prepared to cook them. An owl landed at the entrance of his house, and the owl called out, "O Kapo'i return my eggs to me." Kapo'i

Ninau aku la o Kapoi; “Ehia hua?” “E hua hiku.” Olelo aku la o Kapoi; “E pulehu ana au i keia mau hua i ai na’u.” Olelo mai la ka pueo; “E Kapoi — e homai au hua;” “E pulehu ana au i keia mau hua;” Olelo aku la ka pueo; “Aloha ole oe e Kapoi i ka haawi ole mai i o’u mau hua.” Olelo aku la o Kapoi. “e kii mai i ko hua.”

asked, “How many eggs?” “Seven eggs.” Kapo’i then said, I am cooking these eggs for me to eat.” The owl said, “Kapo’i, you have no compassion if you do not return my eggs to me.” Kapo’i then told the owl, “Come get your eggs.”

Ka lilo ana o ka pueo i akua no Kapoi.

The owl becomes a god of Kapo’i.

Kauoha mai la ka pueo ia Kapoi e hana i Heiau; a e kukulu i kuahu a i lele, a o ka inoa o kahi e kukulu ai o Manoa.

The owl then instructed Kapo’i to make a heiau, an altar and sacrificial platform, and the name of the place where it was built was Manoa.

DRAFT

Kukulu iho la o Kapoi i ka Heiau a paa. A kau iho la i ka mohai a me ka maia iluna o ka lele, a kapu iho la, a noa ae la.

Kapo’i built the heiau, and he placed offerings of banana upon the sacrificial platform, thus it was consecrated and then freed.

Kukui aku la, a lohe ke Alii o Kakuihewa, e noho ana i Waikīkī, me ka olelo ia aku, ua kapu mai nei kekahi kanaka i ka Heiau o kona akua, a ua noa. He kanawai kapu, ina e kukulu kekahi Alii a kanaka paha i ka Heiau, a kapu e mamua, a noa, aole nae i noa ke kapu Heiau a ke Alii Aimoku; alaila he kipi ia, a hookahi ona hope o ka make. Nolaila, kii ia mai la o Kapoi, he lawehala, a alakai ia i Waikīkī i ka Heiau o Kupalaha.

News of this reached the King, Kākuhihewa, who resided at Waikīkī, that a man had consecrated a heiau for his god, and freed it. Now it was forbidden that any chief and man could build a heiau, sanctify it, and make it free except for the chief who controlled all the island. There for it was determined that he was a rebel and that he should die. Therefore, Kapo’i was caught and taken to Waikīkī, to the heiau of Kūpalaha.

Ia la no, kii ia ka pueo o Hawaii, o Lanai, o Maui, o Molokai, a akoakoa i Kalapueo. O na pueo o Koolau, o Kahikiku, a akoakoa i Kanoniakapueo. O ka pueo o Kauai, o

That day, the owls of Hawai’i, Lāna’i, Maui, and Moloka’i were all called together at Kalapueo. Also, the owls of Ko’olau and Kahikikū gathered at Kanoniakapueo, and the owls of

Niihau, o ke komohana, a akoakoa i Pueohulunui.

Kaua'i and Ni'ihau gathered at the west, at Pueohulunui.

I ka la i o Kane ka hoouka ana o ke kaua. No ka mea, oia ka la e make ai o Kapoi; a e kau ai iluna o ka lele.

On the day dedicated to Kāne the battle (of the owls) was to occur, that was when Kapo'i was to be killed and placed upon the altar.

I ka wanaao ka hoomaka ana o ke kaua, i ka puka ana mai o ka la: Ua uhi paapuia kona malamalama; lele mai la ka pueo a wawalu i ka maka, i ka ihu o kanaka; a lanakila ka pueo maluna o kanaka : A o ka hanalepo o ka pueo, ua paumaele na kanaka. Ua kapaia kela wahi o Kukaenahiokapueo. Ua olelo aku o Kakuihewa ia Kapoi; he akua mana kou, a o kou akua ka oiaio.

In the early morning, the battle began, with the rising of the sun. The light was blocked out as the owls flew down, striking at the eyes and faces of the men. The owls were victorious over the men. The owls also defecated upon the men, and that place came to be called Kukaenahiokapueo. Kākuhihewa then said to Kapo'i, your god is powerful and a true god.

Nolaila, ua hoola ia o Kapoi; a ua hoomanaia ka pueo i akua. Oia hoi o Kukauakahi.

Thus Kapo'i was saved and the owl came to be worshiped. It was known as Kukauakahi. [page 23]

No Huanuiikalalailai.

I ko'u makaikai ana i kahi i hanau ai ; ua loa ia'u ma ka wanana mele a ka poe kahiko. Penei:

About Hua-nu-ka-lā-la'ila'i

While visiting the place of my birth [Mokulē'ia, in Waialua, O'ahu], I obtained a wānana mele of the ancients, ka po'e kahiko. Here it is:

"O Huaakamapau ke lii,
O Honolulu o Waikīkī,
I hanau no — la,
I Kahua la i Kewalo,
O Kālia la kahua,
O Makiki la ke'we,
I Kanelaau i Kehehuna ka piko,

I Kalo i Pauoa ka aa,
Iuka i Kahoiwai i Kanaloahookau."

Hua-a-Kamapau the chief
Of Honolulu, of Waikīkī
Was born at Kewalo,

Kālia was the place [the site].
At Makiki the placenta,
At Kānelā'au at Kahehuna the navel cord,
At Kalo at Pauoa the caul;
Upland at Kaho'iwai, at
Kanaloaho'okau...

He Alii maikai o Hua, o kana puni o ka mahiai; nana i hana o Kewalo a me Koula.

Hua was a good chief. His favorite occupation was cultivating, which he did at Kewalo and at Kō'ula.

He Alii malama i na makaaainana, a hoopunahale i na keiki makahiapo a puni ka aina. Ua kapa aku na makaaainana, o Huanuikalalailai.

He was a chief who cared for the people and made favorites of the first-born children all over the land. The people named him Hua-nu-ka-lā-la'ila'i.

Aia kona kupapau i Niuula ma Honokohau i Maui. O Puukea kana Heiau, aia ma Kukuluāeo. He wahi kaulana no ia i ka wa kahiko.

His remains are at Niu'ula in Honokōhau, Maui. Pu'ukea was his heiau; it is there at Kukuluāe'o in Honolulu.

DRAFT

Penei ka Wanana Kahiko:

It was a place famous in olden times according to the ancient wānana:

“Ua puni ka ia — e Mokumoa,

...Overcome [are] the fish of Mokumoa,

Ua kau ia i ka nene,

Washes up fish to the nene plants;

Ua haa ka-lo-hanu,

Lays low the taro as it patters down;

Haa ka ia o Kewalo,

Lays low the fish of Kewalo,

Haa na uala o Pahua,

Lays low the sweet potatoes of Pahua,

Haa ka mahiki i Puukea.

Lays low the mahiki grass at Pu'ukea,

Haa ka unuunu i Peleula,

Lays low the growing things at Pele'ula,

Haa Makaho i ke ala,

Lays low Makaaho [Makāhoa] in its path.

E Ku — e,

O Kū, the rain goes along the edge [of the island], o Kū...

Ma ke kaha kaua — e Ku.”

Ma ka mookuauhau o Huanuikalalalai; malaila e loa'i ka moololo o Kana a me Niheu, no ka mea, oia kona kupuna.

In the genealogy of Hua-nu-ka-lā-la'ila'i will be found the stories of Kana and Niheu, for he was their ancestor.

O na'lii mahope mai o Hua i noho ma Honolulu. O Pueonuiokona; o Kapaemahu; o Oiouli; o Oiomea; o na

The chiefs after Hua who lived in Honolulu were Pueo-nui-o-kona, Kapaemāhū, 'Oi'ouli, 'Oiomea, and the

keiki a Paikua; o Kahonuimaeleha; o Kahonumaeleka; o na keiki a Lonoawohi; o Kapuaahiwa ma.

children of Pa'ikua, Ka-honu-i-ma'elehā, Ka-honu-ma'elekā, the children of Lono-a-wohi, and Kapua'a-hiwa ma. [page 24]

No Puowaina.

He puu kaulana o Puowaina, aia ma ka aoao Hikina o Honolulu. Me he pikawai la kona kino ke nana'ku, a ua poepoe maikai ololo o luna o kona waha.

About Pūowaina

Pūowaina is a famous hill, it is there on the Eastern side of Honolulu. Its shape is like that of a water pitcher and it is nicely rounded above at its mouth [opening].

Ina e ku ke kanaka maluna ona, ua ike maopopo ia i ke kulanakauhale, me ka aoao hikina, a me ka aoao komohana.

If a man stands atop it, he can become familiar with the town, to both the eastern side and the western side.

DRAFT

Aia maluna ona ka umu ahi e puhi ia ai na 'lii a me ma kanaka i ke ahi...

There at its top was an oven in which chiefs and commoners were burned in its fires. [page 25]

No Kawaaokekupua.

He waa keia no Kahanaiakekua ma ka Wananakoa kahi i kalai ia ai, a oki, a i ke kauo ana i kai me na'lii a me na kanaka. Ua kauo ke akua iuka, a puepue ka waa. Aole i paa i ke akua, ua lilo i kanaka.

About Kawa'aokekūpua

This was a canoe for Kahānaiakekūpua. It was cut down and carved at Wānanakoa, and it was hauled down by the chiefs and the people. But a god hauled it back towards uplands, and they fought over the canoe. The god could not hold it and it became the peoples.

I ka hiki ana i Kahookane, ua hakaka me ka moo.

Upon arriving at Kaho'okāne, they fought with a mo'o.

He kuna ka mea i paa ai o ka waa.— (Ua oleloia he kuna ka mea nana i pani ka wai o Honolulu) ke waiho nei keia waa ma Kahookane a hiki i keia la.

It was a kuna (freshwater eel) that held back the canoe. – (It is said that this kuna is the one that held back the water of Honolulu.) And the canoe is there at Kaho'okāne to this day... [page 28]

“Ka maiewa lauoho loloa o ka hala,
 Kauna lauoho loloa o Hanalei,
 I hoao mokumoku ia e ka ipo,
 Ua moku ka welelau,
 O kelakela ke kupu,
 Mamae ka liko ua eha Kaukaopua,
 Akahi o hai mai i ka eha,
 Ua eha ia.”

No Luanuu.

He keiki o Luanuu na Laka, o
 Hikawolena kona makuahine, no
 Waimea, i Kauai, ma Peekauai kahi i
 hanau ai o Luanuu.

I ka wai ula o Mahaihai, i ke one aei o
 luhi kahua. I luhi i kamaikeaho ka-a-
 a. I kona i Peapeamakawalu ke ‘ewe.
 I ke kaha i kolo ka piko.

Ua hanai ia o Luanuu i Kauai a nui; a
 ua oleloia he Alii maikai oia.

O ka mahiai kana hana nui. Ua hoolilo
 oia ia Kauai i mahinaai momona no
 kona Aupuni.

I ka manawa i kokoke ai o kona
 makuakane o Laka e make ma
 Kualoa.

Ua kauohaia o Luanuu e holo mai e
 ike. I ka holo ana mai, ua laweia o
 Laka i Waikane. I ke kokoke ana e
 make o Laka. Ua laweia i kai o Ahua o
 Laka, a malaila oia i make ai.

A ua kapaia kela wahi ma kona inoa,
 a hiki i keia la. Na Luanuu i hoihoi i ka

About Luanu‘u

Luanu‘u is a son of Laka, and
 Hīkāwolena was his mother...
 [Continues with a short account of
 Luanu‘u’s life, the death of his father
 Laka, and Luanu‘u’s old age.]

hooilina kupapau Alii, aia ma Iao, i
Wailuku, Maui.

Ua hoi o Luanuu i Kauai, a malaila no
oia i noho ai a elemakule.

Luanu'u returned to Kaua'i and
resided there until he was an old
man...

He Aupuni maikai kona a ua mahalo
na kanaka a pau iaia. I kona kokoke
ana e make ua hoihoi ia mai oia i
Oahu nei. Mawaho o Mamala oia i
make ai, a ua hoihoiia ma Puukea, no
ka oihana a Kahuna, a ma Honuakaha
kona wahi i waiho ai.

As the time of his death drew near, he
returned to O'ahu. Outside of Māmala,
he died, and he was taken to Pu'ukea
because he was of the priesthood
order, and was placed (buried) at
Honuakaha.

A ke waiho nei o Luanuu i ka ua
waahila o Nuuanu.

Luanu'u is there in the Wa'ahila rains
of Nu'uuanu... [pages 29-30]

DRAFT

"O ka lua o Haho,
O Luanuu kameha,
O kahai o Lono,
O Keakihala o Kahalaie,
Ooe ia e Kane,
O Kane oe o kaula i ke apo lani,
O kaula hooleilei a Makalii,
Ia Makalii oki ka lua,
Kiai ka la ilaila,
Nana mai o ke kanaka a Kaukuna,
O ke kanaka a Kaukuna,
I Manuakahi i ka poipoi,
I Kahopuaiku,
I aiku i Kaiwikanihele ai.
Hele kaiwi o kalua ka'u aloha."
(Aole i pau.)

Waikīkī

The ahupua'a of Waikīkī is at the eastern side of Honolulu. On its southeastern side is a rounded hill with a kapu bathing place in it... Waikīkī sits proudly in the calm of the Ka'ao breeze.

Waikīkī was a land beloved of the chiefs and there are many of them lived from

remote times to the time of Kalanikūpule. Board surfing could be indulged in there, and for this reason the chiefs like the place very much. At Waikīkī are the surfs of Ka-lehua-wehe, 'Aiwohi, Maihiwa, and Kapuni.

I nui kai mai Kahiki	The great sea from Kahiki
I miha kai i ka 'āina	Quietly surrounds the island
I po'i ke kai i kohola	The sea breaks on the reef flats
I nehe ke kai i ka 'ili'ili	The whispers to the pebbles
I kīkī ke oho i ke kai	The hair is dressed with seawater
I 'ehu ke oho i ke kaili	The hair is reddened by the salty sea
I lelo ke oho i ke kai loa	The hair is yellowed by the foamy sea
He kai lihalaha kō kapu'a	A savory kai [gravy] is the of pics
He kai likoliko kō ka moa	An oily kai is the of fowl
He kai he'e nalu kō Kahaloa	Kahaloa has a sea for surf riding
He kai ho'opuni kō Kālia	Kālia has a surrounding sea
He kai 'au kohana Māmala	A sea for swimming naked is Māmala
He kai 'au o Kapu'eone	A sea for sandbar swimming is Kapu'eone
He kai kā 'anae kō Ke'ehi	Ke'ehi has a sea for kicking out 'anae fish
He kai 'elemhi i Leleiwi...	A sea for 'elemihi crabs is at Leleiwi...

Cultivating was a great occupation of the chiefs, and the land of Waikīkī was made productive through cultivation – from the inland side to the coconut grove beside the sea. The chiefs constructed many ponds and stocked them with fish, and they made irrigation ditches about the land that led into the fishponds and the taro pond fields. In ancient times no bulrushes were seen, but now – what has happened...? (Kamakau, 1991:44-45; Pukui, translator)

4.1.5 He mau mea i hooalahala ia no na mea loko o na Kaa Hawaii (There are a number of things to Criticize in Hawaiian Lore)

In 1868, Kamakau referenced the tradition of Kana and corrected certain details that had been previously reported. Notably, there are recorded the names of certain chiefly and priestly ancestors who were the founders of lineages tied to various ahupua'a on O'ahu. Kamakau also referenced the role of kōlea (golden plovers) at Moanalua and Kapapakōlea, and their recording the first census of the Hawaiian people. Original texts and excerpts from his account follow below⁸:

Ka Nupepa Kuokoa

⁸ Some of the references and language style are of an older form. The present translator could only provide an approximate translation of: E hui kala mai ia'u.

He mau mea i hoohalahala ia no na mea lloko o na Kaaō Hawaii.

Pepeluali 15, 1868 (aoao 3)

E Na Luna Hooponopono o ke Kuokoa e:— Ke waiho aku nei au i ko’u mahalo i ka mea kakau kaaō o ko kakou mau Nupepa hai naauao o ka Lahui holookoa; a e lilo ana ia i kumu alakai i ka Lahui, a i ka poe opiopio, a e lilo ana ia mea e hoonaauao ai i ka hanauna hou aku. Aka, eia ka’u mea kanalua, aole pololei o kekahi mau mea i kuhikuhiia no ka moololo o Kana.

O ka moololo kuauhau o Kana. Aole he oiaio no Hawaii; no o Oahu ka oiaio maoli. O Hua a Kamapau ko lakou kupuna, oia hoi o Huanuiikalalailai ke alii i hanau i Kewalo no Honolulu. Na Huanuiikalalailai o Kuheailani nana mai o Hakalanileo. O Kamaile i Waianae ka aina o Hakalanileo.—O Hoohoakalani, he alii wahine no Hilo i Hawaii.

O na keiki i hanau i Oahu, o Kekahawalu, o Kepani, o Haka, a me Niheu. O Makaha, i Waianae ka aina o Niheu—^{DRAFT} O ke keiki hope loa o Kana, aia ma Hanaianoa i Kanowa ma Puueo ma Hilo kahi i hanau ai o Kana. Ua lilo ia Uli ka hanai o Kana, i ka makuahine o Hoohoakalani i uka o Kapahukeya. E ninau i ko Hilo poe kahiko a e loa no na kuli o Hana. Aka, aia ma Oahu ka nui o kona wahi i noho ai, e nana ma Kaneohe e kokoke ana i Kaulakola, aia kokoke malaila na maka o Kana. Aia ma Kahana, ma ka loko o Huilua kekahi wawae, aia ma Ahiu anu ai ka Hana kekahi kuli, a Kiei ke poo ma ke kuahiwi o Punaluu.

Ua olelo ke kakau kaaō, he poe kanaka no Kahiki mai ka poe kanaka a Kōlea ma i hai aku ai ia Moi maloko o ko lakou mele helu kanaka. Aole pololei o ia olelo ana. No o Oahu na kanaka i helu ia. Aole nae pololei loa. E hoomaka ma Waikīkī ka helu ana, e helu ia ka nui o na kanaka o kela ahupuaa o keia ahupuaa a puni o Oahu. O Pepemua, o Pepemahope, o Pepeloa, o Pepekamuimui, no Waiawa ia poe kanaka; O Kiele Nahulu no Waipio; O Malamaihanee no Waikēle. O Kaulu no Hoaeae; O Lekiapokii no Honouliuli, aole nae i pau pono loa na kanaka. E loa no keia poe kanaka ma ka hula Pele a Malaehaakoa.

No Keoloewa ma. Aole o Nuakea a me Moi, he mau pili hoahanau no Keoloewa ma; no Ewa no Nuakea me Moi, o Laakona ko lakou mua, oia o Ewa a Laakona. O ko lakou makuwahine o Wehelani, a o ko lakou makuakane o Keaunuiamaweke. Ua lilo o Nuakea i wahine na Keoloewa, a ua hanau mai ka laua o Kupau-a-Nuakea, oia ke kuamoo alii a me ke kuamoo kahuna o Hawaii ma o Kalahumoku la. No Keoloewa ma. O Hinakeka ko lakou makuawahine, a o Kamaua ko lakou makuakane. O Keoloewa Nui a Kamau, o Haili nui a Kamau, o Kapepee Nui a Kamau, o Ulihalanui a Kamau. Ma o Haili Nui a Kamau,

oia ke kupuna o Kaululaau. O Haili nui a Kamau noho ia Nuanualolo o Kanikaniaula, noho ia Kakaalaneo o Kaululaau.

He kanaha mele wanana, he kanaha mele hiilani, he kanaha mele kau a Moi i Wanana ai iloko o na po elima, a o ka lele no ka ka poe kolea e helu i na kanaka mai Hawaii a Kauai, i kela ia i keia la, a i ka po hai ia Moi. Hoole no o Moi, pela aku no. Aia maluna aku o Moanalua ma ke komohana akau o Kapapakolea, aia maluna o ka pohaku, he holua, no ua poe kolea la, e loa no ia ke hele e nanao.

Pela no ka moolelo o Hamanalau, o ka moolelo o Hamanalau aia iloko o ka mooalii o Oahu ; o ka mooalii o Kukaalalii aia ma ka mooalii o Hawaii.

Ina paha e hookapake ae ke kakau moolelo kaa o me na kumu kaa ana i palau mai ai.

I kaihuaauwaa—

I ka peleu—a—

Lai ku ka maa—na—

U—o—ka ale—a.

A Puuloa—la—

I ke awalau—la—

I Kapakule—a—Kohepalaoa—la.

DRAFT

Pela ka moolelo o Pakaa. Ua pololei ka makani, he uuku ka makani i haule, aia ma ka moolelo ka hemahema a me na kupuna. O ka pololei loa ma ka moolelo o Keawenuiaumi, e hana ai, he mau lala keia a he nui loa na lala e lawa ai ka moolelo o Keawenuiaumi no ka hapalua o ka makahiki a oi aku.

He pono i ka poe kakau i ke kaa o hooponopono mua i ka mookuauhau a me ka moolelo Hawaii a maopopo kahi e alakai aku ai i ka Lahui i ka ike a me ka oiaio. O ke kakau moolelo a kaa, he kanaka oia i manao nui i ka moolelo Hawaii, i na mookuauhau, a me na mookaa kahiko o Hawaii nei.

I ko'u manao, i na e like na kanaka naauao me keia kanaka a hui lokahi e hana i mau Buke moolelo Hawaii a me na kaa i ku i ka oiaio, alaila, ua pomaikai na 'Lii a me na makaaainana, ua loa ka Buke Hawaii oiaio. Ina paha e make ana au, a mahope hui kekahi poe a manao e alakai i kuu moolelo i kumu alakai no lakou. Eia ka hemahema, ua haule kekahi mau makahiki, a ua komohewa ma ka hoonohonoho ana a ka poe kukulu kepau. O kekahi mau pauku ua haule. No ka mea, hookahi wale no a'u me ka paulele ole i ka hai ike a me ka hai lohe. Ina na hai ka lawelawe a me ka hana a na'u ke kaa mai a Kumulipo mai a hiki i ka

Moi Kamehameha III. Aia a ike oukou i ka mookuahau i keia mau pule aku paha. No kuu molowa, ua kapae koe ia e a'u. Aole paha e loa ka piko a me ke au.

Aloha oukou. S. M. Kamakau.
Puakoliko, Manua, Kahehuna, Ian. 31, 1868.

Summary – There are a number of things to Criticize in Hawaiian Tales

Hail, editors of the Kuokoa: -- I extend my appreciation to the one who writes stories for our Newspaper, enlightening our nation, as a leader of the people, and for the wisdom of the youth, in the generations to come. But here is my uncertainty, some of the things pertaining to the tradition of Kana are not correct.

The genealogical tradition of Kana. It is not true for Hawaii; it is indeed true for Oahu. Hua of Kamapau is their ancestor, that is Huanuiikalalailai the chief who was born at Keawlo of Honolulu. Huanuiikalalailai the son of Kuheailani, who is the son of Hakalanileo. Kamaile in Waianae is the land of Hakalanileo. – Hoohoakalani, a chiefess was of Hilo, Hawaii.

The children born on Oahu were Kekahawalu, Kepani, o Haka, a me Niheu. Makaha at Waianae was the land of Niheu—the last child was Kana. His birth place was at Hanaianoa at Kanowa in Puueo, Hilo. Kana was raised by Uli, the mother of Hoohoakalani in the uplands of Kapahukea. Ask the old people of Hilo and you may find the deaf ones of Hana. But there on Oahu is where he mostly lived, look to Kaneohe, near Kaulakola, it is there, close to the eyes of Kana (Na Maka o Kana). There at Kahana, at the fishpond of Huilua is a footprint. There in the cold of Ahiu are deaf of Hana. Kiei is the summit of the mountain of Punaluu.

It is said by the story writer that in the census chant of Moi, that the Kolea were of Kahiki. The people counted were of Oahu. So that is not correct. The census began at Waikīkī, taking count of the people from this ahupua'a and that ahupua'a, all around Oahu Pepemua, Pepemahope, Pepeloa, and Pepekamuimui, were people of Waiawa; Kiele Nahulu was of Waipi'o; Malamaihanee was of Waikele. Ka'ulu was of Hoaeae; Lekiapokii was of Honouliuli. these are not all the people. Others are found in the Pele dance of Mālaeha'akoa.

About Keolo'ewa folks. Nu'akea and Mo'i were not close relatives of Keolo'ewa folks. Nu'akea and Mo'i were of 'Ewa, La'akona came before, that is 'Ewa a

La‘akona. Their mother was Wehelani, and their father was Ke-au-nui-a-Maweke. Nu‘akea became the wife of Keolo‘ewa, and there was born to them, Kupau-a-Nu‘akea, this is the lineage of the chiefs and priests and Kalahumoku. About Keolo‘ewa folks. Hina-ke-kā was their mother, and Kamauaua was their father. There was Keolo‘ewa Nui a Kamau, Hāili Nui a Kamau, Kapepe‘e Nui a Kamau and Ulihalanui a Kamai. Hāili Nui a Kamau dwelt with Nu‘anu‘alolo o Kanikaniaula, who dwelt with Kaka‘alaneo, (to whom was born) Ka‘ululā‘au.

There are forty prophecy chants, forty exaltation chants, and forty scared chants by which Mo‘i prophesized in the five nights, and then the flight of the kōlea (golden plovers) which counted all the people from Hawai‘i to Kaua‘i on each of the days and nights that Mo‘i chanted. While Mo‘i denied it, it was so. It was there, above Moanalua on the north west of Kapapakōlea atop the stone hōlua (sledding track), that those kōlea went about to look... If the writer of these tales might so sprinkle the stories and traditions:

At Kaihuwa‘a,
The long canoes
In the beginning
The waves are intertwined
At Pu‘uloa
The many bays,
At Kapākule and Kohepalaoa...

DRAFT

Love to you, S. M. Kamakau.

Puakoliko, Manua, Kahehuna, Ian. 31,1868. [Maly, translator]

4.1.6 He Moolelo Kaao no Kepakailiula (A Tradition of Kepaka‘ili‘ula) Events in Ancient Waikīkī and Honolulu

“He Moolelo Kaao No Kepakailiula” is a tradition about a youth, Kepaka‘ili‘ula, who was born in an ‘e‘epa (premature or mysterious) form and given up for dead by his parents. Kepaka‘ili‘ula’s father was Maka-o-Kū and his mother was Hina-ai-ka-malama, both of whom were descended from Kū and Hina, the akua – ali‘i (god-chiefs) who came from Kahiki and established the highest chiefly bloodlines of Hawai‘i. At the time of Kepaka‘ili‘ula’s birth, Makaokū and Hina dwelt near Moku-ola (now called Coconut Island) and ruled the district of Hilo.

Kepaka‘ili‘ula’s birth was accompanied by numerous displays of natural phenomena, including fragmented rainbows that rested upon the ocean, rains that poured upon the land, and rivers that overflowed upon the land. His maternal uncles, Ki‘inoho and Ki‘ihele, took these signs as omens of Kepaka‘ili‘ula’s supernatural nature. Without the knowledge of

Makaokū or Hina, Ki'inoho and Ki'ihēle rescued Kepaka'ili'ula and raised him while instructing him in all manner of fighting techniques, the use of his supernatural powers, and the notable events across the islands in which he would be the central figure.

This version of the mo'olelo was published in *Ka Hoku o Hawaii* (March 20, 1919 – December 9, 1920). The earliest published accounts of Kepaka'ili'ula date back to ca. 1863, and this version of the legend is attributed to David Malo (*Ka Hoku o Hawaii*, March 13 and 20, 1919). This account also differs substantially from the versions published in the Fornander *Collection of Hawaiian Antiquities and Folklore* (1917, IV-III:498-517; 1919, V-II:384-405). The following narratives are paraphrased translations of the Hawaiian texts with emphasis on the main places, individuals, and events associated with lands of the Waikīkī-Honolulu region and were prepared by Kepā Maly.

When Kepaka'ili'ula came of age, his uncles went in search of a suitably beautiful and highly ranked chiefess to whom Kepaka'ili'ula could be married. The journey took them around Hawai'i, where they met with sacred chiefesses of the various districts on the island. In Kona, the uncles met with the chief Keolonāhihi and his wife Kahalu'u, who were parents of the sacred chiefess Mākole'ā (also the name of a heiau not far from the shore of Kahalu'u, near the Keauhou 1st boundary). Mākole'ā was found to be the most suitable chiefess for Kepaka'ili'ula and a wedding was arranged. When the uncles departed, Keolonāhihi was approached by Kaikipa'ananea, a chief from Maui, and he broke the betrothal between Kepaka'ili'ula and Mākole'ā. This action set in motion the events which are at the heart of the story. By association with other figures identified in the tradition, the time period seems to be set around the sixteenth century in the time of Lono-i-ka-Makahiki.

When it was learned the Keolonāhihi and Kaikipa'ananea had broken the promise made for Mākole'ā and Kepaka'ili'ula, Kepaka'ili'ula traveled to Maui and confronted Kaikipa'ananea. A battle took place and Kepaka'ili'ula was the victor. After a period of time, in setting the rule on Maui in order, Kepaka'ili'ula secretly departed from Maui and sailed by canoe until he was outside of Maunaloa, O'ahu. Kepaka'ili'ula waited in his canoe until daylight began to appear and with the coming of dawn, he saw the island of O'ahu. He then continued in his canoe until he was directly outside of Waikīkī. It was here that Kepaka'ili'ula landed his canoe on the shore. While Kepaka'ili'ula had been out on the ocean, a rainbow had arched over the spot where he waited, and when he landed, the rainbow accompanied him to the shore. Because of this sign, the people on the land had known that an ali'i of a very high blood line was on the canoe.

Ka Hoku o Hawaii

**He Moololo Kaa no Kepakailiula, Ke Ahi Kanana a o ke Koa Wiwoole o
Hilo Hanakahi a i ka Moku Puni Kaulana o Moku-ola au i ke Kai.**

April 22, 1920 (page 1)

The chief who reigned over O‘ahu at this time was Kaumō‘ali, and he was a close relation of Kepaka‘ili‘ula’s father, Makaokū.

When the battle between Kepaka‘ili‘ula and Kaikipa‘ananea was being fought on Maui, news of the conflict spread to O‘ahu, and Kaumō‘ali knew that this stranger was his nephew. Understanding the sacred nature of the rainbow symbol of Kepaka‘ili‘ula’s lineage, Kaumō‘ali made ready to welcome his nephew.

As Kepaka‘ili‘ula landed his canoe on the shores of Waikīkī, six men took up the canoe, with Kepaka‘ili‘ula still in it, to carry it to the place of the canoes. Now the reason the men did this was to be helpful, for these commoners saw that the passenger was truly fair to look upon, and they did not know his status as a high chief. When the makua ali‘i (royal father/uncle) Kaumō‘ali arrived near the shore, he saw that the men had taken up the canoe; and though they did not know the sacred nature of Kepaka‘ili‘ula, Kaumō‘ali had the men taken up and killed, and placed on the lele (altar).

Although these men had only been trying to be helpful, they were put to death, and Kaumō‘ali had this done without first conferring with Kepaka‘ili‘ula. The action of his chiefly uncle was something for which Kepaka‘ili‘ula had no respect, and it was because of this that Kepaka‘ili‘ula determined not to stay long on the island of O‘ahu. The killing of those men who simply carried the chief’s canoe, shows how severe the restrictions of sacred ali‘i of high blood lines were...

After a period of time, Kepaka‘ili‘ula departed from O‘ahu and traveled to Kahiki (the ancestral home of the gods). After some years, he had a dream about the plight of Mākole‘ā and returned to Hawai‘i.

November 25, 1920 (page 1)

...Kepaka‘ili‘ula departed from the “‘āina akua o Kuaihelani” (the land of the gods at Kuaihelani), and returned to the island of Hawai‘i. He passed along the windward side of Moloka‘i and then saw the island controlled by the chief Kākuhihewa [O‘ahu]. He sailed along the side of the Ko‘olau peaks, passing near Moloka‘i. He then landed his canoe on the shores of Waikīkī, which was the home of the chiefs of this island. The people knew that the canoe was one belonging to the sacred high chief of Hawai‘i. The people greeted him with the honors befitting an island king. A great feast was held and Kepaka‘ili‘ula ate

with the ali'i of O'ahu. During the feast, the ali'i told Kepaka'ili'ula about Mākole'ā's journey in search of her husband [Kepaka'ili'ula himself], and how the chiefess had been taken by the ali'i of Kaua'i. Upon hearing the chief's words, Kepaka'ili'ula thought of the dream he had while he was at Kūkulu o Kahiki (the foundation of Kahiki). Kepaka'ili'ula then enlisted the assistance of the king of O'ahu, asking that war canoes and warriors be given to him so that he could go get the wife of his beardless days, the wife of his youth.

December 9, 1920 (page 1)

Kepaka'ili'ula also asked that one canoe be dispatched to go to Maui and fetch his maternal uncles, Ki'inoho and Ki'ihēle. It was Kepaka'ili'ula's wish that his uncles be upon a canoe with warriors as they traveled from O'ahu to fight with the "large handed" (thieving) chief of the island of Kaua'i...

Following a tearful reunion with his uncles and attendants, everything was made ready for the journey to Kaua'i. As the war canoes moved together the ocean of Māmala [Honolulu] was completely covered by the great numbers of assembled war canoes ("ua uhi pū 'ia ke kai o Māmala i ka nui lehulehu maoli o nā wa'a kaua"). Departing from Waikīkī, the canoes crossed the ocean and landed on the shore near Wailua river. The warring sides met, and Kepaka'ili'ula defeated the ali'i of Kaua'i, reuniting with Makole'ā.

Kepaka'ili'ula returned to O'ahu in the company of Makole'ā, his uncles, and the warriors and chiefs of O'ahu and Maui. Kepaka'ili'ula and companions remained at Waikīkī for a short time where they enjoyed the famous surf of Kalehuawehe before returning to Hawai'i nui o Keawe – Great Hawai'i, Island of Keawe.

4.1.7 He mele no Kualii, Kalanipipili, Kulanioaka, Kunuiakea (A Chant for Kualii, Kalanipipili, Kulanioaka, Kunuiakea)

Kūali'i is cited as a great chief who was born on the island of O'ahu in ca. 1555. He lived for 175 years, reportedly dying in ca. 1730. In his lifetime he became proficient in the art of war and rule and is credited with having unified the Hawaiian Islands under one rule several generations prior to the time of Kamehameha I. His son and heir was Peleioholani, also a noted chief of O'ahu. In her collection and synthesis of *Hawaiian Mythology*, Martha Beckwith offered the following comments on the tradition of Kūali'i:

Certain elements in the Kualii'i tradition give the impression that we have here the legend not of a single chief but of a political movement led in the name of a god, perhaps belonging to the ancient Ku line and directed against the Lono

worshippers. The names Ku-ali'i, Ku-nui-akea, Ku-i-ke-ala-i-kaua-o-ka-lani (Ku in the stone in battle of the heavenly one) and the repeated assertion of divinity suggest that some symbolic object is here impersonated as a god, like the feather god Kaili, who became in Kamehameha's day the war god Ku-kaili-moku, and was similarly handed down in a family line as a god of victory in battle. The impression is strengthened by the chronological uncertainty of Kualii's period, the length and character of his chant, the story of his birth, ushered in by the sacred pahu drums, the boast of his speed, and by the fact that his antagonists on Oahu bear Lono names. His early act of rebellion in taking upon himself a ceremony which belonged to the ruling chief to perform was in itself an assumption of superior divinity (Beckwith, 1970:396-397).

In his series of articles on the history of Hawai'i, Samuel M. Kamakau introduced a mele extolling the heritage of Kūali'i and his association with wahi pana across the islands, including those of the Honolulu region.

Ka Nupepa Kuokoa

DRAFT

He mele no Kualii, Kalanipipili, Kulanioaka, Kunuiakea.

Mei 23, 1868 (aoao 4)

Ua hanau ia o Kualii ma Kalapawai,
ma Kailua, Koolaupoko, i ka A. D.
1555.

O Mahuluanuiokalani ka makuahine,
a o Kauakahi a Kahoowahaokalani ka
makuakane.

Ua waiho aku au i ke Kumuuli me
Kumulipo no ka mohai ole ka!
Pela paha oukou. — S. M. Kamakau.

... Mai hoohaluwa ia oe—o Halawa,

E noho kaua i ka lua—o Moanalua,

Hoopiopio hau kaua—o Kahauiki,
Hookeekē lihi kaua—o Kalihi,

E pii kaua i ka lama—o Kapalama,

E nunu a paa hoawe—o Honolulu,

May 23, 1868 (page 4)

Kūali'i was born at Kalapawai,
At Kailua, Ko'olaupoko, A.D. 1555.

His mother was Mahuluanuiokalani,
and his father was Kauakahi a
Kaho'owahaokalani.

I leave to the rest to the Kumuuli and
Kumulipo.
Or perhaps for you. — S.M. Kamakau.

You should not be troubled at
Hālawa,

Let us stay at the crater/pit of
Moanalua,

We shall bend the hau of Kahauiki,
We two shall go zigzagging along the
edge of Kalihi,

We two shall ascend to the lama tree
of Kapālama,

Gathering and holding fast to the

Kiki kuu oho ilaila–o Waikīkī...
 ...O Kuikealaikauaokalani,
 A puni – Amama – ua noa.

bundle of Honolulu,
 My hair is moistened at Waikīkī...
 O Kuikealaikauaokalani
 It is encircled, Released, it is free.

4.1.8 Kānāwai Nī‘aupi‘o Kolowalu (Royal Kolowalu Law)

One of the notable traditions associated with Kūali‘i is thought to be connected to the place called Kolowalu in the area of Kukuluāe‘o. Kolowalu is connected by trails that cross Waikīkī and the Honolulu Region and is the name of a law that was established by Kūali‘i. In Fornander's *Hawaiian Antiquities and Folk-lore*, the “Kānāwai Nī‘aupi‘o Kolowalu” (Royal Kolowalu Law) is described as:

...[T]he best law during the reign of Kualii Kunuiakea Kuikeaakaikauaokalani. It was strict, unvarying and always just. It was for the care and preservation of life; it was for the aged men and women to lie down in the road with safety; it was to help the husbandmen and the fishermen; to entertain (morally) strangers, and feed the hungry with food. If a man says, "I am hungry for food." feed [him] with food, lest he hungers and claims his rights by swearing the kolowalu law by his mouth, whereby that food becomes free, so that the owner thereof cannot withhold it... (1917, Volume IV - Part II:432-433)

In another account penned by Kamakau, additional history of Kūali‘i are found in a mele wānana (prophetic mele).

Ka Nupepa Kuokoa

Na S. M. Kamakau. Helu 11.

Ka Moololo o Kamehameha I Iauali 19, 1867 (aoao 1-2)

...Eia kekahi, o na mele a ka poe kahiko, he mau mele ano nui, he mau mele wanana, he mau mele pule, he mau mele kaua, he mau mele aina noho wale, a he nui wale ke ano. Aka, o na mele o keia wa a ka poe opiopio, he mau mele hooipoipo ka nui, he mau mele hoohiehe hoalaala puuwai.

Mapuna hou mai la keia wanana o

The History of Kamehameha I January 19, 1867 (pages 1-2)

...Here also is this, the chants of the ancients were of many kind; there were prophetic chants, prayer chants, chants of war, chants of settled land, and many other kinds. But the chants of the young people in these days are largely love songs, songs to ennoble and excite the heart.

This prophecy of Kualii again comes to

Kualii.

mind:

“No wai ke kai? No Ku no,
Inu kai i Tahiti,
I piha kai i ka moana,
I poi ke kai i ke kohola,
I nehe ke kai i ka iliili,
He kai lihaliha ko ka puua,
He kai likoliko ko ka moa,
I kiki ke oho i ke kai,
I ehū ke oho i ke kailiu,
I lelo ke oho i ke kailoa,
He kai heenalua ko Kahaloa,
He kai hopuni ko Kalia,
He kai au kohana Mamala,

“Whose is the sea? For Ku indeed.
Tahiti drinks the sea;
The ocean embodies the sea;
The sea covers the shoals;
The sea rumbles over the pebbles.
Greasy is the soup of the hog;
Glistening is the soup of the fowl.
Greased is the hair by the sea;
Red is the hair by the very salt sea;
Brown is the hair with the foamy sea.
The sea for surfing is at Kahaloa;
The enticing sea is at Kalia;
The sea for swimming naked is at
Mamala;

He kai au aku ko Kapueone,
He kai ka anae ko Keehi,

The sea for swimming is at Kapueone
The sea for kicking up mullet is at
Keehi

He kai elemihi i Leleiwi,
He kai awalaukee Puuloa,

The sea for small crabs is at Leleiwi;
The sea of many crooked harbors is at
Puuloa.

He kai puhinehu puhilala...”

A sea that blows up nehu and lala...”

Owau no o ko oukou wahi lolo hai
moolelo—E aloha no i ka poe
heluhelu me ka noonoo, ia lakou
ko’u Aloha. S. M. Kamakau

I am your exponent of traditions.
Regards to the people who read
carefully, they have my salutation. S.M.
Kamakau [Pukui, translator]

4.1.9 Na Wahi Pana o Ewa i Hoonalowaleia i Keia Wa a Hiki Ole ke Ikeia (Storied Places of ‘Ewa, That are Now Lost and Cannot be Seen)

Between June 3, 1899 and January 13, 1900, the Hawaiian newspaper *Ka Loea Kalaiaina* published a series of articles titled “Na Wahi Pana o Ewa i Hoonalowaleia i Keia Wa a Hiki Ole ke Ikeia.” The author of the series is not identified, but it is a rich resource of traditions, named places and history across the lands of ‘Ewa. Also notable are references made by the author to the rapid loss of wahi pana, largely a result of the vast acreage being turned over to sugar cane cultivation.

Within the series may be found a mele which is presented in the form of a riddle, in which certain things are described and place names are the answer. The mele is cited in the issue

of January 13, 1900 while discussing traditions of Pu'u o Kapolei and Kamapua'a. The mele encircles a portion of O'ahu and includes lands of the Kahauiki-Waikīkī region. Excerpts from the article with the mele follow:

Ka Loea Kalaiaina

Na Wahi Pana o Ewa i Hoonalowaleia i Keia Wa a Hiki Ole ke Ikeia.

Ianuali 13, 1900 (aoao 1)

...E nee mai kakou i Puuokapolei. O keia pu kekahi puu kaulana loa i ka wa kahiko. Mai keia puu mai i haku ia ai kekahi mele i kamaaina i ka poe lealea o ka wa kahiko, ua haku ia apuni Oahu nei, a ma ia mele e oli ai ka poe Pukaula a me ka poe Ukeke laau, ka poe kimo pohaku, hua Noni, hua kukui paha.

Ua helu ia ka inoa o keia mele ma kainoa o ka aina, a oia ka'u e panee aku nei imua o ka poe aole i loa a paa naau i neia mele. E like me na mele kahiko i loa ole i kekahi poe, a loa hoi kahi i kekahi poe:

E Kawelo e, e Kawelo — e
E Kawelo mainui o Puuokapolei

O Puuokapolei...

E kipa kaua e ai —

O Aiea

Mai hao halawa ia kaua —

O Halawa

E hoi kaua e noho i ka lua —

January 13, 1900 (page 1)

...Let us go on to Puu-o-Kapolei. This was one of the most famous hills in ancient times. It is from this hill that chant was composed by the natives, and those who were skilled in the games of olden times. It was composed to go around the Oahu. It was with this chant that the people who played pukaula (a guessing game) and those who played the wooden ukeke (a native bow string instrument), and those who juggled stones, noni fruit or kukui nuts.

This is a chant to recount land names, and I present it before the people, who may not have it memorized. It is like the old chants that are not known by some people, though it is familiar to other people [the chant is presented in a riddle style, stating a question and answering it by speaking the place name]:

O Kawelo, o Kawelo — e
Kawelo with the large genitals, of Puu-o-Kapolei,

It is Puuokapolei...

Let be hosted to eat —

It is Aiea

We two were almost plundered —

It is Halawa

Let us two go and dwell in a pit —

O Moanalua	It is Moanalua
Hooipoipo hau kaua —	We make love in the hau —
O Kahauiki	It is Kahauiki...
E pii kaua i ka lama	Let us go up for lama wood—
O Kapalama	It is Kapalama
E nunu a haawe kaua	Let us bundle it and take it on our back
O Honolulu	It is Honolulu
Kiki kuoha ilaila	Their affection pours forth
O <u>Waikīkī</u>	It is <u>Waikīkī</u>
Kike ka hua a kaalae	Cracked is the egg of a mud hen
O Waialae...	It is Waialae...

4.1.10 Life with Kamehameha I in 1800-1819

Gideon La'anui was born in ca. 1794 in Hilo, as Kamehameha I was preparing the “peleleu” war canoe fleet to carry his battle of conquest on to Maui and O‘ahu. His family was associated with the household of Kamehameha I and traveled with the king to O‘ahu. Between 1800 and 1819, La'anui lived in the presence of the king and royal court. In 1837, he penned an account of his memories of those earlier years that people would know about the things that happened at the time. His Hawaiian account was published in the paper *Ke Kumu Hawaii* on March 14, 1838. Excerpts from the original Hawaiian narratives follow below, with excerpts from a translation first published in the *Hawaiian Annual and Almanac of 1930*.

Ke Kumu Hawaii

He Pepa Hoikeike i na mea e Pono Ai ko Hawaii Nei.

Maraki 14, 1838 (aoao 81-83)

“O ka pono ka mea e ai ka lahuikanaka; aka, o ka hewa ka mea e hoinoia‘i na aina.” Waialua, Detemaba 26, 1837.

He manao hoakaka wale no keia no ko‘u hanau ana, a me ko‘u kamalii ana, a me ko‘u hookanaka ana, a me ka ike ana i kekahi mau mea oloko o ke aupuni o Kamehameha. Kaua aku o Kamehameha, a make o Namakeha ia Kamehameha, o ka pau no ia o ke kaua ana, lanakila loa o Kamehameha.

...hiki no i Kaalaa, e noho ana no o Kaohela ma, mamua a hiki no i Kaalaa, e noho ana no o Kaohela ma, mamua mai no lakou mauka mai no ma Nuuanu mai, a noho iho la no hoi au ilaila e kamalii ana no owau. Ua moe o Kekai i ke kane o Nawailau ke kane mua, pau ia. Holo aku la ke alii a Waianae noho ilaila. Hele o Kekai me ke kane. Noho makou i ka Paeli, ilaila, ko makou mau hale,

makemake kuu wahi kahu e hele hou e kaapuni hou ia Oahu nei, hahai au i kuu wahi kahu i ke aloha, hele aku la makou mahope o ke akua makahiki a hiki makou i Waianae, kaohi mai o Kekai, aole au e noho, hele aku la no makou a Kaneohe. Ma Nuuanu no makou ka hoi ana a kiki i Kaalaa io Kaohale ma. Noho iho la no wau me o'u makua a hoi aku la makou a Waikīkī noho me ke alii o Kaohai ko makou wahi i noho ai. A make no o Kanihonui i Waikīkī, i moe me Kaahumanu, pepehiia no e Kamehameha, he keiki no na kona kaikuahine na Piipii. A hoi no makou a uka o Kaalaa noho no ilaila, a hoi mai ke alii Honolulu, mai Waikīkī mai.

A iho aku la makou a Honuakaha he wahi loko no Kaalaa o Puuokapolei ka inoa, ku na wahi hale o makou ilaila, noho ilaila, hooholo i ka ia, ilaila Kalaimoku i kauhale i ke ahi, i ke aloha ia Kuwahine o ke kaikuahine no ia o Kanihonui, i moe ia no e Boki e kona kaikaina, a me ke kaikuaana no ona e Kuakini. Nolaila pupuhia i i ke ahi kauhale e Kalaimoku, ae aku ao o Kahi no hoi a pau i ka wela, a pau ia, hoi aku la makou iuka i Kaalaa e noho ai, a loa ka laau hale. Hoi mai la makou i kai o Kou me kuu makuwahine kulu iho la ka hale o makou ma kahi e ku nei ka hale pule haole, ma kai iho olaila i kahi no ia Hoaai ma, malaila no kahi i ku ai o kauhale o makou no Kaainahuna ma wale no ia, a paapu kauhale, a ka hale puali hoi mai, ko lakou wahi. Ilaila no ko makou wahi i noho ai a ku mai ai o Kaumualii mai Kauai mai, maluna mai o ka moku haole, o ka inoa o ka haole nana i lawe mai, Unihepa, o ka moku o Kena ka inoa. A ku no hoi iwaho o Mamala. A holo no hoi o Kamehameha i kai e ike ai me Kaumualii, a ike no hoi iluna o ka moku. A holo mai iuka, a Pakaka noho a hoike o uka nei, a pau i ka hookupuia Haakulou, a pau ka hookupu ana, a hoi o Kaumualii i Kauai, poalua no iuka, pau ia. A mahope iho o ia wa, ua nui ae hoi au, he keiki no nae ke ano, a ohia he kamalii, owau kekahi, no Oahu nei kekahi poe kamalii, no Hawaii no hoi kekahi. Oia kou noho ana me ke alii me Kamehameha, haalele au i kuu makuwahine, Hele aku la maua me kuu wahi kanaka a noho i ka hale o Kaihekukui, ilaila maua kahi i noho ai, a ao makou i ka lonomakaihe, he pa okoa ka makou o Keauhulikuli ka makou kumu lonomakaihe, a hoi mai la maua a me Kinopu ma, noho ilaila i huhu ke kane a Kapihe o Maioea, haalele maua, noho maua i kahi o Kinopu ma, hele no hoi i ka ahaaina a ke alii, hele no hoi ke alii i ka mahiai, hele no, hele i ka holahola, hele no i ka hiaku, hele no wau, mai na alii aku o makou e ai ai me Pauelua ma kekahi ai ana o makou, owau o Kekuaokalani, o Kamaha. Pela no ka noho ana, moku o Unihepa, a me ko Kewiti, a iho, hoomakaukau kau moku, ka peleleu, a me ka moku o ke alii me Keoua ka inoa ia o ua moku la, pau ia, moe au me Kekuanaoa i kahi hale palama ona, hookahi po. I ka wanaao, hele mai o Kamehameha io Kekuanaoa la e moe e moe nei? I aku la o Kekuanaoa o Laanui no, a pau ia hoi aku la i ka hale, pau ia...

Hawaiian Annual and Almanac of 1930 (pages 86-93) [Translation]

This is just a plain account of my birth, youth and adult periods, and certain observation noted in the government of Kamehameha. Kamehameha battled against Namakeha, in which the latter was killed, thus ending the war, with Kamehameha victorious [1794]... There I was born, Hilo being the birth place...

[La'anui's narratives describe completion of the peleleu fleet, and travels to Maui and O'ahu, with various activities and experiences in traveling around the island.]

...We returned again to Honolulu, above Kaalaa, where our father died from his illness [ma'i 'ōku'u]. Such was the sickness. My mother was taken by my uncle, father's brother... reaching Kaalaa, where Kaohēle's folks lived... I reside there with them, being yet a child... I lived with my parents till moving to Waikīkī where I resided with the chief Kaohai. After the death of Kanihonui at Waikīkī for undue intimacy with Kaahumanu, killed by Kamehameha, thou as son of his sister Piipii, we went up to Kaalaa and lived, and the king moved to Honolulu from Waikīkī.

Shortly thereafter we went down to Honuakaha, a fishpond of Kaalaa, called Puuokapolei, and built our house and there lived during the run of fish. Kalaimoku burned a number of houses in sympathy for Kawahine, the sister of Kanihonui, living with Boki, a younger brother, and his older brother, Kuakini. For that reason, Kalaimoku burned a number of houses to the ground to which Kamehameha consented, after which we went up to Kaalaa to reside while getting house timbers.

We came down to the shore of Kou (Honolulu Harbor), my parents and I. The king was awake night and day. My father was drilling with him. Our house was erected where the foreign church [Bethel] stands. Below that was the place of Hoaii folks. There stood the cluster of houses belonging to Kaainahuna folks. Adjoining the drill house, their place. There we lived till the arrival of Kaumualii from Kauai on a foreign ship, commanded by Winship. The vessel was named O'Cain. It anchored outside Mamala. Kamehameha went down to meet Kaumualii on the vessel. On landing at Pakaka they held audience there, after which was a prostration hookup, at the close of which Kaumualii sailed for Kauai.

After that time (I had grown somewhat but still of youthful appearance) there was a gathering together of children. I being one, some of Oahu and some of

Hawaii. That was my living with the king Kamehameha. I forsook my mother. I and my male companion went and stayed at the house of Kaihekukui, where we were taught spear practice. We had a distinct enclosure. Keauhulikuli was our spear instructor. We came with Kinopu folks and stayed there till Maioea, the husband of Kapaihe, getting angry, we left and stayed with Kinopu. Went to the feast of the king. The king went to cultivated food, we accompanied; went to the spreading [fishing with ‘auhuhu or ‘ākia on the reefs]; went aku fishing, I also. From our bowling went to the feast, us children following, and the chiefs off on one side eating with Paelua folks, some of our food, Manono and I, with the chiefs, also Kekuaokalani and Kamaha. Such was our living, till loading sandalwood on the vessels of Winship [Unihepa] and Davis [Kewiti] for Makao, China. Shortly after they sailed my vessel, the peleleu, was made ready, and the vessel of the king called Keoua. When done I slept with Kekuanaoa, at his Palama house one night. At dawn Kamehameha came over to Kekuanaoa, who was asleep with me, he asked “Who is this sleeping here?” Kekuanaoa replied, “It is Laanui,” with that he went to the house. It is finished...

4.1.11 The Honolulu-Waikīkī Region During the Residency of Kamehameha I

Native historian John Papa ‘Ī‘Ī was one of the preeminent Hawaiian authors of the 1860s. His writings were based on personal experiences as a member of the Kamehameha household and a key figure in the evolving Hawaiian Kingdom of the period. ‘Ī‘Ī penned a series of articles titled “Na Hunuhuna no ka Moolelo Hawaii” (Fragments of Hawaiian History) in the native language newspaper *Ku Okoa*. The narratives provide important details on the history of noted places and people across the Kona District landscape of the Honolulu-Waikīkī region. ‘Ī‘Ī’s history is written from personal experiences, observations and firsthand accounts and cites many named localities crossed by the rail corridor. These named places are a part of the storied landscape with their significance spanning traditional times through the historic period. While the events of the later period erased physical remains from the surface of the ‘āina, the spirit of place survives and in many instances is embodied in place names that are still used in the modern day.

Pele‘ula a site of many Healing Heiau

Peleula was covered with healing heiaus, where offerings were made and methods of healing were taught. The locations of all diseases they had sought and found in man were marked by the placing of pebbles. This helped them to recognize the nature of the disease. Feeling with the hands indicated whether the disease would be fatal or was curable if treated then. They learned the proper remedy, the methods of treatment, the results to expect, and the island where a disease was first discovered. For instance: “It appeared on the island of Niihau (or Kauai, or another island); such-and-such was the place; such-

and-such is the pig to offer; such-and-such is the clothing; such-and-such is the disease; and such-and-such is the remedy.”

This went on until all the islands were mentioned, with the diseases and medicines, the kinds of pigs, and the clothing suitable for offerings. All of these things composed and arranged for memorizing were learned by all the students of the art of healing. These were among the things they recited to the medical instructors, including the names of the ‘aumakua gods of healing from remote times. This was done in front of the heiaus we have mentioned, and if the recitation was perfect, it was believed that such a person would attain skill in treating various diseases. A live pig, squealing on the way, was brought to the kahuna as a gift from the patient. If there were many kinds of diseases in a patient, the methods of treatment were many and it was understood that the expense would be great... (‘Ī‘ī, 1959:46)

The Fishponds of Kālia – Kamehameha’s Disdain for Waste of Fish

Once Kinopu gave a tribute of fish to Kamehameha’s son, Kinau, at Moehonua’s fish pond in Kalia. While Kinau and his wife Kahakuhaakoi (Wahinepio) were going to Waikīkī from Honolulu, the sea came into the pond and fishes of every kind entered the sluice gate. Kinopu ordered the keepers of the pond to lower fish nets, and the result was a catch so large that a great heap of fish lay spoiling upon the bank of the pond.

The news of the huge catch reached Kamehameha, who was then with Kalanimoku, war leader and officer of the king’s guard. The king said nothing at the time, but sat with bowed head and downcast eyes, apparently disapproving of such reckless waste. Had they caught enough for a meal, perhaps forty or twenty, nothing would have been said. However, Kalanimoku, apparently knowing why the king kept his head bowed, commanded Kinopu to release most of the fish. Kinopu’s act became common knowledge, and the report caught up with the two travelers, Kinau and Kahakuhaakoi... (‘Ī‘ī, 1959:49)

Noted Sites of the Honolulu Vicinity, and Practices in the Time of Kamehameha:

...Kamehameha, with the members of his court, also gave much attention to farming, especially in Nuuanu, from Niolopa to Hapuu. He also farmed at Ualakaa in Manoa, in Waikīkī, and in Kapalama.

When Kamehameha went to Nuuanu, mounted on his horse, Kawaiolaloa, many of the children, including Ii, followed him with great interest. They found

innumerable people all over the farming area, from down below the present road at Niuhelewai to the bend in the road where the houses of the Portuguese now stand. The bulrushes were as nothing, for they were cleared away in a single day. Some men cut the rushes, some dug them out, some built mounds, and others covered the mounds with the rushes. Much food was provided for the noonday meal of the workers, who then resumed their work until evening. The actual planting was reserved for the caretaker of the land.

So it was on the following day, at Kahoikekanaka, close to Kamanuwai at Peleula. It, too, was teeming with men, though there had been more people at Nuuanu. The men, scattered systematically from a spot on the upland side to a place on the seaward side, dug and beat on the banks with dried coconut-leaf stems. The next day they trampled in the wet patches and planted taro. When the workers and Kamehameha ate, Ii shared in the food, for among the men in the crowd were his mother's own brothers. All he did was watch the horse, but actually he just wanted to be there.

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After these projects, three schools for lua fighting (pa ku'i-a-lua) were established by Kamehameha, and perhaps there were some smaller ones. Hahakea was the instructor at one of them, Namakaimi was the instructor at another, and Napuauki and his assistant were teachers at the third. At the school taught by Napuauki and his assistant were twenty-four boys from Kamehameha's court who were trained for more than two months. Among them was the king's own son Kekuaiwa, who was older than the chiefess Kinau. Ii also attended this school, as did Kekuanaoa, father of Kamehameha IV and V. Twenty-three of these boys are dead at this writing.

Earlier, some of Kamehameha's warriors had been organized into a company called the Kulailua (Knocked Over). It was so named for the force by which the discharging of a rifle on the shoulder made one fall backward...

We have already seen some things accomplished under Kamehameha, but some not mentioned previously were fishing, canoe-making, paddle-making, and the like. His craftsmen were as well cared for as were his farmers, and there were many of them. His wish was to obtain prosperity for the people.

Here let us return briefly to farming. The places Kamehameha farmed and the houses he lived in at those farms were show places. His farmhouses in Nuuanu stood several hundred fathoms away from the right side of Kapaehala, a knoll on the western side of Nuuanu Street and Hanaiakamalama House. Perhaps the location was chosen to enable him to look both inland and seaward to his

food patches. Some elevated houses seem to have been for that purpose. So it was with Puupueo, directly below Ualakaa. He dwelt part of the time at Helumoa in Puaaliili, Waikīkī (in the house mistakenly called Kekuaokalani; Kuihelani is the correct name) to till the famous large gardens there. He also lived in Honolulu, where his farms at Kapalama, Keoneula, and other places became famous. These tasks Kamehameha attended to personally, and he participated in all the projects.

Kamehameha was often seen fishing with his fishermen in the deep ocean, where the sea was shallow, and where fish-poison plants were used. He took care of the canoe paddlers who went out for aku fish, bringing in supplies from the other islands for them, and sent ships to-and-fro fetching nets, lines, olona fibers, and other things. Part of his goodly supply of such necessities he divided among his chiefs and among those he had conquered. Because of his generosity, all of the chiefs worked too and gave him a portion of the products of their lands.

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...While Ii was at court, there were two other occasions when sports and games were held in the royal town of Honolulu. These occurred when the makahiki gods went forth from the luakini heiau at Leahi...

...In the evening of the day on which the wooden gods departed to go on their circuit of the island, the chiefs who had fed the attendants remained secluded with their possessions from daylight to dark. The attendants of the gods carried them facing backward when they traveled. Therefore it was said that the eyes of Lono remained upon the activities of the people when the gods left the presence of the chiefs for the circuit of the island. The procession went from Honolulu toward Ewa, and when the procession reached the boundary between Honolulu and Kapalama, the akua loa stopped with its two alai markers, two sticks that were used to mark the area that was made kapu for the god. This area was forbidden to the people, but not to the attendants. As the akua loa stood on its designated place, the persons in charge of the land of Kapalama brought all the taxes of the land. If the taxes were sufficient, the tapa of the aku[a] loa was gathered in (papiō'ia) and the god proceeded to the next ahupua'a. The akua pa'ani was placed where the akua loa had stood to inspire the men to box (T̄i, 1959:68-75).

Places and People on Oahu – Trails of the Kona District:

...Perhaps it would be well to follow the Honolulu trails of about 1810, that they may be known, and to determine whether the houses were many or few. Let us begin looking.

The trail from Kalia led to Kukuluaeo, then along the graves of those who died in the smallpox epidemic of 1853, and into the center of the coconut grove of Honuakaha. On the upper side of the trail was the place of Kinau, the father of Kekauonohi. His houses were made kapu after his death, and no one was permitted to pass in front of them. Piopio and others were in charge.

The trail came out of the coconut grove and went on to Kaaopā. Mauka of the spot where it came out of the coconut grove was a bare place, like a plain, and below this spot were Keopuolani's houses. Back of her houses was a long stone wall, beginning outside of the grove and going north to the edge of the pond of Umukanaka, as far as a cluster of houses there.

The trail went by Papa's heiaus of healing, and in front of them was Hookuku, the residence of the heir to the kingdom. His houses were separated from all the others there because of the strict kapu surrounding them. Four kapu sticks were set up, one at each corner, about 2 chains away from the houses; and the trail was about 5 fathoms beyond the sticks. When those approaching drew near to the kapu sticks, they observed the rules we have mentioned previously.

We have spoken of Kaaopā before as the location for the homes of attendants to the heir to the kingdom. Their houses stood on both the makai and mauka sides of the trail, set apart from the others like those of the heir. From the makai side of Kaaopā was a trail to the sea at Kakaako, where stood the homes of the fishermen. Below the trail lived Hewahewa and his fellow kahunas. The trail led to the spot where the ship Namahana was berthed, then went on to Kaholoakeahole. The Namahana was in the charge of Leleahana, father of Abel Wahineahi, and was berthed on the north side of Naahu's place, where Halakika later resided. North of where this trail branched off from Kaaopā, and close to the home of Ii's mother, was a coconut tree on which the boy made a swing. Here he and his companions whiled away hours each evening. The person who could chant the most pleasingly swung the most often.

Also on the north were Leleahana's houses, then those of the attendants of Kekuaiwa, son of Kamehameha. Kekuaiwa's home was set apart with four kapu sticks. Next came Kekumanoha's place, then a vacant place that reached as far as the bathing pool of Honokaupu, above Queen Street, north of a pier at the corner where Queen and Alakea Streets now meet. There were two houses above this bathing pool which belonged to Kaiwikokoole; and north of the pool was one house, on the mauka side of the trail. Many bathers gathered of ten at this pool.

The trail went on above the spring of Honokaupu to the loku site at Merchant and Alakea Streets. Just above this spot it joined the trail from Waikīkī which came over a wall and branched off to the two drilling sites mentioned earlier. Beyond them, to the west of the drilling sites, were the king's houses. A trail joined the one from Waikīkī above the field where maika rolling and foot racing were held, on the mauka side of the king's houses, and came out at Pakaka.

West of the Honokaupu spring was the pond owned by Mataio Kekuanaoa, where the coconut trees later grew. The houses of the king's stewards were there, in the charge of Kamokupanee. Makai, and south of the drilling field, was a temporary house for those of the Kulailua company. On the makai side of the temporary house were the houses of the gods Kalaipahoa, Kihawahine, and others. Just beyond the houses of the gods were Kalanimoku's houses, close to the edge of the sea. The trail there was always used to reach the drilling field, for by going between the houses of the gods and the heiaus one escaped death. Mauka of Kalanimoku's houses were Kalaimamahu's houses, and there he had died. Next to Kalanimoku's houses were those of Kalaniakua, Liliha, Kekauonohi, and Namahana.

Let us return to where the trail from Waikīkī met the trail from Honuakaha, mauka of the Honokaupu spring. The trail ran on from there until it reached above Aienui, going by the big stone house of Kimo Pakaka, or James Robinson. It went to the maika field of Kikihale, and then on to the stream above Lepekaholo (Liberty Hall). Adjoining Kikihale and stretching from Kaumakapili to the south side of John Meek's yard was the maika field of Kalanikahua. On the south side of Kalanikahua were Kaoleioku's houses and those of Kekuaokalani, son of Keliimaikai. Each side of this maika field was bordered with houses, as was the maika field of Kikihale. A loku site at King and Nuuanu Streets, mentioned before, was where the two maika fields joined, and that place was without a house.

On the mauka side of the place where the trails met at Honokaupu, houses occupied both sides of the trail. The stone wall mentioned before ran on mauka of the church at Polelewa to the upper corner of King and Nuuanu Streets. Then the stone wall turned and went on up to Beretania Street. The fence on the mauka side was made of hau wood, and it led to the corner of Emma Street. There it turned and came down to meet the edge of the trail from Waikīkī. That was the enclosure of the yam farm called Kapauhi mentioned earlier.

The trail to Nuuanu began at Kalanikahua and led north of Kaumakapili Church

to below the little stream which flowed out of Kamanuwai pond. There the trail turned slightly to the right, went along the edge of the pond, and down into the water. Then, coming up on the bank onto Waiakemi, it led on to Waaakekupua, along the bank of the taro patches, to the Pauoa stream, up to Pualoalo, and on to the gap at Nuuanu Pali.

Our description of the trails of the royal town is finished, but we have not yet told of the trails going to lower Waikīkī, Kamoilili, and Manoa. A trail led out of the town at the south side of the coconut grove of Honuakaha and went on to Kalia.

From Kalia it ran eastward along the borders of the fish ponds and met the trail from lower Waikīkī. At Kawaiahao a trail passed in front of the stone house of Kaina, late father of Kikaha. The trail went above Kalanipuu's place, along the stream running down from Poopoo to the sea, close by Kaaihee in Makiki, to Puu o Manoa, then below Puupueo, where a trail branched off to go to upper Kaaipu and Kahoiwai, and another to go below Kaahulue, to Kapulena and Kolowalu.

The trail from Kawaiahao which led to lower Waikīkī went along Kaananiau, into the coconut grove at Pawaa, the coconut grove of Kuakuaka, then down to Piinaio; along the upper side of Kahanaumaikai's coconut grove, along the border of Kaihikapu pond, into Kawehewehe; then through the center of Helumoa of Puaaliilii, down to the mouth of the Apuakehau stream; along the sandy beach of Ulukou to Kapuni, where the surfs roll in; thence to the stream of Kuekaunahi; to Waiaula and to Paluki, Kamanawa's house site. The latter was named for the Paluki in Punahoa, Hilo. Perhaps that was where Kamanawa lived when the king resided in Hilo during the battle called Puana, prior to the building of the great peleleu fleet.

From Paluki the trail ran up to Kalahu, above Leahi, and on to the place where the Waialae stream reached the sand. The trail that ran through Kaluahole...

...Let us now examine the remainder of the places in the royal town, for we have not yet seen them all. There were many people living in those other places. Perhaps we should glance first at the spot below Kikihale's maika field. Many people who lived here at Kapuukolo were fishermen who fished with draw nets and with the many other kinds of nets needed in their profession.

Kuihelani was an important person there, for he was of high station. He had many people to serve him, his wives were many, and his household was large.

Ii went often with his mother to see Kuihelani, who was related to them, perhaps through Kaaloakaulani or perhaps through their makuahine. This large family was related to the family of Luluka. Perhaps that was why the mother and the boy went to these places often and were known by many of the people in the household of each wife, who lived there as a retainer. Because of his skill in handling the property of the king, Kuihelani attracted prosperity to himself. The keeping of a multitude was as nothing to a man so wealthy. The king's faith in him never changed, for the king's lands in his charge were cared for by his kinsmen, and they were obedient to Kuihelani's commands. Therefore the kinsmen also held good positions and were well known.

Among these people was the Spaniard Paula Marin, a friend of the king, who lived wherever the king's relatives lived. On his place—which was surrounded on the sides, back, and part of the front by Kuihelani's property—he had two or three horses, one a mare, and a young cow. Marin was very fond of fishing, perhaps because he saw Kamehameha doing it. And he was also an expert in the stick hula.

Makai of Kuihelani's own home was Keliimaikai's home, which was on the coral point where the first custom house stood. On the south side of this place was berthed the Kaaloo, a ship belonging to Kuihelani, which lay at the extreme north of all the ships previously discussed.

Near the Kaaloo and in the vicinity of the custom house at the beach was a house for the very first Chinese ever seen here. There were two or three of them and they prepared food for the captains of the ships which took sandalwood to China. Because the faces of these people were unusual and their speech—which is now commonly heard—was strange, a great number of persons went to look at them.

On the south of Kuihelani's residence was that of George Isaac Davis and his company of people. The chiefs' places extended from there, above the maika field to the Honokaupu trail junction. Near there, too, were the houses for the king's stewards, and above that group of houses were the houses of the warriors. These stood on the upper side of the trail. Among the chiefs' houses were those of Kuakini, of Kaiko, and of Kaukuna Kahekili, Kaiko's younger brother.

Let us turn to look at the trail going to Ewa from Kikihale, up to Leleo, to Koiuiui and on to Keoneula. There were no houses there, only a plain. It was there that the boy Ii and his attendants, coming from Ewa, met with the god Kaili and its

attendants who were going to Hoaeae. When the kapu moe was proclaimed, they all prostrated themselves on the plain until the god and his attendants passed by.

When the trail reached a certain bridge, it began going along the banks of taro patches, up to the other side of Kapalama, to the plain of Kaiwiula; on to the taro patches of Kalihi; down to the stream and up to the other side; down into Kahauiki and up to the other side; turned right to the houses of the Portuguese people; along the plain to Kauwalua, Kalaikoa's house of bones; down to a coconut grove and along the taro patches of Kahohonu; over to the other side, and from there to a forded stream and up to Kapapakolea, an established resting place for travelers.

From there the trail went to Kaleinakauhane, then to Kapukaki, from where one could see the irregular sea of Ewa; then down the ridge to Napeha, a resting place for the multitude that went diving there at a deep pool. This pool was named Napeha (Lean Over), so it is said, because Kualii, a chief of ancient Oahu, went there and leaned over the pool to drink water... (Ūi, 1959:89-95)

Kuloloia – The Home of Namahana and Naming of the Family

...The good royal mother Namahana, mother of Kaahumanu ma, also died at Kuloloia, where she had a home. During her life she was known for herself control, and she was considered the best behaved and the noblest of persons. As she was beautiful in appearance, so were her deeds. Perhaps that was why she was espoused by Kamehamehanui. As we have seen, they were both the children of Kekaulike, and so they were brother and sister through the one parent. When Kamehamehanui died, Namahana was taken at once by Keeaumoku, who was a relative and who is said to have been a handsome man.

Namahana was a fine old lady when she died. A younger cousin of Namahana's children, who was present at her death, was named Kuloloia for the place in which Namahana died. This was a custom of those who loved their chiefs in the olden days. While the cries of lamentation arose and Namahana's body was on view, someone came from Waialua or thereabouts to die with her and share the same grave, which was another ancient custom with some who loved their chiefs and sought peace of mind. The heir to the kingdom was kept at Waikīkī during the period of mourning, for Honolulu was defiled by the royal corpse (Ūi, 1959:100-101).

First Stone Houses Built in Honolulu

Aikona's first stone house, which was built in Honolulu before the company

left Oahu [ca. 1811], stood near W. N. Ladd's stone house. On its north was the first custom house. For this house, the chiefesses and men and women of the royal household brought earth for mortaring from Kanelaau [site of a heiau on Pū'owaina]. They formed a large procession, and by time for the morning meal, the earth was in such a great heap that they had enough. This well-built house was the only large stone building of that time. Marin's house was built like it, for Aikona was his son-in-law, through marriage with Miela, Marin's oldest daughter.

When Aikona began building the end and side walls of the house at Kamakahonu he built a third wall between them and arranged stones in the center of this middle wall to form a door. The walls rose together until the house, from one end to the other, was finished. When Aikona later removed the stones set up in the doorway of the center wall, the doorway looked like the fine arched bridge of Pualoalo at Peleula in Honolulu... This house was well completed. In the stone house were stored the king's valuables and those of Aikona. These valuables were kegs of rum and gunpowder and guns, of which the guns and powder were placed on the inside near the inner wall. Rum distilled on Oahu accounted for most of the freight aboard the ship Keoua when it returned to Hawaii (Ō'Ō, 1959:120).

Noted Surfing Spots

Kapua and Kaihuwaa are surfs on Oahu. Kapuni and Kalehuawehe are at Waikīkī, and Ulakua is a surf at Honolulu (Ō'Ō, 1959:135).

Naming of Nihoa at Honolulu

The British Consul, Richard Charlton, said in a speech that W. P. Kalanimoku had leased him the land of Nihoa in Honolulu and declared that J. A. Kuakini had seen the document. This greatly puzzled the chiefs and they questioned the existence of such a lease, for that land belonged to Kaahumanu, who had named it Nihoa in remembrance of the visit that she and Kaumualii had made to that island. When the king and the premier, Kekauluohi, went to Lahaina in January or February of 1840, Ii went along for the purpose of seeking Kuakini and finding out about the alleged lease. After the king reached Lahaina, Ii went on with the premier to Kailua in Kona, Hawaii, where he found Kuakini. He emphatically denied associating with the consul in conjunction with the lease (Ō'Ō, 1959:166).

John Papa Ō'Ō's original texts were translated by native Hawaiian ethnographer Mary Kawena Pukui of the Bishop Museum, with editing and research assistance from Dorothy Barrere, also of the museum's staff (1959). Working with these translations, Bishop Museum's Paul

Rockwood and Dorothy Barrere wrote a paper on the Honolulu region and Rockwood drew a map depicting the region as described (Rockwood, 1957; **Figure 10**). Rockwood also added several of the key road ways in the town as a means of understanding exactly where features were located.

The following narratives from the paper prepared by Barrere and Rockwood provides clarity as to the locations of wahi pana in the downtown Honolulu district:

Kamehameha I, who had been living at Waikīkī since 1804, moved his court to Honolulu in 1809. His immediate court consisted of high-ranking chiefs and their retainers, but in the area also lived those who contributed to the welfare and enjoyment of court members, from fishermen and warriors to whites and the chiefs of lesser rank. In those days, the area was not called Honolulu. Instead, each land section had its own name.

Beginning near the mouth of Nu‘uanu Stream, makai of King Street was Kapu‘ukolo, “where white men and such dwelt.” Among them were Francisco de Paula Marin, the Spaniard who introduced horticulture to Hawai‘i, and Isaac Davis, friend and co-advisor with John Young to Kamehameha. Here too lived Kuihelani, a relative of I‘i and an important chief who had charge of many of the king's lands. Near his place was the home of Keli‘imaika‘i, full brother of Kamehameha, on the coral point “where the first custom house stood.” There on the beach was a house for “the very first Chinese ever seen here.” Mauka of Kapu‘ukolo were two maika fields and a loku site. A loku site contained a house for the enjoyment of various indoor games and amusements such as kilu, puhenehene, chanting, or dancing. The two maika fields at Kikihale were bordered with houses, notably those of Kaoleioku and Kekuaokalani, son and nephew respectively of Kamehameha.

Next to their homes was one wall of a large yam field, where in 1812 the first Fourth of July celebration in Honolulu was held by the captains of three trading vessels just returned from China. Makai of the yam field [Kapauhi] were homes of warriors and lesser chiefs and on the shore at Nihoa, “between Ka‘ahumanu and Nu‘uanu streets”, was a shipyard where foreign style vessels were being made by the Hawaiians under the tutelage of whites.

Next along the shoreline “surrounded by a fence” was the establishment of Kamehameha himself, consisting of many houses, for himself, for Ka‘ahumanu and other chiefesses, and for his gods and his personal attendants. Close by were two drilling sites and a “foot racing” and maika field, where the king kept a personal eye on the performances of his warriors and chiefs. Near the shore,



Figure 10. Honolulu in 1810 (1957, Paul Rockwood & Dorothy Barrere; based on Narratives of John Papa ʻĪʻi)

“in front of the courthouse,” was a Hale-o-Lono, where Liholiho, later Kamehameha II, regularly kept the kapus of the gods therein.

Next along the beach of Kuloloia was the home of the chiefess Namahana, mother of Ka’ahumanu; that of Liliha, mother of Keopuolani, Kamehameha's sacred wife and mother of Kamehamehas II and III; then that of Kalaniakua, sister or cousin of Liliha. Then came the residence of Kalanimoku (also written as Kalaimoku), the king's prime minister, known to the foreigners as “Billy Pitt.” His residences were called Papakanene and Moku’aikaua, and the land long bore the name Moku’aikaua. Mauka of his place was that of Kalaimamahu, Kamehameha's half-brother and his war leader in early battles for supremacy over Hawai’i. Though his houses remained, Kalaimamahu had died some years before. Nearby were a gods' house and houses for the king's stewards, as well as a temporary house for the lua wrestlers.

Mauka of this area was a “cluster of houses” and another loku site “at Merchant and Alakea streets.” Beyond, along the shoreline, was the home of Kekumanoha, uncle of Ka’ahumanu, “on the south side of Richards street.” Next came the establishment of Kekuaiwa - a son of Kamehameha by Kaheihimalie - who died in young manhood. Farther along were the homes of kahunas, headed by Hewahewa, high priest of Kamehameha, and the same man who abetted in the overthrow of the kapu system after the king’s death. At Kaka’ako were the homes of fishermen who, together with those who lived at Kapu’ukolo, supplies the needs of the court...

Only for a short while did Honolulu appear as is shown here, for in the latter part of 1812 Kamehameha and most of his court, including Liholiho and I’i, went to Hawai’i, where he remained until his death in 1819.

4.1.12 Ka Moolelo Hawaii – O kekahi mau mea i manao nui ia o ke kupapau (Hawaiian History – Some things which are of importance pertaining to the dead)

Care for the dead (kupapa’u), respect of the graves (ilina), and traditions associated with the spirit after death are subjects of great significance to Hawaiians – past and present. In his history of the Hawaiian people, Samuel M. Kamakau shared a collection of traditions and practices pertaining to the dead and identified some of the places of importance in these practices. These narratives are of particular importance to lands and specific wahi pana of the Kahauiki-Honolulu-Waikīkī region.

Ke Au Okoa

Ka Moolelo Hawaii. Na S.M. Kamakau. Helu 43.

O kekahi mau mea i manao nui ia o ke kupapau.

Okatopa 6, 1870 (aoao 1)

...Hookahi anahuna kaulana ma Oahu. O Pohukaina ka inoa, aia ma ka pali o Kanehoalani mawaena of Kualoa a me Kaaawa, ai ka puka i manao ia ma ka pali o Kaoio e huli la i Kaaawa, a o ka lua o ka puka aia ma ka punawai o Kaahuula-punawai. He anahuna alii keia, a he nui ka waiwai huna iloko a me na'lii kahiko. O Hailikulamanu, oia kekahi puka, aia a kokoke makai o ke ana Koluana i Moanalua, aia ma Kalihi, ma Puiwa, oia na puka ekolu o Pohukaina ma Kona, a o Waipahu ma Ewa, aia ma Kahuku i Koolauloa kekahi puka, a o kauhuhu o kaupaku o keia hale anahuna, oia no ka mauna o Konahuanui a iho i Kahuku. Ua olelo ia ma ka moolelo a kanaka, ua nui ka poe i komo iloko me na ihoiho kukui, mai Kona aku nei a puka i Kahuku...

Na uhane mahope o ka make ana o ke kino. O ke ao kuewa: a o ke ao auana kekahi inoa. I ka make ana o ke kanaka kuleana ole, ua auana kuewa hele kona uhane me ka lalau hele i ka nahelehele, a ua hele wale i Kamaomao, a i ka wiliwili o Kaupea, a hiki kona uhane i Leilono, aia malaila ka Uluolaiowalo; a i loa ole kona uhane aumakua i maa mau ia ia, a aumakua kokua hoi, alaila, e lele kona uhane ma ka lala ulu popopo a haule ilalo liko i ka po pau ole i o Milu la...

O Leiolono, oia kekahi wahi e make ai na uhane i ka po pau ole. Aia o Leiolono kokoke i ka pohaku o Kapukaki a ma nae aku, e kupono ana i puu hoilina kupapau o Aliamanu, a huli i ka aoao akau o Hokupaa, aia ma ke kapaluna o ke alanui kahiko, aia he hapapa pahoeheoe pohaku, a ia maluna he wahi ponaha, he alua paha kapuai ke anapuni, oia ka puka e iho ai ilalo, o ka nuu ia o Papaia-Laka he ao aumakua ia wahi, aia ma ka puka e iho ai o ka puka o Leiolono, he ulu o Leiwalu, elua lala ma ka hikina kekahi a ma ke komohana kekahi, he mau lala ulu hoopunipuni keia, a o kekahi lala niu, he lala e lele ai i ka po pauole, a o ka lua o ka lulu ulu, aia a kokua ia mai e ka uhane aumakua kokua, alaila, e ike auanie maia ao aumakua, i na kupuna i olelo ia o Wakea a me ka huina kupuna a pau, a me ko ke ao holookoa e hele nei, i ka lakou huakai; a o kekahi hapa, aia ma kela alala ulu hoopunipuni i ka po pauole. O ka palena o Leilono, o Kapapa-kolea ka palena hikina, he peelua nui launa ke kiai hikina o Keleana; a o Napeha ka palena komohana, a he moo ke kiai malaila, a i makai i keia mau kia, alaila hoi hou i hope, a i kokua hou ia e na uhane aumakua, alaila, ua hou, a ua alakai ia i ke ao aumakua.

A i makau i ka peelua e alai ana i ke alanui mai kela aoao mai o Alia, kiei je poo

ma ka pali o Kapakolea, alaila makau ke uhane a auwana, a pili aoao ma ke kahawai ma ka hale hana ili, aole he alanui aupuni mamua, aka, he alanui kamaaina no Kauhilaale, a ua olelo ia aia a komo ka auwana maloko o na palena, he make wale no kona uhane, a o ke lele i ka po pau ole; aka, ua oleloia ua ola mai no kekahi poe uhane auwana ke loa i na uhane aumakua kokua, a o ka poe kokua, a o ka poe kokua ole, e make no i ka po pauole, a i o Milu la. Aia ma ke kula o Kaupea, ma ke kaha o Puuloa, e hele ai na uhane auwana e poipoi pulelehua, a e poipoi nanana, oiai aole e hele loa na uhane auwana i na wahi i olelo ia mamua, a i loa paha i na uhane aumakua e poipoi nanana ana, a ua hoopakeleia, a o ka poe uhane kokua ole, he poe uhane haukae lakou, a mai ka wiliwili i Kaupea, i Kanehili, he nui no na wahi i oleloia ma keia inoa. O Kalea-a-kauhane [Ka-leina-a-ka-uhane], a me ka Ulu o Leiwalo, aia ma Hawaii, ma Maui, ma Molokai, ma Lanai, ma Kauai a me Niihau, hookahi no moolelo like no keia mau wahi...

Translation — Hawaiian History: Some things which are of importance pertaining to the dead

DRAFT

There is only one famous hiding cave, *ana huna*, on Oahu. It is Pohukaina. The opening on Kalaeoka'o'io that faces toward Ka'a'awa is believed to be in the *pali* of Kanehoalani, between Kualoa and Ka'a'awa, and the second opening is at the spring Ka'ahu'ula-punawai. This is a burial cave for chiefs, and much wealth was hidden away there with the chiefs of old. On the Kona side of the island the cave had three openings, one at Hailikulamanu—near the lower side of the cave of Koleana in Moanalua—another in Kalihi, and another in Pu'iwa. There was an opening at Waipahu, in Ewa, and another at Kahuku in Ko'olauloa. The mountain peak of Konahuanui was the highest point of the ridgepole of this burial cave "house," which sloped down toward Kahuku. Many stories tell of people going into it with kukui-nut torches in Kona and coming out at Kahuku. Within this cave are pools of water, streams, creeks, and decorations by the hand of man (*hana kinohinohi'ia*), and in some places there is level land (Kamakau, 1964:38; M.K. Pukui, translator).

The leina a ka 'uhane on Oahu was close to the cape of Ka'ena, on its right (or north, 'akau) side, as it turns toward Waialua, and near the cutoff (alanui 'oki) that goes down to Keaoku'uku'u. The boundaries of this leina a ka 'uhane, it is said, were Kaho'iho'ina-Wakea, a little below Kakahe'e, and the leaping place (kawa-kai) of Kilauea at Keawa'ula. At these places would be found helpful 'aumakua souls who might bring back the spirit and restore life to the body, or if not, might welcome it to the realm of the 'aumakua. Places within the boundaries mentioned were where souls went to death in the po pau 'ole,

endless night.

Leilono at Moanalua, Oahu, was close to the rock Kapukaki and easterly of it (a ma ka na'e aku), directly in line with the burial mound of Aliamanu and facing toward the right side of the North Star (a huli i ka 'ao'ao 'akau o ka Hokupa'a). On the bank above the old trail there was a flat bed of pahoehoe lava, and on it there was a circular place about two feet in circumference. This was the entrance to go down; this was the topmost height (nu'u) of Kapapaialaka, a place in the 'aumakua realm. Here at the entrance, ka puka o Leilono, was a breadfruit tree of Leiwalo, he 'ulu o Leiwalo. It had two branches, one on the east side and one on the west.

These branches were deceiving. From one of them, the soul leaped into the po pau 'ole; if he climbed the other, it would bring aid from helpful 'aumakua ('aumakua kokua). From that branch the soul would see the 'aumakua realm and the ancestors spoken of, Wakea and all the rest, and those of the entire world who had traveled on this same journey.

The boundaries of Leilono were, Kapapakolea on the east, [with] a huge caterpillar (pe'elua nui) called Koleana as its eastern watchman, and the pool Napeha on the west, with a mo'o the watchman there. If the soul was afraid of these watchmen and retreated, it was urged on by the 'aumakua spirits, then it would go forward again and be guided to the 'aumakua realm. If a soul coming from the Alia (Aliapa'akai) side was afraid of the caterpillar, whose head peered over the hill Kapapakolea, and who blocked the way, it would wander about close to the stream by the harness shop. This was not the government road (alanui aupuni) of former times, but was a trail customarily used by "those of Kauhila'ele" [figuratively, the common people; the la'ele, old taro leaves, as contrasted with the liko, the new and choicer leaves—that is, the chiefs]. It was said that if a wandering soul entered within these boundaries it would die by leaping into the po pau 'ole; but if they were found by helpful 'aumakua souls, some wandering souls were saved. Those who had no such help perished in the po pau 'ole of Milu.

On the plain of Kaupe'a beside Pu'uloa, wandering souls could go to catch moths (pulelehua) and spiders (nanana). However, wandering souls would not go far in the places mentioned earlier before they would be found catching spiders by 'aumakua souls, and be helped to escape. Those souls who had no such help were indeed friendless (he po'e 'uhane hauka'e lakou), and there were many who were called by this name, po'e 'uhane hauka'e.

There were Leina-a-ka-‘uhane and ‘Ulu-o-Leiwalo on Hawaii, Maui, Molokai, Lanai, Kauai, and Niihau as well as on Oahu. The traditions about these places were the same. They were where spirits were divided (mahele ana) to go into the realm of wandering spirits, the ao kuenta or ao ‘auwana; or to the ancestral spirit realm, the ao ‘aumakua; or to the realm of endless night, the po pau ‘ole.

The places said to be for wandering spirits were: Kama‘oma‘o for Maui; Uhana [Mahana] at Kahokunui for Lanai; Ma‘ohelaia for Molokai; Mana for Kauai; Halali‘i for Niihau; in addition to Kaupē‘a for Oahu. In these places the friendless souls (‘uhane makamaka ‘ole) wandered (Kamakau, 1964:48-49; M.K. Pukui, translator).

4.1.13 A Lamentation for Aupuni – Citing Noted Places of the Kona District

With the advent of writing and the publishing of native language newspapers in the Islands, the Hawaiian people began sharing their grief at the loss of loved ones with others across the islands. These kanikau and uwē helu (lamentations, dirges and wailing), such as the kanikau of Aupuni (f.), describe the cultural attachment that people of old shared with their environment and are significant sources of cultural knowledge. The mele (chant-formed) laments are rich with information about wahi pana, named places, sites, resources, winds, rains, and traditional knowledge of the land.

The context of the memories composed into mele is in the form of remembrances of places loved at and visited, of experiences, and places that the two shall never again visit together.

Ka Nupepa Kuokoa

He kanikau.

Apelila 19, 1862 (aoao 4)

Feberuari, la 2, 1862, ma Kualoa,
Koolaupoko, make o ke Aupuni w.,
oia ka la Sabati, hora 9 o ka po.
Haku iho au i wahi kanikau nona.
Eia malalo iho kona wahi kanikau.
Kanikau aloha no ke Aupuni,
Kuu wahine mai ka po loloa o ka
Hooilo,
Mai ka makani anu he Hoolua...
...Kuu wahine mai ka Ikiiki o
Honolulu,
Mai ka piha kanaka i Polelewa,

April 19, 1862 (page 4)

February 2nd, 1862, at Kualoa,
Ko‘olaupoko, Aupuni (f.) died,
it was the Sabbath, 9 o’clock at night.
I composed this lament for her.
Here, below is a lamentation for her.
This lamentation is for Aupuni,
My wife of the long winter nights,
from the cold Ho‘olua winds...
My wife from the sticky heat of
Honolulu,
From the fullness of people at

Mai ka ululaau nahele i ka moana,	Polelewa,
Hooluana aku i kai o ka makeke,	From the forest grove [descriptive of
Auwe kuu wahine.	the masts of the sailing fleet] on the
Kuu hoa pili mai ka ua kukalahale o	sea,
Honolulu,	Meeting at the shore side market,
Kuu wahine mai ke ola o ka wai o	Alas my wife.
ke ki,	My close companion in the rains that
Mai ka hui-kau-lua a na haole,	announce their arrival at Honolulu,
Kuu wahine mai ka lai o ke Kaona,	My wife from the waters of life of the ti
Komo aku kaua o ka olu o	plants,
Kaumakapili,	From the complications of the
Kuu wahine mai ka waa a ke Kupua,	foreigners,
Oia wahi a kaua e hele ai,	My wife from the tranquility of the
Kuu wahine o na hale aikane nui,	town,
Akahi au a ike i ka mea nui he	We two entered into our peace at
aloha,	Kaumakapili,
Kuu wahine mai ka wai nuhou o ke	My wife from Ka wa'a a ke kūpua,
Aupuni,	That place where we two traveled...
Mai ka piina o Maemae,	My wife at the homes of man friends,
Hoomaha aku kaua i Puiwa,	I have just come to know the greatness
Kuu wahine mai ke kula wela la o	of the love
Kahua,	My wife of the news (waters) of the
Komo aku kaua o ka malu o ka niu o	Nation
<u>Waikīkī</u> ,	From the ascent of Ma'ema'e
Auwe kuu wahine.	We reested at Pū'iwa.
Kuu wahine mai ka wai o	My wife from the hot plains of Kahu'a
Kahapaakai,	We two entered the shade of the
Mai ka piina o Luakaha,	coconut trees of <u>Waikīkī</u> ,
Kuu wahine mai ka wai o	Alas my wife,
Kahualana,	My wife from the ponds of
Mai ka uka anu o Hapuu,	Kahapa'akai,
Kuu wahine mai ka ua o Nuuanu —	From the ascent of Luakaha,
e,	My wife from the waters of
Hai ke kawelu holu i ka makani,	Kahua[i]lana,
	From the cold uplands of Hāpu'u,
	My wife from the rains of Nu'uanu,
	The kawelu grans sways, nodding in
	the wind,

Kuu wahine mai ka nuku o Nuuanu...	My wife from the summit of Nu‘uanu...
...Noho au me ka u me ka minamina,	...I remain here in tears with regret,
Me ke kaumaha ia oe,	With sadness for you,
Auwe kuu wahine.	Alas my wife.
Na Konaaihele.	By Konaaihele.
Kualoa, Koolaupoko, Apr. 19, 1862.	Kualoa, Koolaupoko, Apr. 19, 1862.

4.1.14 Place Name Article Series (1883)

In 1883-1884, the *Saturday Press* ran a series of articles under the heading “Dictionary of Hawaiian Localities,” in which were published a number of place names from around the islands. The introduction to the articles shared:

The names given below are Hawaiian geographical names of towns, districts, ridges, mountains, valleys, bays, rivers, etc., which English readers are likely to encounter in historical or newspaper reading. Translation are given when a satisfactory English rendering is possible. This dictionary will be continued as complete as possible... (*Saturday Press*, December 29, 1883)

Selected place names and then modern street names of the Honolulu-Waikīkī region have been excerpted from the series. It should be noted here that the author (not named) was not conversant in Hawaiian language and some of the translations are inconsistent with native thought. In some instances, the translations offered are acceptable.

Saturday Press **Dictionary of Hawaiian Localities.**

July 28, 1883 (page 5)

Aala – “Sweet smelling:” All that part of Honolulu beyond Smith’s bridge and the Chinese wash-houses, and this side of Leleo, and extending towards the valley as far as the Honolulu Poi Factory.

Apua – “A purse net or shrimping basket:” That portion of Honolulu below Queen Street, and immediately opposite the government house premises, and of about the same width. The name more especially belongs to the premises belonging to the late Princess Keelikolani.

Auwaioimu – “The mossy stream:” The district above School Street, and bounded by that street, Punchbowl, the Pauoa stream and Kaalaa, Honolulu.

Alewa – “Swinging:” Between Waikahalulu and Puunui Street, Honolulu.

Ainahou – “New land:” The Esplanade, Honolulu.

Alakani – “The sounding way:” Land in Kalihi, Oahu.

Apili – “Caught, snared or struck:” Land surrounding the fish pond in Kalihi, Oahu, belonging to the Adams’ family. It was there that Capt. Alexander Adams had his famous gardens, which was quite a place of resort for strangers and whale-men, about 1850. The fish pond is yet famous for the superior flavor of its fish, particularly the awa, which, eaten raw, is esteemed a rare treat by native epicures.

August 11, 1883 (page 4)

Alakea – “The white or light way:” Alakea Street, Honolulu.

Alii – King Street, Honolulu.

Aliiwahine – Queen Street, Honolulu.

Alaliilii – Palace Walk, Honolulu.

Akamu – Adam’s Lane, Honolulu.

Ahua – “Little hill:” Land in Moanalua, Oahu.

August 25, 1883 (page 4)

Iwilei – “Yard, 3 feet:” Land in Honolulu adjoining Kawa and just beyond the slaughter houses. It includes a fishing right.

Umi – “To suffocate or to suppress:” Land in Kalihi, Oahu.

September 8, 1883 (page 5)

Haipu – “All broken into:” Land in Honolulu.

Honuakaha – “Marked ground:” Land in Honolulu.

Hamohamo – “Feeling, brushing or smoothing:” The residence of H.R.H.

Liliuokalani, Waikīkī, Oahu.

Honolulu – The capital of the kingdom, Oahu.

Haunapo – Land in Kalihi, Oahu.

September 22, 1883 (page 5)

Hauhaukoi – “Struck with an axe:” Land bordering on Liliha Street, Honolulu, Oahu.

Honokaupu – Land in Honolulu on Queen Street, and between Fort and Alakea Street.

Halimaile – “Strewn with maile:” One third of the palace grounds on the Ewa side.

October 6, 1883 (page 5)

Kou – “Cordia:” The former name of Honolulu. One of the finest specimens of wood.

Kawaiahao – “The water of Hao:” A district of Honolulu about where the old Stone Church now stands and from there eastward.

Koula – “Red sugar cane:” The region about the Catholic burying ground and Mrs. Ward’s “Old Plantation.”

Kewalo – A fish pond and surrounding land on the plains below King Street, and beyond Koula. It contains a spring rather famous in the times previous to the conversion to Christianity, as the place where victims designed for the Heiau of Kanelaau on Punchbowl slopes, was first drowned. The priest when holding the victims head under water would say to her or him on any signs of struggling, “Moe malie i ke kai o ko haku.” “Lie still in the waters of your superior.” From this it was called “Kawailumalumai,” “Drowning waters.”

Kaumakapili – “The clouded eyes:” The district of Honolulu above Smith’s bridge and about where the new native Protestant church stands.

Kikihale – “Mended house:” District in Honolulu between Maunakea and King Street.

Kakaako – Where the salt work is, and the leper hospital, Honolulu.

November 17, 1883 (page 3)

Kukuluaeo – “Tall, slim or slender:” Also the name of a sea bird. District adjoining Kakaako in Honolulu.

Kaakopua – “Picking flowers:” District of Honolulu on the west of Emma Street and about where Princess Ruth’s palace is. It was also the place where Kahaniakeaku’s canoe was dropped for the last time by the demons in the legend of Kaala.

Koleaka – The district on School Street, Honolulu, about the bridge between Fort and Nuuanu streets.

Kahehuna – “The hidden water way:” About where the Royal school is, Honolulu.

Kuwili – “Hugging, or telling a thing over and over:” A fish pond on the mauka side of the prison, Honolulu.

Kapahaha – “Spreading out:” Land in Honolulu.

Kaliu – “Salty:” Land in Honolulu.

Kaoawai – Literally “The water crack” Really, a natural “water course:” Land in Honolulu.

Kamakela – “Died from sunstroke” or “killed by the sun:” Land in Honolulu.

Kuhimana – “Pointing in different directions:” Land in Palama, Oahu.

Kahawale – “Soft branch or stalk:” Land in Palama, Oahu.

Keoneula – “Red sands:” Where the Reformatory school is, Palama, Oahu.

Kukanaka – “Standing men:” Land in Palama, Oahu.
 Kalawahine – “Forgiven woman:” Land in Palama, Oahu.
 Kauluwela – “Hot groves:” Land in Palama, Oahu.
 Kawaiki – “Little water:” Land in Palama, Oahu.
 Kunawai – Spring and surrounding land between Liliha street and Insane Asylum. A large spring of considerable value, and considered sacred by natives as the residence of a moo (water spirit). Land in Honolulu.
 Kuaiula – “Red bargain:” Land in Honolulu.
 Kumuhau – “Hau tree:” Land in Honolulu.
 Kaimuohena – “Mound of Hena:” Where a chief was baked in an underground oven in the olden times. Land in Honolulu.
 Kapauhi – “Covered yard” or “yam enclosure:” The lower end of the square between the Fort and Emma streets and above Beretania, Honolulu.
 Kaikahi – “Very scarce:” Land in Honolulu.
 Kawananakoa – “The brave prophecy:” Where the royal mausoleum is, Honolulu.
 KALUAPALANA – “The ending hole:” Land in Kalihi, Oahu.
 Keonepanei – “Moving sand:” Land in Kalihi, Oahu.
 Keauhou – “The new current,” or “The new regime:” Land in Kalihi, Oahu.
 Kahui – “A society or club:” Land in Kalihi, Oahu.
 Kukahi – “Standing alone:” Land in Kalihi, Oahu.

December 1, 1883 (page 5)

Kalia – Land in Waikīkī about where Moehonua’s cottage is and including land bordering the Piinaio stream to the sea.

December 29, 1883 (page 6)

Names of the streets in Honolulu.

Alanui Berekane – Beretania Street.
 Alanui Chaplain – Chaplain Street.
 Alanui Hokele – Hotel Street.
 Alanui Kihapai – Garden Street.
 Alanui Kalepa – Merchant Street.
 Alanui Kawaiahao – “Hao’s water:” Kawaiahao Street.
 Alanui Kamika – Smith’s Street.
 Alanui Marine – Marine Street.
 Alanui Maunakea – “The white mountain:” Maunakea Street.
 Alanui Nuuanu – “The cold step or peak:” Nuuanu Street.

Alanui Puowaina – Punchbowl Street.

Alanui Paipalapala – Printer’s Lane.

Alanui Rikeke – Richard Street.

Alanui Waikahalulu – The extension of School Street.

4.1.15 Summary of Land Use in the Kahauiki – Kālia Region

In the 1930s, Bishop Museum’s E.S.C. Handy conducted research of Hawaiian land use and history, including work with native informants in the field. In his account of “Native Planters” (1940) is the following description of lands in the region covered by this study. Handy’s summary includes the following narratives (organized west to east):

Kahauiki. Kahauiki Stream irrigated a moderate-sized area of terraces extending from the sea inland for about half a mile...

Kalihi. Extensive terraces covered all the flatland in lower Kalihi Valley for approximately 1.25 miles on both sides of the stream. Above this the valley is too narrow for terraces for a mile or more; but in upper Kalihi there are numerous small areas that were developed in terraces. Bennett (4, vol. 1, p. 202) says of this valley: “Human dwellings and cultivated lands are here very few, or scattered thinly over a great extent of probably the finest soil in the world.” McAllister (44, site 72) notes that “on the Ewa side of the stream the home site is still to be seen at a place called Kupehau where the chiefs of Hawaii resorted because of the delicious poi and tender taro tops to be had there. Kamehameha the first was one of the chiefs who visited the spot.”

Kapalama. Kapalama had two streams watering its terrace area, which was almost continuous from Iwilei up to the foothills above School Street, an area measuring about three quarters of a mile both in depth inland and in breadth.

Nuuanu. In upper Nuuanu there are many small valleys which open into the main valley on either side of the stream... From Waolani to Kapalama the terraces were continuous on the level and gently sloping land between the Nuuanu and Waolani Streams, past Wyllie and Judd Streets and throughout the section on the north side of the valley, down what is now Liliha Street. In many vacant lots, yards, and gardens above and below Judd Street traces of terraces may still be seen...

Of this section Meyen, continuing his Oahu observations, says (50) :

Scarcely had we left the gardens of the capitol, which were for the most part planted with beautiful flowers, when we arrived at broad fields of

Arum macrorrhizon, which are known by the name of “tarro patches” here. What a sight for us to view such large fields of this valuable economic plant... Nearby lie fields planted with sugar cane, which is only used for eating here, and whose bluish green makes a vivid contrast with the bright green of the banana leaves and the velvety color of the tarro plants. How beautiful is the sight of these tropical plants in their own country! [page 78]

...The newspaper “Kuokoa” of June 22, 1865 (32) has this reference to a famous taro terrace in the district:

I turn to view Kamanuwai [near the junction of Nuuanu and Beretania Streets]. This is an ancient taro patch said to have belonged to Keopuolani or to someone earlier. The food from this taro patch is the food of the sow belonging to the chief. Kupanihi was the name of the sow, so named for the father of the red-eyed chief Kahaoi.

DRAFT

Honolulu. Of the specific section in early days known as Honolulu, Meyen (50) writes:

If one were to visit the great plains of Honoruru and see all the beautiful cultivated land in the transverse valleys, that extends onto the plains of Honoruru, and also the tremendous quantity of food plants that are cultivated in the valley of the Pearl River, one might perhaps be persuaded to believe that a great excess of food prevails here, although it is not the case. The tarro plantations occupy a great deal of space and yield far less nourishment than our potato and grain fields. In fact, the high price of fresh supplies at the market of Honoruru we might directly ascribe to inadequate cultivation.

Kotzebue, traveling in the islands from 1815 to 1818, was more impressed. He writes (42, vol. 3, p. 236):

Woajoo is the most fertile of the Sandwich Islands, from which Owhyee receives a part of the taro necessary for its consumption. The cultivation of the valleys behind Hanarura is remarkable; artificial ponds support, even on the mountains, the taro plantations, which are at the same time fish ponds; and all kinds of useful plants are cultivated on the intervening dams.

Elsewhere Kotzebue describes the method of taro cultivation in greater detail (42, vol. 1, pp. 340-341):

The artificial taro fields, which may justly be called taro lakes, excited my attention. Each of them forms a regular square of 160 feet, and is enclosed with stone all round like our basins... In the spaces between the fields, which are from three to six feet broad, there are very pleasant shady avenues, and on both sides bananas and sugar cane are planted. ...I have seen whole mountains covered with such fields, through which the water gradually flowed; each sluice formed a small cascade, which ran through avenues of sugar cane, or bananas, into the next pond, and afforded an extremely picturesque prospect. [page 77]

Waikīkī. The extensive terrace areas that covered the level land between what are now Kalakaua Avenue, Kapiolani Park, and Moiliili were watered by Palolo Stream and Manoa Stream, the lower courses of which formerly met in the midst of this area. In former days this was one of the most extensive single terrace areas on the island. It was developed by the chief, Kalamakua. Some of the area has been filled in for fair grounds and building sites, while the remaining terraces now in cultivation are in rice. (In 1931 these were all in Chinese bananas.) Of taro cultivation in Waikīkī in 1865 a correspondent of the Hawaiian-language newspaper “Kuokoa” writes (33): [page 74]

Farming was one of the principal duties of the chiefs, and the land [in Waikīkī] was rich under cultivation. It was planted from the upper part to its entering the coconut grove [along the shore]... Water courses were made throughout the land, thereby feeding the taro patches and fishponds... A good chief was Kalamakua, who was well-known for his farming. He constructed the large taro *loʻi* of Keokea, Kalamanamana, Kualualu and others at Waikīkī (Handy, 1940:73-79).

4.2 Māhele ‘Āina (the Land Division) of 1848 – Fee Simple Property Rights in the Ahupua‘a of Waikīkī

Prior to Western contact, all land in the Hawaiian Islands was held by the chiefs as descendants of the gods—no one owned the land. After Western contact, some foreigners were granted gifts of land for services to Kamehameha I or his heirs. With a growing number of foreigners arriving and establishing business interests or in service of the mission stations, many petitioned for fee-simple title to land upon which they lived or worked. In 1848, Kamehameha III agreed to the Māhele ‘Āina which defined the land interests of the King, some two hundred and fifty-two high-ranking Ali‘i and Konohiki (including several foreigners who had been befriended by members of the Kamehameha line), and the Government. As a result of the Māhele, all lands in the Kingdom of Hawai‘i and associated fisheries came to be placed in one of three categories: (1) Crown Lands (for the occupant of the throne); (2) Government Lands; and (3) Konohiki Lands. The “Enabling” or “Kuleana Act”

of the Māhele (December 21, 1849) further defined the frame-work by which *hoa‘āina* (native tenants) could apply for and be granted fee-simple interest in “Kuleana” lands (cf. Kamakau, 1961:403). The Kuleana Act reconfirmed the rights of *hoa‘āina* to: access, subsistence and collection of resources from mountains to the shore, which were necessary to sustain life within their given *ahupua‘a*. Though not specifically stated in this Act, the rights of piscary (to fisheries and fishing) had already been granted and were protected by earlier Kingdom laws.

4.2.1 The Kuleana Act of 1850

The Kuleana Act remains the foundation of law pertaining to native tenant rights and prescribed:

August 6, 1850

An Act confirming certain resolutions of the King and Privy Council passed on the 21st day of December 1849, granting to the common people allodial titles for their own lands and house lots, and certain other privileges.

Be it enacted by the Nobles and Representatives of the People of the Hawaiian Islands in Legislative Council assembled;

That the following sections which were passed by the King in Privy Council on the 21st day of December A.D. 1849 when the Legislature was not in session, be, and are hereby confirmed, and that certain other provisions be inserted, as follows:

Section 1. Resolved. That fee simple titles, free of commutation, be and are hereby granted to all native tenants, who occupy and improve any portion of any Government land, for the land they so occupy and improve, and whose claims to said lands shall be recognized as genuine by the Land Commission; Provided, however, that the Resolution shall not extend to Konohikis or other persons having the care of Government lands or to the house lots and other lands, in which the Government have an interest, in the Districts of Honolulu, Lahaina and Hilo.

Section 2. By and with the consent of the King and Chiefs in Privy Council assembled, it is hereby resolved, that fee simple titles free of commutation, be and are hereby granted to all native tenants who occupy and improve any lands other than those mentioned in the preceding Resolution, held by the King or any chief or Konohiki for the land they so occupy and improve. Provided however, this Resolution shall not extend to house lots or other

lands situated in the Districts of Honolulu, Lahaina and Hilo.

Section 3. Resolved that the Board of Commissioners to quiet Land titles be, and is hereby empowered to award fee simple titles in accordance with the foregoing Resolutions; to define and separate the portions belonging to different individuals; and to provide for an equitable exchange of such different portions where it can be done, so that each man's land may be by itself.

Section 4. Resolved that a certain portion of the Government lands in each Island shall be set apart, and placed in the hands of special agents to be disposed of in lots of from one to fifty acres in fee simple to such natives as may not be otherwise furnished with sufficient lands at a minimum price of fifty cents per acre.

Section 5. In granting to the People, their House lots in fee simple, such as are separate and distinct from their cultivated lands, the amount of land in each of said House lots shall not exceed one quarter of an acre.

Section 6. In granting to the people their cultivated grounds, or Kalo lands, they shall only be entitled to what they have really cultivated, and which lie in the form of cultivated lands; and not such as the people may have cultivated in different spots, with the seeming intention of enlarging their lots; nor shall they be entitled to the waste lands. [Generally wet lands, ponds and fallow fields (see citations later in this section).]

Section 7. When the Landlords have taken allodial titles to their lands the people on each of their lands shall not be deprived of the right to take firewood, aho cord, thatch, or ti leaf from the land on which they live, for their own private use, should they need them, but they shall not have a right to take such articles to sell for profit. They shall also inform the Landlord or his agent, and proceed with his consent. The people shall also have a right to drinking water, and running water, and the right of way. The springs of water, and running water, and roads shall be free to all should they need them, on all lands granted in fee simple. Provided, that this shall not be applicable to wells and water courses which individuals have made for their own use.

Done and passed at the Council House, Honolulu this 6th day of August 1850.
(Copied from original hand written "Enabling Act"⁹ – Hawaii State Archives,

⁹ See also Kanawai Hoopai Karaima no ko Hawaii Pae Aina (Penal Code) 1850.

DLNR 2-4.)

At the outset of the Māhele, King Kamehameha III (Kauikeaouli) invited prominent ali'i and konohiki, as well as a group of foreigners—individuals who had provided service to Kamehameha I and/or the Kingdom—to lay their personal land claims before a committee. The resulting record is a book known as the *Buke Māhele* (Division Book) of 1848 (copy of 1864). It is a record of the agreements made between the King, Kamehameha III, family members, supporting chiefs, and others who supported Kamehameha I and his heirs in the period between the 1790s to the 1840s. The *Buke Māhele* also lists the lands granted by the King to the Government land inventory—financial returns from sales and leases of such were dedicated to the support of government operations—and for conveyance through Royal Patent Grants to Hawaiians and other parties in leasehold and fee-simple interests. The *Buke Māhele* is also the primary source for identifying the Crown and Government land inventory now known as the “Ceded Lands.”

Table 4 is a compilation of the records filed in the *Buke Māhele* between Kamehameha III, the Chiefs, and selected foreigners, and provides the general disposition of the Waikīkī ahupua'a. At the close of the King's Māhele, 'aina (ahupua'a and 'ili) which claimants had relinquished to the King, were again “māhele 'ia” (divided) between the King and the Aupuni (Kingdom/Government), with the formal record being entered and signed on March 8, 1848. In this way various parcels of land in the four ahupua'a cited below were conveyed to the Aupuni, and from those 'aina, Palapala Sila Nui (Royal Patent and Land Grants) were sold to various parties or maintained in the land inventory. Following the overthrow of the Queen Lili'uokalani as sovereign ruler of the islands, the latter lands which were still held by the kingdom or government became a part of the “Ceded Lands” inventory after annexation in 1898.

Table 4. Disposition of the Ahupua'a of Waikīkī as Recorded in the Buke Māhele

Ko Kamehameha III				Ko Vitoria Kamamalu				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Ianuari 27, 1848 (3-4)
Kalia	Ili i Waikīkī	Kona	Oahu	Kanewai	Ili ma Waikīkī	Kona	Oahu	
Paakea	Ili i Waikīkī	Kona	Oahu	Kapaakea	Ili ma Waikīkī	Kona	Oahu	
Kahaole	Ili i Waikīkī	Kona	Oahu	Komoawaa	Ili ma Waikīkī	Kona	Oahu	
Komoawaa	Ili i Waikīkī	Kona	Oahu	DRAFT				
Kalua hole	Ili i Waikīkī	Kona	Oahu	Waialae	Ili ma Waikīkī	Kona	Oahu	
Kalua alaea	Ili i Waikīkī	Kona	Oahu					
Kapuna	Ili i Waikīkī	Kona	Oahu					
Nukunuku- aula	Ili i Waikīkī	Kona	Oahu					
Kaaumoa	Ili i Waikīkī	Kona	Oahu					
Aauaukai	Ili i Waikīkī	Kona	Oahu					
Waihinalo	Ili i Waikīkī	Kona	Oahu	Haiku	Ahupuaa	Hamakua loa	Maui	
Mookahi	Ili i Waikīkī	Kona	Oahu					
Pawaa o Maalo	Ili i Waikīkī	Kona	Oahu					
Kaluaolohe	Ili i Waikīkī	Kona	Oahu					
Kalua hone- wai	Ili i Waikīkī	Kona	Oahu					

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Waiaka	Ili i Waikīkī	Kona	Oahu					
Kumuulu	Ili i Waikīkī	Kona	Oahu					
2 Kahoiwai 1,2	Ili i Waikīkī	Kona	Oahu					
Waihi	Ili i Waikīkī	Kona	Oahu					
Ko Kamehameha III				Ko Lota Kapuaiwa Kamehameha				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Ianuari 27, 1848 (7-8)
Kukuluaeo	Ili ma o Waikīkī	Kona	Oahu	Moanalua	Ahupuaa	Kona	Oahu	
Ko Kamehameha III				Ko Keohokalole				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Ianuari 28, 1848 (11- 12)
Waiomao	Ili ma Waikīkī	Kona	Oahu	Hamohamo	Waikīkī	Kona	Oahu	
Hamama	Ili ma Waikīkī	Kona	Oahu	Kahana	Ahupuaa	Koolau loa	Oahu	
Ko Kamehameha III				Ko Iona Piikoi				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Ianuari 28, 1848 (11- 12)
Kepuhi	Ili ma Waikīkī	Kona	Oahu	Kaluaoopu	Ili ma Waiau	Ewa	Oahu	
Ko Kamehameha III				Ko William Lunailo				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Ianuari 28, 1848 (21- 22)
Kaaawa	Ahupuaa	Koolau loa	Oahu	Pau	Ili i Waikīkī	Kona	Oahu	
				Kamoku	Ili i Waikīkī	Kona	Oahu	
Koolau	Moku		Maui	Kaluaokau	Ili i Waikīkī	Kona	Oahu	

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				Kapahulu	Ili i Waikīkī	Kona	Oahu	
Ko Kamehameha III				Ko William P. Leleiohoku				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Ianuari 28, 1848 (23- 24)
Halelena	Ili no Waikīkī	Kona	Oahu					
Ko Kamehameha III				Ko Mikahela Kekauonohi				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Ianuari 28, 1848 (25- 26)
Puahia	Ili i Waikīkī	Kona	Oahu	Waimalu DRAFT	Ili i Honouliuli	Ewa	Oahu	
Ko Kamehameha III				Ko Ioane Ii				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Ianuari 27, 1848 (29- 30)
Paikahawai	Ili i Kapaa	Puna	Kauai	Pawaa	Ili i Waikīkī	Kona	Oahu	
Ko Kamehameha III				Ko Charles Kanaina				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Ianuari 28, 1848 (31- 32)
Makeanehu	Ahupuaa	Kohala	Hawaii	Kalowalu	Aina kalo ma Manoa	Waikīkī	Oahu	
Puehuehu	Ahupuaa	Kohala	Hawaii	Pamoa	Aina kalo ma Manoa	Waikīkī	Oahu	
Kaohe	Ahupuaa	Kapalilua	Hawaii	Kukuio	Aina kalo ma Manoa	Waikīkī	Oahu	
Ilikahi	Ahupuaa	Lahaina	Maui	Kalehua	Aina kalo ma Manoa	Waikīkī	Oahu	
Luakaha	Ili i Honolulu	Kona	Oahu	Kalokoeli	Ili i Waikīkī	Kona	Oahu	

Ko Kamehameha III				Ko Pehu				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Ianuari 31, 1848 (37- 38)
Okai	Ili no Mananaiki	Ewa	Oahu	Kekio	Ili no Waikīkī	Kona	Oahu	
Ko Kamehameha III				Ko Davida Kauliokamoa				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Ianuari 31, 1848 (43- 44)
Laaumana	Ahupuaa	Kohala	Hawaii	Kaiwiokaihu	Ili no Waikīkī	Kona	Oahu	
Ko Kamehameha III				Ko Kamaha				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Ianuari 31, 1848 (45- 46)
½ Wailupe	Ili no Waikīkī	Kona	Oahu	½ Wailupe	Ili no Waikīkī	Kona	Oahu	
Ko Kamehameha III				Ko Samuela Kuluwailehua				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Ianuari 31, 1848 (47- 48)
Kalawao	Ahupuaa		Molokai	Kamoku	Ili no Waikīkī	Kona	Oahu	
Ko Kamehameha III				Ko Kahanaumaikai				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Ianuari 31, 1848 (47- 48)
2 Kealia	Ahupuaa		Lanai	Kaluaolohe	Ili no Waikīkī	Kona	Oahu	
Ko Kamehameha III				Ko Kalaimoku				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	

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Mookahi	Ili no Waikīkī	Kona	Oahu	Nini	Ili no Honolulu	Kona	Oahu	Ianuari 31, 1848 (49-50)
Ko Kamehameha III				Ko Kekualoa				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari 1, 1848 (53-54)
Piliamoo	Ili no Waikīkī	Kona	Oahu	Kaliu	Ili no Honolulu	Kona	Oahu	
Ko Kamehameha III				Ko Kaihiwa				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari 1, 1848 (53-54)
Kahalaa	Ili no Waikane	Koolau Poko	Oahu	Kauhiko	Ili no Waikīkī	Kona	Oahu	
Ko Kamehameha III				Ko H. H. Haalilio				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari 1, 1848 (55-56)
Kaloiki	Ili no Waikīkī	Kona	Oahu	Ohua	Ili i Waikele	Ewa	Oahu	
Ko Kamehameha III				Ko Nakookoo				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari 1, 1848 (57-58)
½ Mauluki-kepa	Ili no Waikīkī	Kona	Oahu	½ Mauluki-kepa	Ili no Waikīkī	Kona	Oahu	
Ko Kamehameha III				Ko Paukuwahie				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari 1, 1848 (59-60)
Lahuiiki	Ili no Kukuipahu	Kohala	Hawaii	Kiki	Ili no Waikīkī	Kona	Oahu	

Ko Kamehameha III				Ko Haumea				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari
Kiapu	Ahupuaa	Hilo	Hawaii	Keauhou	Ili no Waikīkī	Kona	Oahu	2, 1848 (63-64)
Ko Kamehameha III				Ko Kealohapauole				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari
½ Kaualaa	Ili no Waikīkī	Kona	Oahu	½ Kaualaa	Ili no Waikīkī	Kona	Oahu	2, 1848 (69-70)
Ko Kamehameha III				Ko Naeole				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari
Maluaka	Ili no Waikee	Koolau Poko	Oahu	Kamoo- muku	Ili no Waikīkī	Kona	Oahu	3, 1848 (77-78)
Ko Kamehameha III				Ko Kekukahiko				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari
Kaalawai	Ili no Waikīkī	Kona	Oahu	Kaalawai	Ili no Waikīkī	Kona	Oahu	3, 1848 (79-80)
Kaalawai	ke kula a me ke poho na mea i lilo		Oahu	Kaalawai	aina kalo a me ka ia hoomalu		Oahu	
Kaalawai	ole ia Kekuakahiko		Oahu					
Ko Kamehameha III				Ko Kaunuohua				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari
Kalahea	Ahupuaa	Kona	Kauai	Puulena	Ili no Waikīkī	Kona	Oahu	4, 1848 (91-92)

Ko Kamehameha III				Ko Ioba Napahi				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari 4, 1848 (93-94)
Kapano	Ahupuaa	Koolau Loa	Oahu	Mookahi	Ili no Waikīkī	Kona	Oahu	
Ko Kamehameha III				Ko Davida Kalanikahua				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari 4, 1848 (95-96)
Papohaku	Ahupuaa	Kau	Hawaii	Kaahaloa	Ili no Waikīkī	Kona	Oahu	
Ko Kamehameha III				Ko Maalahia				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari 4, 1848 (97-98)
Kahoa	Ili no Kailua	Koolau Poko	Oahu	Kalae- pohaku	Ili no Waikīkī	Kona	Oahu	
Ko Kamehameha III				Ko Kauhao				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari 4, 1848 (99-100)
Mauinoni	Ili no Waihee	Koolau Poko	Oahu	Niukukahi	Ili no Waikīkī	Kona	Oahu	
Ko Kamehameha III				Ko Kapu				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari 4, 1848 (99-100)
Halekou	Ili no Kaneohe	Koolau Poko	Oahu	Kalae- pohaku	Ili no Waikīkī	Kona	Oahu	
Ko Kamehameha III				Ko Samuela Kanae				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	

Mokuhoo-niki	Ahupuaa	Hilo	Hawaii	Kiokapu	Ili no Waikīkī	Kona	Oahu	Feberuari 7, 1848 (101-102)
Ko Kamehameha III				Ko Aikake Lui				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari 7, 1848 (103-104)
Pukele	Ili no Waikīkī	Kona	Oahu	Mapulehu	Ahupuaa	Kona	Molokai	
Ko Kamehameha III				Ko Kanehiwa				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari 7, 1848 (109-110)
½ Kahau-makaawe	Ili no Waikīkī	Kona	Oahu	½ Kahau-makaawe	Ili no Waikīkī	Kona	Oahu	
Ko Kamehameha III				Ko Piianaia				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari 7, 1848 (115-116)
Kaluaolohe	Ili no Waikīkī	Kona	Oahu	Keaalii	Ahupuaa	Hamakua Loa	Maui	
Ko Kamehameha III				Ko Pahau				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari 8, 1848 (119-120)
½ Kahau-makaawe	Ili no Waikīkī	Kona	Oahu	½ Kahau-makaawe	Ili no Waikīkī	Kona	Oahu	
Ko Kamehameha III				Ko Kamakahonu				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari 8, 1848 (121-122)
Lupehu	Ili no Hakipuu	Koolau Poko	Oahu	Kamooiki	Ili no Waikīkī	Kona	Oahu	

Ko Kamehameha III				Ko T. Kuke				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari 8, 1848 (123-124)
Kahalau- luahine	Ili no Waikīkī	Kona	Oahu	Oneawa	Ili no Kailua	Koolau Poko	Oahu	
Ko Kamehameha III				Ko Aaronā Kealiiahonui				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari 9, 1848 (131-132)
Kaneloa	Ili no Waikīkī	Kona	Oahu	Kalihikai	Ahupuaa	Halelea	Kauai	
Ko Kamehameha III				Ko Wm. Beckley a me na Hooilina o George Beckley				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari 10, 1848 (135-136)
Pualoalo	Ili no Halawa	Kohala	Hawaii	Waialele	Ili no Waikīkī	Kona	Oahu	
Ko Kamehameha III				Ko Abenera Pākī				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari 11, 1848 (153-154)
Mookahi	Ili no Waikīkī	Kona	Oahu	Waialae	Ili no Waikīkī	Kona	Oahu	
Ko Kamehameha III				Ko G.L. Kapeau				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari 12, 1848 (155-156)
½ Pawaa	Ili no Waikīkī	Kona	Oahu	½ Pawaa	Ili no Waikīkī	Kona	Oahu	
Ko Kamehameha III				Ko G.P. Judd				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	

Cultural History of Waikīkī

½ Pawaa	Ili no Waikīkī	Kona	Oahu	½ Pawaa	Ili no Waikīkī	Kona	Oahu	Feberuari 12, 1848 (155-156)
Ko Kamehameha III				Ko Keoni Ana				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Feberuari 12, 1848 (161-162)
				Pahoa	Ili no Waikīkī	Kona	Oahu	
Ko Kamehameha III				Ko Ke Aupuni				Date/ Page(s)
Na Aina	Ahupuaa	Kalana	Mokupuni	Na Aina	Ahupuaa	Kalana	Mokupuni	Maraki 8, 1848 (211-212)
				Kalia	Ili no Waikīkī	Kona	Oahu	
				Haole	Ili no Waikīkī	Kona	Oahu	
				Kaluahole	Ili no Waikīkī	Kona	Oahu	
				Kaluaalaea	Ili no Waikīkī	Kona	Oahu	
				Kapuna	Ili no Waikīkī	Kona	Oahu	
				Nukunuku-aula	Ili no Waikīkī	Kona	Oahu	
				Kaaumoa	Ili no Waikīkī	Kona	Oahu	
				Auauakai	Ili no Waikīkī	Kona	Oahu	

Cultural History of Waikīkī

				Waihinalo	Ili no Waikīkī	Kona	Oahu	
				Mookahi	Ili no Waikīkī	Kona	Oahu	
				Pawaa	Ili no Waikīkī	Kona	Oahu	
				Kaluaolohe	Ili no Waikīkī	Kona	Oahu	
				Kahalelena	Ili no Waikīkī	Kona	Oahu	
				Waiaka	Ili no Waikīkī	Kona	Oahu	
				Kumuulu	Ili no Waikīkī	Kona	Oahu	
				Kahoiwai 1	Ili no Waikīkī	Kona	Oahu	
				Waihi	Ili no Waikīkī	Kona	Oahu	
				Pahupahu-apuaa	Ili no Waikīkī	Kona	Oahu	
Waiomao	Ili no Waikīkī	Kona	Oahu	½ Kaalawai	Kula waiho no	Kona	Oahu	Maraki 8, 1848 (213-214)
Hamama	Ili no Waikīkī	Kona	Oahu	½ Pawaa	Ili no Waikīkī	Kona	Oahu	
Puahia	Ili no Waikīkī	Kona	Oahu	Kukuluaao	Ili no Waikīkī	Kona	Oahu	
½ Wailupe	Ili no Waikīkī	Kona	Oahu					

Cultural History of Waikīkī

Mookahi	Ili no Waikīkī	Kona	Oahu					
Piliamoo	Ili no Waikīkī	Kona	Oahu					
Kaloiki	Ili no Waikīkī	Kona	Oahu					
½ Maulu-kikepa	Ili no Waikīkī	Kona	Oahu					
Pukele	Ili no Waikīkī	Kona	Oahu					
½ Kahau-makaawe	Ili no Waikīkī	Kona	Oahu					
Kaluaolohe	Ili no Waikīkī	Kona	Oahu					
½ Kahau-makaawe	Ili no Waikīkī	Kona	Oahu					
Kahalau-luahine	Ili no Waikīkī	Kona	Oahu					
Kaneloa	Ili no Waikīkī	Kona	Oahu					
½ Poloke	Ili no Waikīkī	Kona	Oahu					
Mookahi	Ili no Waikīkī	Kona	Oahu					
Pawaa Loi	Ili no Waikīkī	Kona	Oahu					
Halelena	Ili no Waikīkī	Kona	Oahu					

Cultural History of Waikīkī

Kaalawai Loi	Ili no Waikīkī	Kona	Oahu					
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4.2.2 Place Names from the Ahupua‘a of Waikīkī Cited in Records of the Māhele ‘Āina

As discussed earlier, inoa ‘āina (land or place names) are a significant indicator of cultural attachment and knowledge of place. The names are often descriptive of: (1) the terrain, (2) an event in history, (3) the kind of resources a particular place was noted for, or (4) the kind of land use which occurred in the area so named. Sometimes an earlier resident of a given land area was also commemorated by place names.

The named localities extend from the shore to the mountain slopes. In some instances, the place names identify a specific site on the land, while others describe regions or strips of land. Other parcels of land identified in the records include ‘ili, kula, mo‘o ‘āina, lo‘i or kīhāpai. These parcels of land were established as smaller subdivisions or management parcels which might include a quarter acre parcel for a single house site or garden plot, or hundreds of acres.

Following below is a compilation of 8 place names from Waikīkī as identified in the claims of native tenants in the ahupua‘a.

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Place Names of Waikīkī from Records of the Māhele ‘Āina

Kālia	Loko Kauamoa	Waialala
Kewalo	Loko Kewalo	Waikīkī
Kukuluaeo	Punahou	

Waikīkī Claimants Provided Testimony of the Following Uses and Features:

- ‘Auwai (irrigation channels/ditches)
- Hale (houses and house lots)
- Ki‘o pua (fish fingerling ponds)
- Kula lands (dryland agricultural parcels)

Table 5. *Place and Resident Names, Land Use Practices, and Description of Features in the Waikīkī Ahupua‘a*

Place Name	Claimant & Individual Names	Features/Uses
Waikīkī	Kapapa – LCA 97 F.L.	House
Kalia	Kamakee Piikoi	Fish pond
Kukuluaeo		Kiopua (Fingerling pond)
Kewalo		Auwai / Shoreline
Waikīkī	Kekaula – LCA 100 F.L.	Loi
Kalia	Kaluaoku	Fish ponds

Place Name	Claimant & Individual Names	Features/Uses
Waialala	Kamakee Piikoi	Fingerling ponds
Kewalo	Wm. Miller	Kula land
Loko Kauamoa		
Waikīkī	Kaluaoku – LCA 101 F.L.	Loi
Kalia	Kekaula	Fish pond
Loko o Kewalo	Kamakee Piikoi	Auwai
Waikīkī	Sandwich Island Mission – LCA 387	Shoreline
Kukuluaeo	Kauhi	
Punahou	Wahineino	
Kewalo	Henry Dimond	
Kalia	Pehu	

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4.2.3 Māhele Award Book Surveys and Plot Plans in Waikīkī

In the process of transferring title of kuleana lands to applicants in the Māhele, surveys of the parcels to be awarded were required. These surveys, including plot plans, resulted in the volumes of books known as the “Mahele Award Books.” The entire process of recording the Māhele was extremely complex, in many ways confusing, and often settled to the disadvantage of native tenants. The laws governing the Māhele ‘Āina limited the scope of claims made by commoners – their house lots were to be no more than one-quarter acre in size; the land claimed was that which they actively cultivated or used; and the native tenants were unable to pursue claims for fisheries. Native tenants could not claim lands that traditionally had been allowed to lie at rest (fallow) between planting times, or which were used seasonally in adaptation to environmental zones. Typically, the people of the land utilized detached parcels (lele) extending from the shore to the uplands, where cultivation of crops and collection of natural resources supported daily life and the needs of their chiefs.

The traditional and customary manner of land use and management presented many problems to those appointed to survey the lands claimed by the native tenants. In the process of the Māhele surveys, surveyors were authorized to simplify their work by consolidating lands of the claimants, often taking multiple parcels, spread across the land at varying elevations, to create single, or fewer lots of comparable acreage as that originally claimed in multiple parcels.

The following examples present copies of the original surveys for kuleana which were identified within Waikīkī ahupua‘a. Each survey for kuleana given in the notes below includes metes and bounds and plot plans, with reference to place names, identification of

tenants on the sides of the claimed parcels, source of land rights, and features on or around the cited lands. Additional research through the claims cited in this study will provide many more names of individuals with generational ties to lands of the Waikīkī region, and also provide further information on place names, land use, features, and practices.

Helu 97 F.L.

Kapapa

Kalia, Waikīkī, Oahu

Royal Patent Helu 3782

Book 16:323-324

["See Quit Claim Deed Record Office Vol. 880 p. 202 Apr. 21, 1927 # 2908"]

...Parcel 1. House lot, Pond and Kiopua (fingerling pond) at Kalia.

Begin at the W. corner on the makai side of this place adjoining Kalia, Kukuluaeo and Kewalo, along the E. edge if the auwai at a stone marked X and run South 314 links; South 33° E 220 links along Kukuluaeo to the sandy shore. Then North 77° E. 1170 links along Kalia for the Government to the E. boundary of the auwai stone marked X; North 8° W. 689 links along the pond of Kewalo for the Government; Then South 85° 30' W. 493 links along Kewalo for Kamakee; North 36° W. 178 links along the W boundary of the auwai; South 45° W. 170 links to the house lot of Kapapa, South 40° W. 411, running between the house lot of Kapapa at Kewalo on all these boundaries to the point of commencement. Being 6 ½ acres...

June 24, 1857...

[For Plot Plan see Register Map No. 1090]

Helu 100 F.L.

Kekaula

Kalia, Waikīkī, Oahu

Mahele Award Book 10:235-236

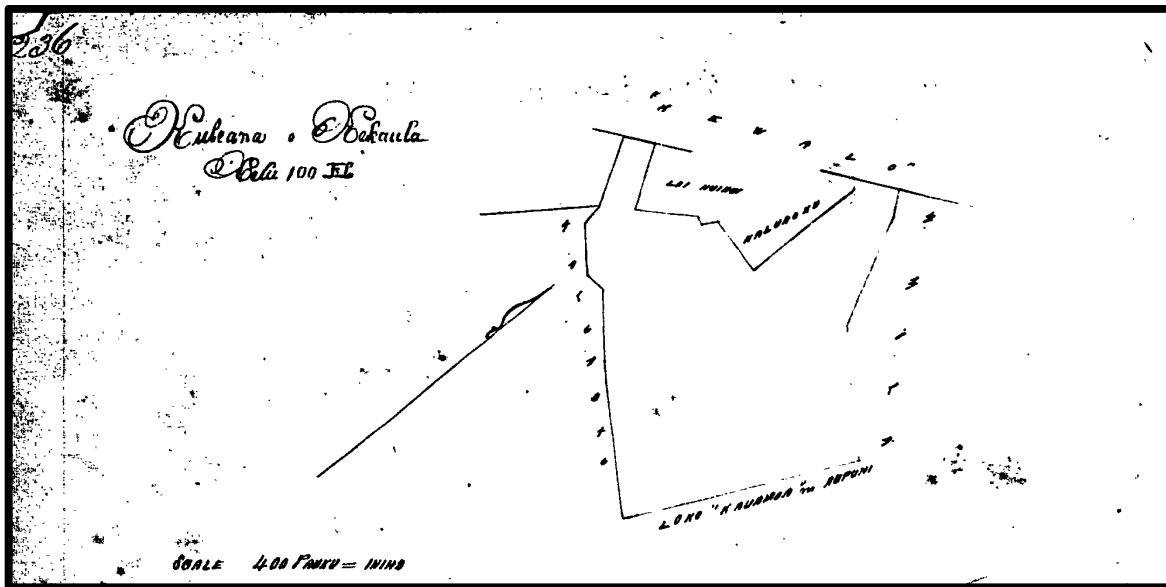
...His parents received this place in the time of Kamehameha I...

Land at Kalia, Waikīkī Oahu.

1 Loi (taro pond field), 2 Loko (ponds), 5 Kiopua (fingerling fish ponds) & Kula (dryland parcel).

Begin at the South corner of this land, adjoin that of the Government and of

Kaluaoku, and run North... along Kaluaoku; Then North... along Waialala for the Government; then North... along “Kewalo” of Kamakee; Then South... along the Loi division; Then South along the auwai and Loi of Kaluaoku; The South... along the Loi of Kaluaoku; Then North... along Kewalo to the Northern gate of Wm. Miller; Then South... along W. Millers place; Then South... along Loko Kauamoa of the Government to the beginning. Containing 8 ½ acres.



Helu 101 F.L. / Royal Patent Helu 3781

Kaluaoku

Kalia, Waikīkī, Oahu

Royal Patent Book 16:321-322

Kuleana Helu 101 F.L.

Kaluaoku at Kalia, Waikīkī, Oahu.

Parcel 1. Three loi.

Beginning at the mauka E. corner of the adjoin the Government land and that of Kekaula, at a stone marked X and run South 28° W. 377 links; South along the government land; North 46° 30' W. 442 links along the Loko o Kewalo for the Aupuni; North 41° E 4 chains. South 51° [illegible] along Kewalo for Kamakee; then South 38° 15' E. 123 links. South 31° E. 122 links along Kekaula's place to the first point. 1 ½ Acres.

Parcel 2. Three loi.

Beginning at the mauka N. corner of this, adjoining with Kekaula and Kewalo for Kamakee, at the stone marked X and run along Kekaula's place, S. 51° E. 22

links; South 1° E. 463 links. North 87° W. 202 lines. S. 32° 30' W. 59 links. No 74° W. 34 links to the auwai. South 44° 45' W. 202 links. North 34° 15' W. 238 links along Kekaula's place. These boundaries all to Kewalo of Kamakee. Then No. 47° E. 5 chains. North 58° 45' E. 2 chains along Kewalo to the point of commencement. 1 8/10 Acres.

3 3/10 Acres Total...

June 24, 1857...

[For Plot Plan see Register Map No. 1090]

Helu 677, 680 & 683

M. Kekuanaoa

Honuakaha, Honolulu; and Waikīkī, Oahu

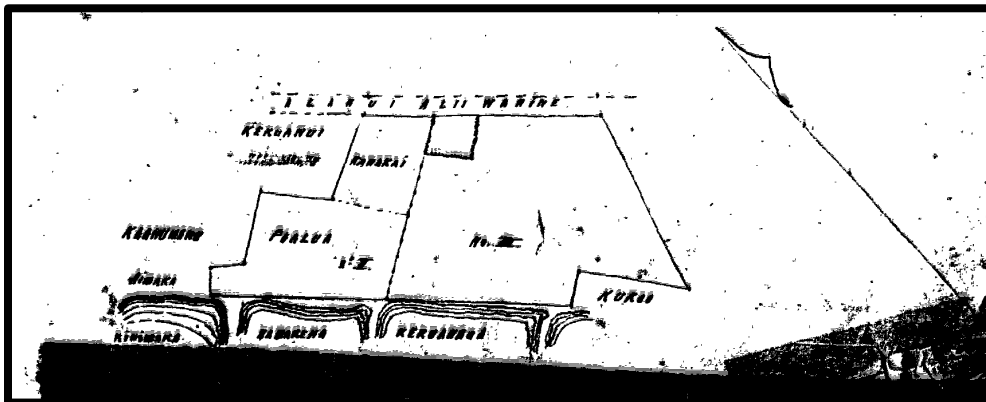
Mahele Award Book 2:75

Helu 677 received before enacting the Law in 1832...

Surveyed by C.J. Lyons

3 lots at Honuakaha, Honolulu.

Beginning at the Northern corner adjoining Alanui Aliiwahine (Queen Street), and running S. 62° W. 3.26 ch... along the lot of Kekuanui; then S... 1.17 ch. along the lot of Kaahumanu; then S... 93 links along the lot of Aimaka to the pond of Kinimaka; then S... 6.42 ch. along the pond of Namakeha; then S... 6.73 ch. along the pond of Kekuanaoa; then N. 1.37 ch. & W... 4 ch. along the land of Kukoo; then N... 7.08 ch. along the Government land; then N... 8.82 ch. along Alanui Aliiwahine to the point of commencement. Containing therein 8 9/10 Acres...



4.2.4 Palapala Sila Nui (Royal Patent Grants on Land) and Land Grants

Even as it was underway, the Māhele ‘Āina was met with mixed results that left a large number of hoā‘āina landless. The King and Hawaiian government officials saw that across the islands, many of the applications made by native tenants for kuleana had been rejected by the Land Commission. Furthermore, many of the parcels being confirmed as kuleana—particularly in dry regions—were inadequate to support the needs of families as larger areas were required to grow crops for sustenance, and keep newly introduced animals fed. As a result, Kamehameha III initiated a program that allowed native and foreign residents to apply for grants of land—in fee-simple interest—which were a part of the Government land inventory. The process of applying for “Grant Lands” was set forth by the “Enabling Act” of August 6, 1850, which set aside portions of government lands for grants—

Section 4. Resolved that a certain portion of the Government lands in each Island shall be set apart, and placed in the hands of special agents to be disposed of in lots of from one to fifty acres in fee simple to such natives as may not be otherwise furnished with sufficient lands at a minimum price of fifty cents per acre. [“Enabling Act” – DLNR 2-4]

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The Kingdoms’ policy of providing land grants to native tenants was further clarified in various communications like this one dated February 23, 1852, from Interior Department Clerk, A. G. Thurston, on behalf of Keoni Ana, Minister of the Interior, to the Government Surveyor, J. Fuller:

February 23, 1852

...You will entertain no application for the purchase of any lands, without first receiving some part, say a fourth or fifth of the price; then the terms of sale being agreed upon between yourself and the applicant you will survey the land, and send the survey, with your report upon the same to this office, for the Approval of the Board of Finance, when your sales have been approved you will collect the balance due of the price; upon the receipt of which at this office, the Patent will be forwarded to you.

Natives who have no claims before the Land Commission have no Legal rights in the soil.

They are therefore to be allowed the first chance to purchase their homesteads. Those who neglect or refuse to do this, must remain dependent upon the mercy of whoever purchases the land; as those natives now are who having no kuleanas are living on lands already Patented, or belonging to Konohikis.

Where lands have been granted, but not yet Patented, the natives living on the

land are to have the option of buying their homesteads, and then the grant be located, provided this can be done so as not to interfere with them.

No Fish Ponds are to be sold, neither any landing places.

As a general thing you will charge the natives but 50 cents pr. acre, not exceeding 50 acres to any one individual. Whenever about to survey land adjoining that of private individuals, notice must be given them or their agents to be present and point out their boundaries... (Thurston, 1852:210-211)

Digital copies of surveys of Palapala Sila Nui or Land Patent Grants (following the overthrow of the Hawaiian Monarchy) in the Waikīkī region are cited below. They provide further documentation on the nature of, and changes in, land use in the historic period. The Royal Patent Grant parcels were identified through the use of historical maps and in grant records digitized by Kumu Pono Associates LLC from the Hawai'i State Bureau of Conveyances collections. The following notes include the Grant Number, name of grantee, acreage, primary place names covered by the grant, and date of issuance. A digital copy of the Grant is also provided with the full metes and bounds, as well as a copy of a plot plan when available.

Table 6. Selected List of Grants, Original Grantees, Dates of Record and Land Area in Waikīkī

Grantee	Helu	Location	Year	Acreage
Jules Dudoit	301	Kulaokahua, Waikīkī	1850	1672 fathoms, 3302 feet
Wm. Miller	2341	Malookahana, Waikīkī	1857	2.97 acres
Lot Kamehameha	2790	Kalia, Waikīkī	1861	82 acres

**Royal Patent Grant No. 301. Area of 1672 fathoms and 3302 feet
Jules Dudoit at Kulaokahua, Waikiki. Register Map No. 1090. June 12, 1850**

(No neighboring land names cited)

Helu 301
PALAPALA SILA NUI.

231

Na keia palapala sila nui ke hoike aku nei o Kamehameha III, ke Alii nui a ke Akua i kona lokomaikai i hoonoho ai muluna o ko Hawaii Pae Aina, i na kunaka a pau, i keia la, nona ilio, a no kona mau hope alii, ua haawi lilo loa aku oia ma ke ano alodio ia *Jules Dudoit* i kona *wahi* kanaka i manao pono ia ia i kela apana aina a pau e waiho la ma *Kula o Kahua* *Waikiki* ma ka Mokupuni o *Oahu* a penei hoi ka waiho ana o na Mokuna
Ma Helu 88, 89, 102, 103.

E hoomaka ma ke kahi
makai Hema o ka Helu 87 { ko Penhallow } a e holo
Hema 78° 30' Hik. 203½ Kap. ma Alamani lwaena a
hiki i ke kahi Hema makai o ka Helu 89-
Alaila Aka 11° 15' Hik 295½ Kap. ma na Helu
90 a me 101 a hiki i ke kahi Hik, manka o ka
Helu 102 ma Alamani manka - Alaila Aka
78° 15' Kom. 203½ Kap. ma Alamani manka a
hiki i ke kahi Hik. manka o ka Helu 104
{ Penhallow's } Alaila Hema 11° 15' Kom. 295½
Kap. ma na Helu 104 a me 87 a hiki i
kahi i hoomakai.

a maloko o ia Apana *1672 Amana 30 Kapuan* eka a oi iki aku, emi iki mai paha.
Eia ke kumu o ka lilo ana; ua haawi mai oia iloko o ka waihoana waiwai o ke Aupuni i *na Dala he 8172.*
Aka, ua koe i ke Aupuni na mine minerala a me na mine
metala a pau.
No *Jules Dudoit*, ua aina la i haawiia, nona mau loa aku no,
ma ke ano alodio, a no kona mau hoilina, a me ko na waihoana, ua pili nae ka aha i ka Poe Ahaolelo e kau
like ai ma'na aina alodio a pau i kela manawa i keia manawa.
A i mea e ikeai ua kau wau i ko'u inoa, a me ka sila nui o ko Hawaii Pae Aina ma Honolulu,
i keia la *12 o June*, 1850.
(Inoa) *Kamehameha*
(Inoa) *Keoni Ana.*

Royal Patent Grant Number 2341

The Land of Malo'okahana

General William Miller's "Little Britain." March 20, 1857

On March 20, 1857, Kamehameha IV granted fee simple interest to in two parcels of land (2 acres 2 rods & 26 acres) to British Consul General, William Miller. The land, situated at Malo'okahana (Waikīkī), is just inland of the Ala Moana Center Station. Its history is of interest as it seem to have set the stage for the modern uses of Waikīkī. The property was described in the following survey:

Commencing at the north angle at second post of General Millers wire fence and running south 21 1/2 degrees west 12 chains 98 links along land purchased by General Miller from M. Kekuanaoa; then south 26 degrees west 4 chains 32 links past by along General Miller's land and partly along land belonging to the King; then south 50 degrees east 2 chains 63 links along Government land; then north 25 degrees east 2 chains 46 links, then north 6 degrees east 3 chains 55 links; then north 40 degrees east 1 chain 6 links; then north 28 degrees east 2 chains 10 links; then north 88 degrees east 59 links; then north 7 degrees east 7 chains along the taro patches of the native proprietors to the point of commencement. [See digital copy of Grant documents on following pages.]

Register Map Number 1910 (M.D. Monsarrat, 1897) identifies Miller's "Malookahana" parcel by the name "Little Britain." Forbes (1991) describes the setting in the following lines:

"Little Britain," a long-vanished establishment comprising the bristling cluster of buildings in the center [of the picture], was the most prominent (and almost only) development on "the Plains," the then-marginal grazing lands that stretched from Alapai Street out to Waikīkī, and on which much of central Honolulu is now built. This property was located at Pawaa, on the boundary of Waikīkī, and fronted what is now King Street...

It ran down to what is today the gigantic Ala Moana Shopping Center. Keeaumoku neatly dissects the property today, and the wall that runs off the right margin of the view is the boundary of the present Sheridan Street. ... "Little Britain" was the country home of the British Consul, General William Miller. Its proprietor, famous as the "Hero of Peruvian Independence," arrived at Honolulu as Consul General for great Britain aboard HMS Hazard, on February 3, 1844. With him was his private secretary, Robert C. Wyllie, who was to figure so prominently in Hawaiian government circles for the next 20 years. General Miller took up "city" residence at the Consulate on Beretania

Street, next to Washington Place. Several years after his arrival, Miller began piecing together the lots that would, eventually, comprise his country seat, and which, logically, he named "Little Britain" after his native land...

Adjoining Miller's original purchase was the property of John Michener, a pioneer Waikīkī hotel and tavern keeper, whose extensive establishment, part of which shows here, was advertised for sale in March 1847. It was described as featuring a "spacious adobe-built bowling alley, dwelling house, store, and cook's house, also built with adobe, in excellent order and now much under let for the annual rent of \$180."

All this Miller acquired and made improvements of his own, including a new dwelling house and a hospital. There he spent most of his time "looking after a few cows and gardening."

Miller's hospital, really a private sanitarium, filled a real need at the time, and cottages for hire on the grounds made it a place of resort for the well as much as for the invalids of the town. In short, it was one of the earliest resort hotels in the islands...

...The property stayed in possession of the Miller family until the last quarter of the nineteenth century and, while under lease by others, continued for many years as a popular semi-public resort (Forbes, 1991:42-44).

Due to ill health, Consul General Miller left Hawai'i in 1858 and he died in Chile in 1861. On his death, his Waikīkī estate went to his niece. In 1884, John N. Wright purchased the tract called "Little Britain" (Hawaiian Registry of Deeds, Liber 89:280-281). In 1892, Sanford B. Dole, acting as trustee of Anna Wright (widow of J.N. Wright) sold her trust estate to Charles N. Spencer, Minister of the Interior; "for the use and benefit of the Hawaiian Government, all of those two tracts of land situated at "Little Britain" (HSA Department of Interior Files, 1892).

Royal Patent Grant Number 2341, to William Miller at Malookahana
2.97 Acres. Grant Book No. 11, Pages 371-372. March 20, 1857

371

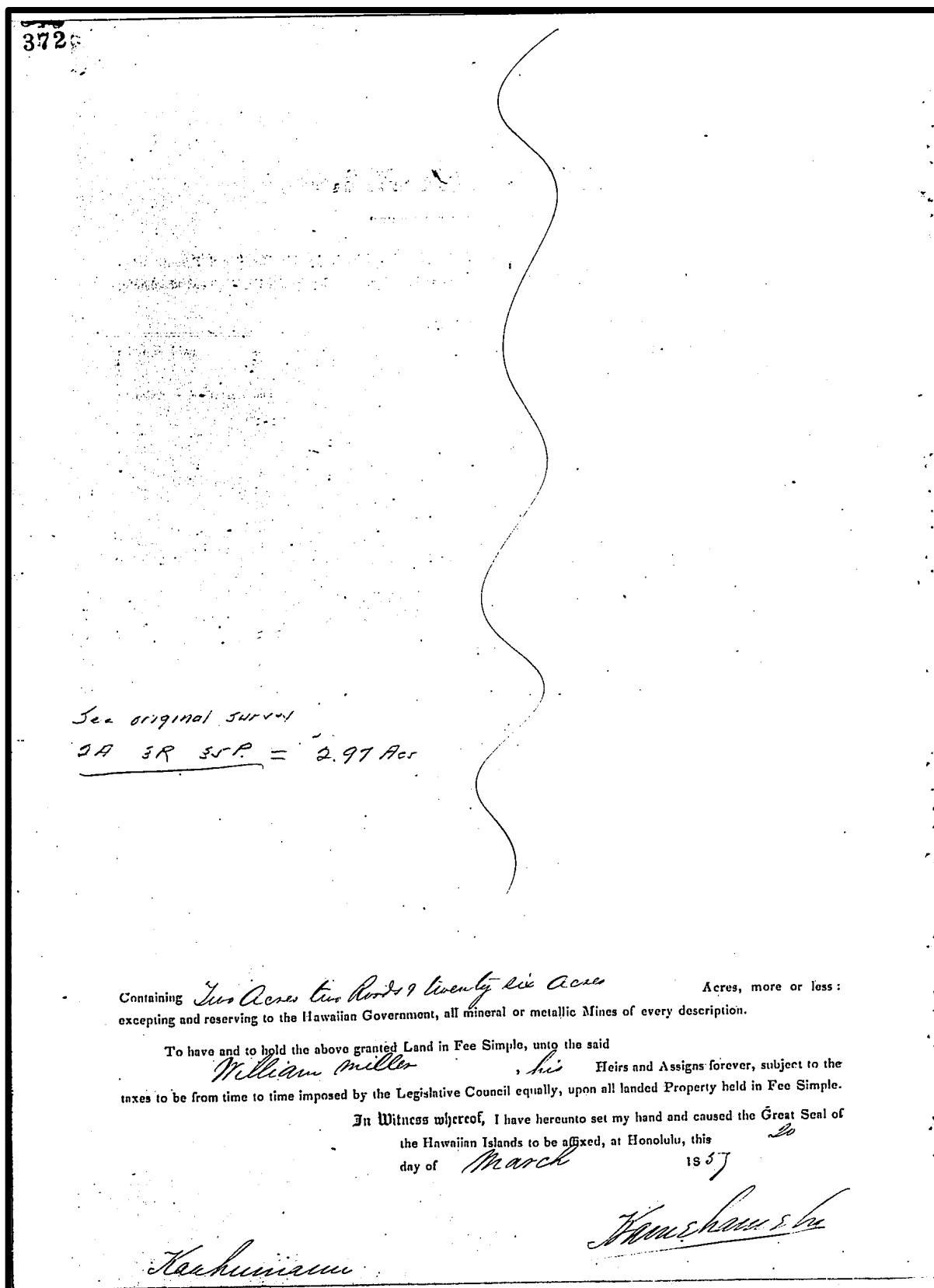
NO. 2341 ✓

ROYAL PATENT.

KAMEHAMEHA IV, By the grace of God, King of the Hawaiian Islands, by this His Royal Patent, makes known unto all men, that he has, for himself and his successors in office, this day granted and given, absolutely, in Fee Simple, unto *William Miller* his faithful and loyally disposed subject, for the consideration of *One hundred dollars* paid into the Royal Exchequer, all that piece of Land situated at *Malookahana* in the Island of *Oahu* and described as follows:

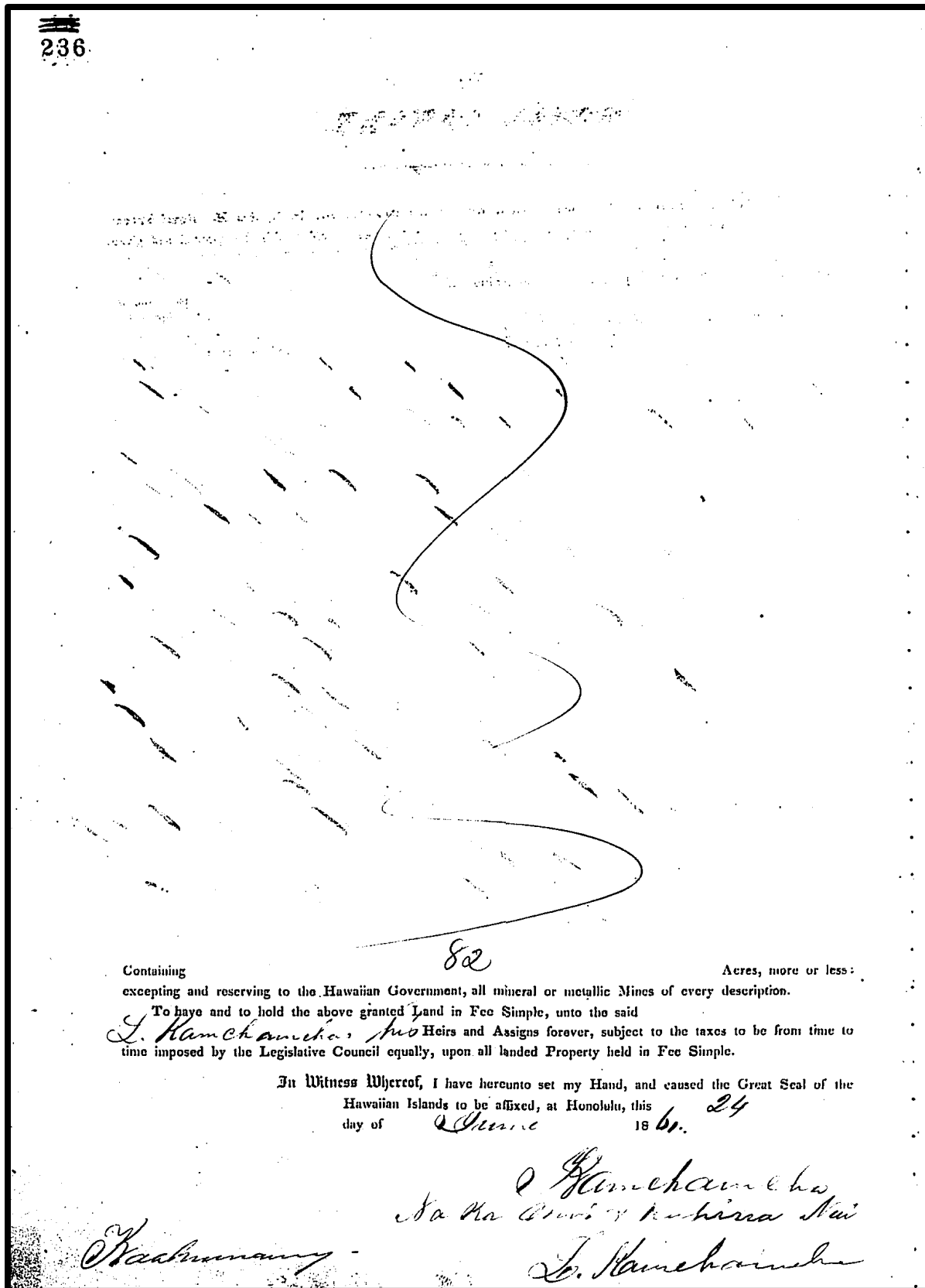
Commencing at the North Angle at second post of General Miller's line fence and running North 21° West 18 chains 75 links along land purchased by General Miller from Mr. Kekuauonui then South 25° West 4 chains 32 links East by along General Miller's land and partly along land belonging to the King then North 59° East 2 chains 53 links along Government land then North 25° East 2 chains 40 links then North 1° East 3 chains 55 links then North 12° East 2 chains 25 links then North 40° East 1 chain 6 links then North 28° East 2 chains 10 links then North 88° East 57 links then North 7° East 1 chain along the two patches of Native property to the point of commencement.

Private right reserved



Neighboring lands and features include: aeone/beach, auwai and Government Land.

DRAFT Cultural Impact Assessment Report for the Ala Wai Pedestrian Bridge
Waikīkī Ahupua'a, Kona District, O'ahu Island



4.3 Boundary Commission Proceedings: Ahupua‘a of Waikīkī

Following the Māhele ‘Āina, there was a growing movement to fence off large tracts of land which had been awarded to the ali‘i and foreigners, as a means of controlling access to resources which had been traditionally used by native tenants. In the 1860s, land owners and business interests petitioned the Crown to have the boundaries of their respective ahupua‘a, which became the foundation for plantation and ranching interests, settled. In 1862, the King appointed a Commission of Boundaries (the Boundary Commission), and tasked them with collecting traditional knowledge of place, land boundaries, customary practices, and deciding the most equitable boundaries for each ahupua‘a that had been awarded to Ali‘i, Konohiki, and foreigners during the Māhele.

Across the islands, commission proceedings were conducted over the course of several decades under the courts as formal actions under law. When the commissioners on the various islands undertook their work, the kingdom hired or contracted surveyors to begin the surveys. In 1874, the commissioners were authorized to certify the boundaries for lands brought before them (Alexander, 1891:117-118).

DRAFT

Documents from Kālia, Waikīkī were recorded between 1865 to 1925. The records include testimonies of: (1) elder kama‘āina who were either recipients of kuleana in the Māhele; (2) holders of Royal Patent Land Grants in the ahupua‘a of interest; (3) individuals who were direct descendants of the original fee-simple title holders; (4) subsequent holders of title; residents of the land with direct knowledge of the boundaries and practices; and individuals who had learned of the lands from elder residents.

The narratives that follow include several types of documentation, such as the preliminary requests for establishing the boundaries, letters from the surveyors in the field, the record of testimonies given by native residents of the given ahupua‘a, and the certificate of the Commission in establishing the boundaries of the land. Native witnesses usually spoke in Hawaiian, and in some instances, their testimony was translated into English and transcribed as the proceedings occurred. Selected translations of the proceedings have been translated by Maly.

The Boundary Commission proceedings documented place names along the boundaries of Waikīkī and smaller land divisions. These names demonstrate Hawaiian familiarity with the resources, topography, sites and features of the entire island; sharing the broad relationship of the natural landscape to the culture and practices of the early residents in the region.

Table 7 provides a compendium of place names recorded in Waikīkī and names of residents, as documented in the Boundary Commission proceedings. Many of the place names remain in use on maps or among some residents, while others are no longer in use. A number of the place names are found in traditional narratives and historical accounts that are of “national”

significance to the Hawaiian people and history of Hawai‘i.

Table 7. Place Names and Resident Names Cited in the Boundary Commission Proceedings of Waikīkī Ahupua‘a

Place Name	Resident Names	Year of Record
Hamohamo (Ili)	A. Keohokalole	1865
Apuakehau	W.C. Lunalilo	1920
Kalia	C. Kanaina	
Auaukai	Mamala	
Kaluakau (Part of Kalia)	Pupule	
Kaneloa	Naihekukui	
Makua	Aikanaka	
Paliki	M. Kekuanaoa	
Keonioku	C. Kapaakea	
Puaaliilii	Pukaana	
Pohaku o Kauai	Kamaukoli <small>DRAFT</small>	
Lae Pohaku	Hookaia	
Kukaunahi	Kailio	
Kekio	Kekupuohi	
Kalamanamana (Loko)	Umalele	
Pahoa	Paulokia	
Hoolu	Kailikoli	
Kamookahi	Piiwi	
	Kaneloa	
	Kahiawiawi	
	Hanaumaikai	
	Kailielulu	
	Piikoi	
	Nahalau	
	Hooku	
	Kaaua	
	Kekauluohi	
	Mahuka	
	Kaholoipua	
	Charlotte Kaholoipua	
	Iaukea	
	Wm. Sumner	
Kaiwiokaihu (Ili)	D. Kauilokamoa	1874
Opu	E. Maui	

Place Name	Resident Names	Year of Record
Maunalaha	Roke Keanui	1873
Keaniani	Kaohimaunu	
Makiki	Poloke	
	Piikoi	
Kamoku (Ili)	W.C. Lunalilo	
Kuilei	Keolaloa	
Hapuna	S. Kauluwailehua	
Maui (Loko)	Kaaimoi	
Kalia	Kauhane	
Kuwalu	Nuhi	
Kaooiliili	Palaualelo	
Kiona	Kupele	
Papaiki o Kepahu	Jos. Kawainui	
Kapaeli	Kalaula	
	Kaaimanu DRAFT	
Kalia (Ili)		
Waiaka	Hookaia	
Mookahi	Opunui	
Kaokapokii	Nakohana	
Kaluaolohe	Hookahi	
Pau	Makuaole	
Makoku	Kaleiapo	
Maulukikepa	Haumea	
Alanaiao (Auwai)	Nauhana	
Kauamoa (Ili of Kalia)	Kaluopo	
Kaaipuaa	Heami	
Paakea	Kahiki	
Kapahulu	Elama	
Kookahi	Kalama	
Kanukuaua	Nakookoo	
	Kahakai	
	Nakai	
	Kuaana	
	Paukuwahie	
	Kalaeone	
	Kaihoolua	
	W.K. Kawaihapai	
	M. Kekuanaoa	

Place Name	Resident Names	Year of Record
	Keoneanea	
	Kumoanahulu	
	Kahiloaha	
	Kanemakua	
	Ainoa	
	Kao	
	Kawelohelii	
	Huikau	
	Hakau	
	Kalakoa	
	Pahau	
	C. Kapaakea	
	Paoa	

4.3.1 Ahupua'a and Land Division Descriptions with Certifications of Boundaries

The narratives that follow are verbatim transcripts of records from the commission proceedings. They include entire ahupua'a or subdivision parcels (such as 'ili, lele, loko, and kula) as recorded for the lands of Waikīkī (with neighboring lands). The narratives provide a larger, traditional context of the relationship Hawaiians share with the honua ola (living environment).

Waikīkī Ahupuaa, Ili of Hamohamo

District of Kona, Island of Oahu

Boundary Commission, Oahu, Volume 1, pages 13-20

[Excerpt provide historical overview of residency and the cultural landscape in the Ahupua'a of Waikīkī – the ili of Hamohamo is bounded by Kālia along one side.]

Record of Proceedings on Application of His Excellency, John O. Dominis, to decide & certify to the boundaries of Hamohamo, Waikīkī, Oahu.

January 4, 1865, Received & filed application.

January 5. Notified Honorable C. Kanaina & J.W. Austin, trustees of the Estate of His Royal Highness, W.C. Lunalilo, that a meeting of the Board of Commissioners would be held at the house of Keohokalole (Waikīkī) on Wednesday, January 11 at 10 a.m. to examine the boundary of Hamohamo, adjoining Kaluakau.

January 11. Board met at 10 a.m. at house occupied by Keohokalole at Waikīkī.

Present: J.O. Dominis, C. Kanaina &c.

The following testimony was introduced by J.O. Dominis, Esquire.

Pupule, sworn.

Has lived on Hamohamo since 1840. Was Luna of the land under Keohokalole & has remained in charge of it up to the present time. He learned the boundaries of Hamohamo from Mamala, an old man now dead, who was Luna of the land under Naihe. The boundary on the Honolulu side, commenced at the muliwai of Apuakehau, then follows up then follows up a certain old auwai to the auwai Kalo of Kalia, thence following said auwai to the River Kuaelua.

Keohokalole, sworn.

Hamohamo was my property. I received it from Aikanaka, my father, who lived on it & previous to Aikanaka, Naihe, his father, my grandfather lived also on the land & occupied it. I lived here with my father. When I came here, Kaahumanu was living near the mouth of the muliwai, Apuakehau, in some small houses. At that time, the natives living on the present kuleana of Kekuanaoa worked under Naihe, being a part of Hamohamo.

After Kaahumanu died, Kekuanaoa occupied that part of the land as a kuleana. The natives on Hamohamo had a right to take fish in the muliwai of Apuakehau.

Cross-examined, I do not know who gave the name of Auaukai. [page 14]

Paakea, sworn.

I was married to Keohokalole in 1835. At that time Hamohamo was the property of Keohokalole. Aikanaka was living on Hamohamo. His father, Naihe sometimes lived here & a part of the time on Hawaii. After I was married I lived on Hamohamo.

I learned the boundaries of Hamohamo from Puakaana & Mamala, Lunas of the land. The boundaries were at that time as laid down on the map.

In 1842, Kekuanaoa came here with witnesses to the house of Kamaukoli, to arrange the boundaries to his kuleana, which he claimed as having received from Kaahumanu. I was present. When the Kanakas were all together, Kekuanaoa said this land is a Panalaau.

Hookeia, sworn.

I live on Hamohamo, I came from Hawaii with Naihe. I was Luna of Hamohamo

& Mamala was before me. I learned the boundaries of Hamohamo from Puuakaana & other natives. This boundary was on the muliwai & ran mauka according to the map.

Kailio, sworn.

I live on Hamohamo, came here with Aikanaka, from Hawaii. The boundaries were well known by the natives in old times & ran up by side of the muliwai, to a certain stone wall & then followed it to an auwai & then mauka to the auwai of the kalo land. The natives of Hamohamo fished in the muliwai of Apuakahau.

Kamaukoli, sworn.

I came with Kaahumanu to Hamohamo. Kekupuohi, the other of Kaahumanu, gave Auaukai to Kaahumanu, Auaukai is an old name for that piece of land. I always understood that Kalia was a separate land.

Umalele, sworn.

DRAFT

I have lived five years on Hamohamo. When Mr. Pease surveyed the land, Kamaukoli was present & pointed out the boundaries of Hamohamo next to Kaluakau. He showed the boundaries to be the same as those on the map. [page 15]

Kamaukoli, recalled.

I was mistaken when I pointed out the boundaries to Mr. Pease.

Pauloika, sworn.

I was with Mr. Pease, when he surveyed the boundary between Hamohamo & Kaluakau & Kamaukoli was with us. When we got up to the fence, Kamaukoli told us the boundary of Hamohamo ran along the fence to an auwai & then up to the auwai on the Kalo land. Mr. Pease wished to follow straight up, but he objected.

Pupule, sworn.

Was with Mr. Pease, when he surveyed the boundaries of Hamohamo & Kamaukoli was with us. I went mauka & carried the flag to the corner of the stone wall, where it turns & after Mr. Pease reached that point, he said (Kamaukoli) that the boundary of Hamohamo followed along an old auwai, leading off towards Honolulu.

Kahiawiahi, sworn (for Kanaina).

I live on Kalia & have lived there 14 years. I learned the boundaries of Kaluakau

from Hanaumaikai, with whom I lived many years. He was the Luna of the land. The boundary of Kaluakau, next to Hamohamo, follows up the muliwai & river of Kalia.

June 14, 1865. The Commissioners held a meeting at the residence of Keohokalole at Waikīkī & the following testimony taken, as regards the boundary of the fishing grounds of Hamohamo, which adjoin the property of His Majesty, the King.

Kailikoli, sworn (for H.M.).

I was born on Hamohamo & live there now. I was old enough to carry sand when the fort in Honolulu was built. Piiwi was Luna on the Kaneloa in time of Kamehameha I. Kailielulu next; then Piikoi & then Nahalau. [page 16]

The boundary on the beach is at a stone, from thence it runs out to a certain coral rock on the inner reef, called Makua, on the Honolulu side, the sea of Hamohamo commenced at the mouth of the muliwai of Apuakehau. I do not know the name of the makai corner of that side, but it runs to a spot, on the inner reef which is sometimes bare.

The boundary between the two makai corners follows along the inner reef & does not extend to the outer reef. The sea between the inner & outer reef belongs to Kaneloa. I learned the above boundaries from my parents & from the Lunas of the land.

Hooku, sworn (for H.M.).

I was konohiki of Kaneloa in 1851. I learned the boundaries of the sea of Hamohamo from Kailielulu. The boundary on the easterly side commences at a certain rock near a place called Paliki & runs out from there to a coral rock, on the inner reef. It runs along in front of Hamohamo, on edge of inner surf or reef.

The sea outside of the inner reef belong to Kaneloa. Paakea, nor his Luna, did not object to my disposing of the fish caught there & Nahalau done the same when he was konohiki, without opposition.

The sea next to Hamohamo on the Honolulu side, is Keonioku, belonging to Kekuanaoa.

The corner of the sea of Hamohamo on that [side] is at the muliwai & runs out to a rock called Pualilili.

Pupule, sworn (for Jo. Dominis).

I know the boundary of the sea between Kaneloa & Hamohamo. The easterly corner is at a certain rock on the beach & thence the boundary runs out to a coral rock on the reef inner, called Pohaku o Kauai; thence to a rock on outer reef called Lae Pohaku. On the Honolulu side it commenced at the muliwai & thence makai to a rock called Pualilii & thence to the outer reef. I do not know the name of the corner but the boundary is straight. When Jarrett was Luna & Kailielule & Nahalau, the fish I caught were divided between the Konohikis of Kaneloa & Hamohamo; that is those caught between the inner & outer reefs.

Cross-examined: I was born on Molokai & lived there till 1844 & then moved to Lahaina & lived there 4 years, then moved to Nuuanu & to Hamohamo in 1849. Mamala showed me the boundaries of the sea. [page 17]

Hookaia, sworn (for J.O. Dominis).

The sea of Hamohamo, on the east, commenced at a rock, makai nearby of a cattle pen, & runs out makai to a rock on outer reef & thence along outer reef to a point opposite the muliwai. I came to Hamohamo when the chiefs came from Hawaii. I lived sometimes at Honolulu & sometimes at Hamohamo. The squid taken by the women belonging to other lands, on the inner reef, were divided with the Luna of Hamohamo.

The outer reef, I supposed belonged to the Government & have heard that the Konohiki of Kaneloa, claimed to a right to fish on the outer reef. I did not claim the squid taken on the outer reef. I have heard that the sea of Hamohamo is on

the inner reef & that Kaneloa runs along outside of it. The persons who told me so are dead. Kailielulu was one.

Kailio, sworn.

I came here from Hawaii with Aikanaka. I learned the boundaries of the sea of Hamohamo from Kapua & Aikanaka. The corner on Kaneloa is at a rock on the beach, near Paliki, & runs to a rock called Pohaku, at a fishing place.

The Kuuna [net fishery] belongs to Kaneloa. On the Honolulu side the corner is at the muliwai & runs to a point on the reef. I do not know the name of [it]. I have heard that the outer reef belongs to Kaneloa. Pupule, the Luna of Hamohamo, took the squid, from only inside of the inner reef.

Kaaua, sworn.

I lived on Hamohamo with Naihe. The corner of the sea of Hamohamo is just

beyond Paliki & runs out to a rock on the inner reef & thence along inner reef to Keonioku & thence to the mouth of the River. I have been told that the outer reef belongs to the Government.

Paakea, sworn.

The boundary of the sea of Hamohamo on the East is near Paliki, from thence it runs to a coral rock called Pohaku o Kauai & to a point on outer reef called Pohaku. From thence it runs to a point on inner reef called Pualiili & thence to the muliwai. The kuuna [kuauna] near Pohaku belongs to Kaneloa.

Hamohamo

Jan 21, 1866.

The following testimony at office in Honolulu.

C. Kanaina, sworn.

I came to Honolulu in 1823. I know the lands of Hamohamo & Kaluakau. They are Ilis of Honolulu. The land of Kaluakau originally belonged to Kamehameha. He gave it to Kamamalu & she gave it to Kekauluohi.

The boundary of Kaluakau, commences on the sea near the koa trees & runs mauka between the church & the River & thence to a bend in the River & thence up River. The old auwai, running along the westerly boundary, as claimed by Dominis, was dug in 1854 by Kamakoli. I had a dispute with him about the above auwai & he left the auwai & went over to the river. Kamaukoli claimed the land between the above auwai & the river, as a part of Kalia.

I have never heard any dispute as regards the boundaries of Kaluakau, excepting the above.

Jan 23, 1866.

The Comm. met at the house of M. Kekuanaoa.

M. Kekuanaoa.

I do not know the boundaries of Hamohamo & Kaluakau. They do not join. Kaluakau is a part of Kalia.

Jan 25, 1866.

The following testimony was recd at office.

Kaaua, sworn.

I formerly lived with Naihe on Hamohamo. The boundary of Hamohamo at that

time extended to the muliwai of Apuakehau & thence ran mauka, following the easterly side of the muliwai & auwai or river to the Loko Kalamanamana.

The natives living on the land owned by Kekuanaoa on the easterly side of the muliwai lived under Naihe.

Hamohamo does not cross the muliwai towards Honolulu. [page 18]

Hamohamo No. 31

The following award of Boundaries of Hamohamo, was issued to J.O. Dominis.

see also No. 118, Bk 3, page 110

Ap 1.

Commencing at the sea, at the South & Easterly corner of this land, a short distance east of the mouth of the muliwai called Kukaunahi, running from thence N 35° 15' E 30 chains, bounded by land called Kekio (this line runs to the end of a certain coral wall, which forms the northerly boundary of Kekio & 31 links beyond) thence N 45° E 74 links bounded by Kaneloa, thence N 54° E 3 92/100 chains to the middle of the auwai, which separates this land from Kaneloa, at the point which said auwai turns eastwardly, thence N 53° 30' E 9 80/100 chains passing along the middle of said auwai to the point where said auwai turns westwardly, thence N 30° W. 1 51/100 chains & N 34° W. 19 34/100 chains along the middle of the auwai separating this land from that belonging to Mahuka & the Govt to the middle of the auwai, bounding the Loko called Kalamanamana on the East, thence S 42° W. 14 09/100 chains passing down the middle of said auwai to the auwai of Luakau. Thence N 62° W. 1 70/100 chains N 17° West 1 80/100 chains N 55° W. 4 24/100 chains, N 81° W. 2 71/100 chains, following always the middle of the auwai to the point, where it turns southerly at the land called Kaluakau thence S 36° W. 6 50/100 chains, following along middle of the auwai separating this land from Kaluakau to a point near a coral wall which crosses said auwai at its mouth, thence S 70° W. 9 10/100 chains & N 80° W. 1 chain to a stone wall crossing the muliwai, at its head, following the stream of water through its middle, which connects the auwai called Luakau with the muliwai called Apuakehau, Thence S 58° 30' W. 4 78/100 chains, along the easterly side of the muliwai to the upper side of the Govt Road at the bridge, thence following along the easterly side of the muliwai of Apuakehau to the sea, thence following along the sea at low water mark to point of commencement.

Ap. 2.

Commencing at a stone on the easterly side of the River of Pahoa, running from thence S 35° 30' E 5 67/100 chains, bounded by land called Kaohiwai to a large coral stone, thence S 44° W. 6 52/100 chains, bounded by land called Hoolu belonging to Wahinekapu, thence N 48° W. 3 55/100 chains to the River Pahoa, bounded by land called Kamookahi, belonging to Napahi, from thence following River of Pahoa to commencement... [page 19]

DRAFT

**Waikīkī Ahupuaa, Ili of Hamohamo
District of Kona, Island of Oahu
Boundary Commission, Oahu, Volume 3, 110-115
No. 118**

Before M.D. Monsarrat, Commissioner of Boundaries for the First Judicial Circuit, Territory of Hawaii, U.S.A.

In the Matter of the boundaries of two portions of the Lele of Hamohamo, Waikīkī, Kona, Oahu

Honolulu, September 24th 1920

Proper application having been made to me September 24th 1920 by Curtis P. Iaukea, Esquire, Managing Trustee Liliuokalani Trust for the trustees of the Liliuokalani Trust for the settlement of the boundaries of two portions of the Lele of the Ili of Hamohamo, Waikīkī, Kona, Oahu, Territory of Hawaii.

The application being as follows:

(Copy)

Liliuokalani Trust, 314 S. Beretania
Honorable A.G.M. Robertson, President, Honorable W.O. Smith, Vice President
& Secretary, C.P. Iaukea, Treasurer
Honolulu, September 24th 1920

Mr. M.D. Monsarrat, Commissioner of Boundaries, First Judicial Circuit,
Honolulu, Territory of Hawaii

Dear Sir,

I desire on behalf of the Trustees of the Liliuokalani Trust to have the boundaries of certain portions of the Lele of Hamohamo at Waikīkī, Oahu, decided and certified to.

The portions referred to are covered by Land Commission Award 8452, Apana 3, to Keohokalole, and more particular[ly] described as Sections 4 and 5 in the accompanying map and survey. The name of the adjoining land is Hooulu, Grant 2615 owned by Charlotte Kaholoipua Iaukea.

Respectfully yours

(Signed) Curtis P. Iaukea, Managing Trustee, Liliuokalani Trust... [page 111]

Description of Sections 4 and 5 of Apana 3, of Land Commission Award 8452 to Keohokalole, being portions of a lele of Hamohamo, Waikīkī, Kona, Oahu.

Apana 3, Section 4

Beginning at the South corner of this piece and the East corner of Land Commission Award 8452, Apana 3, Section 2 to Keohokalole, the coordinates of said point of beginning referred to Government Survey Trig. Station “Punchbowl” being 10390 feet South and 10930 feet East, and running by true azimuths:

154° 10' 315.0 feet along Land Commission Award 8452, Apana 3, Section 2 to Keohokalole, to a point in the East bank of the Pahoia stream;

233° 00' 21.6 feet along the East bank of the Pahoia Stream;

324° 45' 310.0 feet along Land Commission Award 154, Apana 2 to W. Sumner;

53° 40' 73.0 feet along Grant 2615 to Kahaloipua to the point of beginning.

Area 0.34 acre

DRAFT

Apana 3, Section 5

Beginning at the East corner of this piece and the South corner of Land Commission Award 8452, Apana 3, Section 2 to Keohokalole; said point of beginning being by true azimuth and distance 53° 40' 430.3 feet from the South corner (or initial point) of land described in Section 4, and running by true azimuths.

53° 40' 155.0 feet along Grant 2615 to Kahaloipua;

323° 40' 30.4 feet along Grant 2615 to Kahaloipua;

56° 10' 358.4 feet along Grant 2615 to Kahaloipua to a point in the East bank of the Kalia stream; thence along the East bank of the Kalia and Pahoia Streams to the West corner of Land Commission Award 8452, Apana 3, Section 2 to Keohokalole, the direct azimuth and distance being 192° 15' 664.4 feet;

321° 40' 425.0 feet along Land Commission Award 8452, Apana 3, Section 2 to Keohokalole, to the point of beginning

Area 2.80 Acres

Excepting and reserving therefrom Land Commission Award 10535, Apana 2 to Napahi, within this lot, containing an area of 0.90 Acre

Leaving a net area of 1.90 Acres

(Signed) H.E. Newton, Surveyor,

Honolulu, Territory of Hawaii, September 21, 1920... [page 112]

Waikīkī Ahupuaa, Ili of Kaiwiokaihu (with Keaniani and Mauna Laha)

District of Kona, Island of Oahu

Boundary Commission, Oahu, Volume No. 1 pp. 263-264

[This inland section of Kaiwiokaihu, is part of a larger, Lele (detached land area) that shares common boundaries with Kewalo.]

In the Matter of the Application of E. Maui for settlement of the boundaries of portions of Kaiwiokaihu viz. - Keaniani, and Mauna Laha.

Application

To L. McCully, Esq

Commissioner of Boundaries for the Island of Oahu H.I.

The petition of E. Maui of Honolulu, Oahu, respectfully represents as follows: That he is the present owner of two pieces of taro land belonging to the ili of Kaiwiokaihu, and situated in Makiki Valley, known as “Keaniani” and “Maunalaha” and that the same were awarded to the late Davida Kauliokamoa by the Minister of Interior in the Mahele Award No. 24, dated June 30th 1862 in the following words “Ka Ili of Kaiwiokaihu, Waikīkī, i paa i ka pa a me na loi iuka”.

That the first mentioned land called Keaniani, was conveyed to your petitioner by Roke Keanui widow of Kauliokamoa by a deed dated March 1st 1869 and recorded in Liber 36 page 263 and the second piece of land by a deed dated Jan. 1, 1873 and recorded on same page.

That the said pieces of land are situated in Makiki Valley and are bounded by the Kula of Kaiwiokaihu, belonging to the Government, the Ili of Opu claimed for the Estate of Kamehameha V, and the half Ili of Poloke belonging to the Crown.

(The petition has a survey annexed - and prays for an award accordingly, & that a time & place be set for the hearing &c).

Signed. E. Maui

Court House, Honolulu

April 3d 1874

Present E. Maui, the petitioner, Prof Alexander, the surveyor who represents Crown Lands, the Government & “Opu” of Kam. V Estate

Kaohimaunu, sworn. (say 50 years old)

Am kamaaina about Makiki. I know the place called Keaniani. It is a part of

Kauliokamoa's land. His widow sold it to petitioner, who now holds it. It is in Makiki. I went with Alexander to survey it, and pointed out the boundaries of it to him - I was a man under Kauli-o-Kamoa. He surveyed as I pointed out, and as petitioner [page 263] holds. It is bounded on the makai side by "Opu" of Kam. V - by Poloke on upper side (Ewa side) a piece of Crown Lands maeled by Piikoi as surveyed. The division being an auwai. The boundary on the Waikīkī side & mauka is the Kahawai of Makiki - the other side of the stream is the Kula of Opu.

Prof Alexander statement: The survey herewith presented and made by me, according to the testimony of the witness, as claimed and now held by the petitioner. I am authorized to represent the adjoining lands, and I assent to this boundary between them, so far as they are concerned.

Mr. Judd for John Ii's Estate assents where the corner of this land touches that Estate.

DRAFT

Award accordingly.

Mauna Laha

Same witness - I was formerly in charge of this - cultivated it for Kauliokamoa. It is up the right hand branch of Makiki valley. I pointed out the boundaries to A. Bishop who surveyed ti many years ago and pointed out the same to Prof Alexander lately. He followed the marks laid down by Mr. Bishop. They are the ancient boundaries and are as occupied now by the petitioner. We started at stone marked by Bishop; thence around to another principal corner marked along line of stone wall &c. The piece is surrounded by the land of Opu, although formerly this piece had a kula attached, now lapsed. Both pieces in this petition are leles of Kaiwiokaihu.

Prof Alexander states, followed the direction of witness finding Mr. Bishop's marks at the two principal corners and otherwise distinct lines. It is surrounded by the land claimed as Opu, and I am authorized on part of Kam. V Estate to assent to the boundary as given in my survey.

The two pieces are therefore awarded according to the survey presented.

Award No. 15

Office of the Commissioner of Boundaries Oahu

In the matter of the application of E. Maui for the settlement of "Keaniani" and "Mauna Laha"

Upon the foregoing application due notice having been given to all parties in interest, the matter came on to be heard on the 3d day of April A.D. 1874 at the Court House in Honolulu and it was made to appear that the pieces of land ap- [page 264] applied for are included in “Na loi uka” of the award of Minister of Interior No. 24 to Kauliokamoa of the Ili of Kaiwiokaihu, Waikīkī. And upon the proofs given I find the boundaries as follows, to wit:

(the petitioner holding by deed from the widow of the Grantee)

Keaniani, Maikiki

Beginning at the West corner of this land adjoining Poloke, at an angle in the fence, the boundary runs:

North 69° 55' East 282 feet along Poloke, along auwai;
South 27° 04' East 86' feet along the Kahawai
South 61° 01' West 250 feet along the Kahawai
South 40° 05' West 132 feet along Opu to place of beginning
Containing 648/1000 acre

Mauna Laha

Beginning at a marked rock by two Hala trees near a spring the boundary runs:

South 57° 04' West true 612 feet to marked rock;
North 30° 29' West true 184 feet across valley to marked rock
North 62° 44' East true 390 feet
North 67° 11' East true 281 feet
South 0° 54' East true 116 feet to place of beginning, and containing 2
178/1000 acres.

In witness whereof I have hereunto set my hand at Honolulu this 8th day of April A.D. 1874 Lawrence McCully, Commissioner of Boundaries, Oahu.... [page 268]

Waikīkī Ahupuaa, Ili of Kamoku
District of Kona, Island of Oahu
Boundary Commission, Oahu, Volume 1 pp. 134-136

[The ili of Kamoku shares common boundaries with the ili of Kālia.]

Boundaries of Kamoku Ili aina ma Waikīkī

Application of Charles R. Bishop, for His Majesty
Filed July 14th 1873

Honolulu, Jan'y 14th 1873
L. McCully, Esq
Commissioner of Boundaries for the Island of Oahu

Sir,
Enclosed herewith I hand you the Plan and Notes of survey of His Majesty's land "Kamoku," an Ili in two pieces, at Waikīkī, Kona, Oahu, and request you to define and settle the boundaries of the same, according to law.

The names of the lands bounding His Majesty's land, Kamoku, and that of the owners thereof, appear in this survey, as far as I know them.

Respectfully Yours,
Charles R. Bishop,
Acting for His Majesty

Survey filed with above
He Moolelo o ke ana ia Kamoku, Ili Aina o W.C. Lunalilo ma Waikīkī Waena, Kona, Mokupuni, Oahu.

Apana 1.
E hoomaka ana i ke ana ma ke kihi Hikina Akau, mauka o keia ma ka lihi Komohana o ke Kahawai o Kalia e pili ana me Kuilei Aina o Keolaloa, ma ka huina o ke Kahawai me ka Auwai ma ka pohaku X a holo ka aoao mua:

Hema 68° Kom. 220 pauku
Akau 59° Kom. 2 ½ Kaulahao ma Kuilei
Hem. 52° Kom. 409 pauku
Hem. 58° 30' Kom. 402 pauku
Hem. 65° 30' Kom. 402 pauku
Hem. 69° 30' Kom. 212 pauku; [page 134]
Hema 58° Kom. 125 pauku, ma Kuauna e pili ana me Hapuna a hiki i ke

Akaakai, alaila
 Hem. 58° Kom. 869 pauku
 Hem. 61° 30; Kom. 192 pauku
 Hem. 41° 30' Kom. 482 pauku ma kaha puna a hiki I ke kihi Hik. Ak. o Maui
 Loko alaila Ak. 59° Kom. 270 pauku
 Ak. 45° Kom. 62 pauku
 Ak. 71° Kom. 105 pauku
 Hem. 77° Kom. 781 pauku ma Kuilei a me Kalia a i ke Kihi Komohana loa o keia
 aina alaila Hem. 5° 30' Hik. 238 pauku
 Hem. 39° 30' Hik. 357 pauku
 Hem. 83° Hik. 73 pauku
 Ak. 76° Hik. 158 pauku
 Hem. 58° Hik. 44 pauku
 Ak. 81° Hik. 342 pauku
 Ak. 43° 30' Hik. 427 pauku ma Kalia
 Hem. 55° Hik. 3 ½ kaulahao
 Ak. 55° 30' Hik. 983 pauku
 Ak. 51° Hik. 206 pauku
 Ak 61° 30' Hik. 232 pauku
 Ak. 71° Hik. 160 pauku
 Ak. 59° Hik. 2 kaulahao
 Ak. 69° 45' Hik. 51 pauku
 Ak. 50° 30' Hikina 638 pauku
 Ak. 69° Hik. 86 pauku
 Ak. 86° 30' Hik. 140 pauku
 Ak. 43° Hik. 160 pauku
 Ak. 57° Hik. 366 pauku ma Kuauna e kaawale ai o Kamoku o S. Kuluwailehua a
 hiki i ke Kahawai o Kalia ma ka pohaku X he 194 pauku mai ka pohaku mai i
 Kapa
 ia o Kuwalu aliala Ak. 19° 30' Hik. 203 pauku hiki i ke kihi i hoomakai.
 Oia kona Ili 18 Eka.

DRAFT

Apana 2

E hoomaka ana i ke ana ma ke kihi Komohana Hema makai o keia, ma ke lihi
 Hikina o ke Kahawai o Kalia ke kihi Komohana Hema hoi o ka loi I Kapaia o
 Kapaeli, a holo:
 Hema 43° 30' Hik. 896 pauku ma ko Kaaimanu
 Ak. 44° 30' Hik. 113 pauku ma Kaaimoī
 Ak. 36° Hik. 149 pauku ma ko Kauhane
 Ak. 35° Kom. 69 pauku ma ko Nuhi [page 135]

Ak. 43° Hik. 65 pauku alaila
 Ak. 40° 30' Kom. 294 pauku ma ko Kauhane
 Ak. 37° 30' Kom. 460 pauku ma ko Palaualelo
 Alaila Hem. 57° Kom. 162 pauku
 Hem. 48° Kom. 243 pauku ma ka lihi luna o ke Kahawai o Kalia a hiki I ke Kihi
 i hoomakai.
 Eia Kona Ili 3 3/10 Eka.
 Me na Apana Elua 21 3/10 Eka

J.W. Makalena
 Ana aina
 Ana ia Maraki 15 1856

October 30th 1873

In company with J.W. Makalena, the former surveyor on behalf of petition, and
 Prof. Alexander in Kamooiili, Waikīkī, having with us the survey with
 diagram. First examined Apana 1. The corner on the Kalia stream is marked by
 a stone like a post and at the other mauka point by the junction of an ancient
 auwai. Went round the land, principally guided by Kupele, who did not
 however profess to be an old kamaaina. It was said they are all dead. Going
 down the east side of the land from stone post on the East lies the land of
 Kawailehua, now Jos. Kawainui, apparently Award No. 1281, R. P. 166 & 403,
 which will determine this boundary. The first part of it is marked by Kuaunas
 between taro patches - then it strikes into rush land (just burnt over) where
 the line was not so apparent - below the Kawailehua land, gov't land border
 this - Kalia. Gov't land is perhaps at makai end of this, and going back on the
 west side. Gov't land joins then some land said to belong to Kanaina - then W.
 Sumner for Kuilei, Award No. 154 - Lines should be run out.

II Apana. On makai side of stream is bounded by land of Mo's widow, Kalaula -
 on East side by Kiona - on mauka side by Papaiki o Kepahi. Did not get very
 definite information about this piece/ Lines will have to be run & compared
 with adjacent Roy. Patents.

The surveyor's memory not full.

To Folio 252 [page 136]

Waikīkī Ahupuaa, Ili of Kamoku
District of Kona, Island of Oahu
Boundary Commission, Oahu, Volume 1 pp. 252-253

From folio 136.

Court House

January 27th 1874

No adjacent proprietor appearing to contest the line as laid in the survey and the said survey having been made at a time when the boundary was more clearly defined than at present and no verification of this survey being to this date presented and from the whole result of the personal inspection, and examination on the spot of the people of the vicinage, as well as from the character of the land itself. I deem it proper to award the boundary according to the terms of the survey presented in the application.

Award No. 42

Office of the Commissioner of Boundaries – Oahu

In the Matter of the boundaries of Kamoku an Ili Aina of His Majesty – Lunalilo at Waikīkī.

DRAFT

Proper application having been made as above and notice having been given to all parties concerned upon examination of the premises, and of testimony, I find the boundaries of said Ili, in conformity with the survey—presented, and award as follows:—

E hoomaka ana i ke ana ma ke kihi Hikina Akau, mauka o keia ma ka lihi Komohana o ke Kahawai o Kalia e pili ana me Kuilei aina o Keolaloa, ma ka huina o ke Kahawai me ka auwai ma ka pohaku X a holo ka aoao mua Hem 68° Kom. 220 pauku Ak. 59° Kom. 2 ½ kaulahao ma Kuilei Hem. 52° Kom. 409 pauku Hem. 58° 30' Kom. 402 pauku Hem. 65° 30' Kom. 324 pauku Hem. 69° 30' Kom. 212 pauku Hem 58° Kom. 125 pauku, ma Kuauna e pili ana me Hapuna a hiki I ke Akaakai, alaila Hem. 58° Kom. 869 Pauku Hem. 61° 30' Kom. 192 pauku Hem. 41° 30' Kom. 482 pauku ma Kahapuna a hiki I ke kihi Hikina ak. o Maui Loko, alaila Ak. 59° Kom. 270 pauku Ak. 45° Kom. 62 pauku Ak. 71° Kom. 105 pauku Hem. 77° Kom. 781 pauku ma Kuilei a me Kalia a I ke Kihi Komohana loa o keia aina, alaila Hem. 5° 30' Hik. 238 pauku Hem. 39° 30' Hik. 357 pauku Hem. 83° Hik. 73 pauku, Ak. 76° Hik. 158 pauku. Hem. 58° Hik. 44 Pauku, Ak. 81° Hik. 342 pauku, Ak. 43° 30' Hik. 427 pauku ma Kalia Hem. 55° Hik. 3 ½ kaulahao, Ak. 55° 30' Hik. 983 [page 252]

From fol. 252

Pauku, Ak. 51° Hik. 206 pauku, Ak. 61° 30' Hik. 232 Pauku Ak. 71° Hik. 160

pauku, Ak. 59° Hik. 2 Kaul. Ak. 69° 45' Hik. 51 pauku, Akau 50° 30' Hik. 638 pauku, Ak. 69° Hik. 86 pauku Ak. 86° 30' Hik. 140 pauku, Ak. 43° Hik. 160 pauku, Ak. 57° Hik. 366 pauku, ma Kuauna e Kaawale ai o Kamoku o S. Kuluwailehua a hiki i ke Kahawai o Kalia ma ka pohaku X he 194 pauku mai ka pohaku mai i Kapaia o Kuwalu Alaila Ak. 19° 30' Hik. 203 Pauku, hiki i ke kihi i hoomaka'i.

Eia kona Ili 18 Eka.

Apana 2

E hoomaka ana i ke ana ma ke kihi Komohana Hema makai o keia, ma ke lihi Hikina o ke Kahawai o Kalia ke kihi Komohana Hema hoi o ka loi i Kapaia o Kapaeli, a holo Hem. 43° 30' Hik. 896 Pauku ma ko Kaaيمانu Ak. 44° 30' Hik. 113 pauku ma Kaaimoī Ak. 36° Hik. 149 pauku ma ko Kauhane Ak. 35° Kom. 69 pauku ma ko Nuhi Ak. 43° Hik. 65 Pauku, Alaila Ak. 40° 30' Kom. 294 pauku ma ko Kauhane, Ak. 37° 30' Kom. 460 pauku, ma ko Palaualelo, alaila Hem. 57° Kom. 162 pauku, Hem. 48° Kom. 243 pauku ma ka lihi luna o ke Kahawai o Kalia a hiki i ke Kihi i hoomakai.

Eia Kona Ili 3 3/10 Eka.

Ma na Apana Elua 21 3/10 Eka.

J.W. Makalena

Ana aina

Ana ia Maraki 15, 1856

In witness whereof I have hereunto set my hand this 27th day of January A.D. 1874.

Lawrence McCully

Com Boundaries Oahu. [page 253]

Waikīkī Ahupuaa, Ili of Kalia (various sections with other Ili)

District of Kona, Island of Oahu

Boundary Commission, Volume 1 pp. 430-444

In the matter of the application of W. Alexander for the settlement of the boundaries of the following described lands to Wit:

1. Keauhou and Wahinalo, adjacent to Paakea, in two parts viz., Part I and Part II
2. Waiaka, a tract adjoining Kamooiili church
3. The "Kula & Kaaipuaa" in Kalia makai of Kaluaolohe
4. Tract A of Rice Land in Kalia, Waiaka and Mookahi. This includes Loi o Kaokapokii, and adjoins Pau & Kamoku
5. Tract B. Rice Land in Kalia adjoins "Auwai of Alanaio
6. "Kauamoa" adjoins Pau.

Hon R.F. Bickerton

Commissioner of Boundaries for the Island of Oahu

Sir

I am instructed by His Excellency the Minister of the Interior to make an application to your Honor to decide and certify the boundaries of the following pieces of Government land in Waikīkī, viz.:

1. Keauhou and Wahinalo, adjacent to Paakea, in two parts
2. Waiaka, a tract adjoining Kamooiili church
3. The "Kula & Kaaipuaa" in Kalia makai of Kaluaolohe
4. Tract A of Rice Land in Kalia, Waiaka and Mookahi. This includes the "Loi o Kaokapokii," and adjoins Pau & Makoku;
5. Tract B of Rice Land in Kalia, adjoining the "Auwai of Alanaio";
6. "Kauamoa," which adjoins Pau.

As far as appears from the survey of Waikīkī, the only unsettled boundaries of the above mentioned pieces of Govt land are those adjoining Paakea, awarded to V. [page 430]

Kamamalu and now belonging to H.R.H. Luka Keelikolani, and the land of Pau belonging to the Estate of W.C. Lunalilo.

There are however claimants for portions of Keauhou and Mookahi.

The maps and descriptions of the above mentioned pieces of land are herewith

submitted, and are believed to be strictly correct, and your Honor is respectfully requested to appoint a day for the hearing of the case and that all parties interested may have due notice.

I have the honor to be your obedient Servant

(Signed) W.D. Alexander, Supt of Govt Survey

The above mentioned lands were surveyed by Reverend S.E. Bishop who will be in town about the end of December,

Office of the Boundary Commissioner of the Island of Oahu
No. 38 Merchant Street
January 6th 1882

Due notice having been given to adjoining owners:

Present: S.E. Bishop, Haumea, Opunui, ^{DRAFT} Mika Sole, Hookaia and Honorable S.K Kaai.

Hon S.K, Kaai notified by written notice.

1st Keauhou and Waihinalo, Mr. Bishop offers map made by him from his survey dated Oct 1881.

S.E. Bishop Sworn, states.

I made these surveys of these two lands. The Boundaries on the North & East sides were made from former survey of adjoining lands; the boundary in the Southeast side between these lands & Paakea is given from testimony of kamaaina, viz. Hookaia, Opunui & Nakohana; these people went with me and pointed out these old Boundaries;

Hookahi Sworn, states.

I have lived at Waikīkī since 1847 I know these lands but am not well acquainted with the Boundaries. I can not say if this survey is correct. The stone wall on Northeast side I helped to build under Kekuanaoa about 1854 & it ran down to Makuaole's kuleana, after passing Kaleiapo's kuleana; it ran directly to Makuaole's kuleana. I only know all this from what I have been shown.

Haumea Sworn, states.

I have lived at Waikīkī since 1832. I can't see this plan. I am not certain as to the Boundaries between Paakea and Wahinalo. I am the owner of Keauhou and Nauhana was the owner of Waihinalo.

Opunui Sworn, states.

I have heard what the other witnesses said. One boundary of Keauhou starts from Makuaole's kuleana & runs to Kaleiapo's wall. I don't know boundaries of Waihinalo. Mahuka had [page 431] charge of Paakea. I had charge under the Kamehamehas. I always thought Kapaakea included these lands.

On these lands the matter stands over, Heami then called on by the Government.

2nd Waiaka. Mr. Bishop offers a map made by him from his survey made in October 1881

Heami Sworn, states.

DRAFT

I know Waiaka & Paakea there is the Kuleana of Kauha, the boundaries run along this kuleana to a stone, on the one side bounded by Maulukikipi & on the other side by Kiki.

Mr. Kaai states he is satisfied with this survey.

Certificate granted.

#3 The Kula of Kaaipuaa.

Mr. Bishop offers a map of this land made by him. S.E. Bishop Sworn States. I made this survey and all boundaries are taken from adjoining Royal patents the line adjoining Kapahulu was agreed upon between the Government and Lunalilo Estate. I found some of the original marks of adjoining lands.

Certificate granted.

#4 Tract A of Rice land in Kalia, Waiaka and Hookahi.

Mr. Bishop offers a map made by himself.

S.E. Bishop Sworn States. I made this map mainly from information from kamaaina & from a thorough survey of adjoining lands, having Grants of Kuleanas adjoining between this land and Crown land of Mookahi. I followed kuaunas.

Mr. Kaai states he makes no objection to this survey.

Certificate granted.

#5 Tract B Rice land in Kalia adjoins Auwai of “Alanaio.”

Mr. Bishop offers map made by him.

Further time is granted to get evidence as to a portion of this land.

#6 Tract B Kauamoa adjoins Pau

S.E. Bishop States, I made this survey from adjoining surveys.

Certificate granted.

March 13th 1882

Second hearing

Present: Prof Alexander, S.K. Kaai, and others.

The matter of Keauhou and Wahinalo was taken up:

[name illegible] Sworn, states.

DRAFT

I am acquainted with these lands Keauhou & Wahinalo join the mauka boundary of Wahinalo is on Beretania St. opposite a house that belongs to Kahiki, who is now dead.

The Commissioner finds there is no evidence to support the survey and cannot arrive at any conclusion for want of evidence.

#5 Tract B Rice Land in Kalia adjoins Auwai of Alanaio.

Elama Sworn, states.

I am acquainted with these lands, but am not certain as to boundaries & I know these 3 taro patches belong to Paakea, and join Hapuna; the Boundaries of these patches are the [page 432] taro banks.

Certificate to be granted, not including the 3 patches marked with red line in map.

No. 1 Keauhou and Wahinalo adjacent to Paakea in two parts, viz.: Part I and Part II. Judgment to wit:

The Commissioner finds there is no evidence to support the survey and cannot arrive at any conclusion for want of evidence.

No. 2.

No. 61

Certificate of Boundaries of the land of the Ili of Waiaka, District of Kona, Island of Oahu,

L.C. Award

Commission of Boundaries

1st Judicial Circuit, R.F. Bickerton, Esq. Commissioner

In the matter of the Boundaries of the Land in the Ili of Waiaka District of Kona, Island of Oahu

Judgment

An application to decide and certify the boundaries of the land in the ili of Waiaka, District of Kona, Island of Oahu, having been filed with me on the 23rd day of November 1881 by W.D. Alexander Supt of Government Survey & in accordance with the provisions of an Act to facilitate the settlement of Boundaries & approved on the 22nd day of June A.D. 1865 now, therefore having duly received and heard all the testimony offered in reference to the said boundaries and having endeavored otherwise to obtain all information possible to enable me to arrive at a just decision, which will more fully appear by reference to the records of this matter by me kept in Book No. 1, pages 433 & 434, and it appearing to my satisfaction that the true, lawful and equitable boundaries are as follows, viz.:

Beginning at the North corner of this piece, at a flat rock marked A and running thence:

1. S 28° 20' W. (true) 304 feet, along Paakea of V. Kamamalu L.C.A. 7713 Apana 39 to E angle of Kaaha's wall
2. S 43° 0' W. (true) 208 feet along L.C.A. 1816, Ap 1 of Kaaha to S angle of same
3. S 36° 50' W. (true) 69 feet along Paakea of V. Kamamalu
4. S 55° 30' E (true) 112 feet along Maulukikepa R.P. 3579 of Kalama & Nakookoo
5. S 34° 0' E (true) 694 feet along Maulukikepa R.P. 3579 of Kalama & Nakookoo
6. N 59° 0' E (true) 122 feet along L.C.A. 9001, Ap 2 of Kahakai
7. N 42° 30' W. (true) 49 feet along L.C.A. 1268 Ap 2 of Nakai
8. N 47° 0' E (true) 176 feet along L.C.A. 1268, Ap 2 of Nakai
9. N 47° 0' E (true) 235 feet along L.C.A. 9001 Ap 4 of Kahakai

10. N 36° 0' W. (true) 30 feet along L.C.A. 1525 of Kuaana
11. N 52° 0' E (true) 140 feet along L.C.A. 1525 of Kuaana
12. N 44° 0' W. (true) 876 feet along L.C.A. 5937 of Paukuwahie to the initial point, containing an area of 11 2/10 Acres. [page 433]

No. 63

Certificate of the Boundaries of the land in the Ili of Kalia, District of Kona, Island of Oahu,

Land Commission Award No. _____

Commission of Boundaries

1st Judicial Circuit, R.F. Bickerton, Esq Commissioner

In the matter of the boundaries of the land in the Ili of Kalia, District of Kona, Island of Oahu

DRAFT

Judgment

An application to decide and certify the boundaries of the land in the ili of Kalia, District of Kona, Island of Oahu, having been filed with me on the 23rd day of November 1881 by W.D. Alexander, Supt of Government Survey & in accordance with the provisions of an Act to facilitate the settlement of Boundaries & approved on the 22nd day of June A.D. 1865; now, therefore, having duly received and heard all the testimony offered in reference to the said boundaries and having endeavored otherwise to obtain all information possible to enable me to arrive at a just decision, which will more fully appear by reference to the records of this matter by me kept in Book No. 1, pages 434 and it appearing to my satisfaction that the true, lawful and equitable boundaries are as follows, viz.:

Beginning at the East angle of this piece, being the south angle of Kaluaolohe L.C.A. 5873 of Kahanaumaikai at a low rock marked +, whence Leahi Trig. Station bears 275° 24' True azimuth from south and Waikīkī bears 80° 17' and running thence

1. S 36° 30' W. (true) 500 feet, along Kaluaolohe, to rock marked + being the Et angle of Grant 2608 of W. Webster;
2. S 72° 30' W. (true) 585 feet along Grant 2608 of W.. Webster;
3. S 37° 0' E (true) 768 feet along L.C.A. 35 F.L. Ap 2 "Kanukuaua" of Mahuka, to flat rock marked whence large solitary rock bears S 66° W. 164 feet distant;

4. N 45° 20' E (true) 54 feet along Kapahulu of W.C. Lunalilo to initial point containing an area of 7 and 97/100 Acres.

No. 62

Certificate of Boundaries of the land of Mookahi, District of Kona Island of Oahu.

L.C.A.

Commission of Boundaries

1st Judicial Circuit, R.F. Bickerton, Esq Commission

In the matter of the Boundaries of the land of [Mookahi] District of Kona Island of Oahu. [page 434]

Judgment

An application to decide and certify the Boundaries of the land of Mookahi District of Kona Island of Oahu having been filed with me on the 23rd day of November 1881 by W.D. Alexander Supt of Government Survey in accordance with the provisions of an Act to facilitate the settlement of Boundaries &c approved on the 22nd day of June A.D. 1865 now therefore having duly received and heard all the testimony offered in reference to the said boundaries and having endeavored otherwise to obtain all information possible to enable me to arrive at a just decision which will more fully appear by reference to the records of this matter by me kept in Book No. 1 pages and it appearing to my satisfaction that the true lawful and equitable boundaries are as follows, viz.:

Beginning at the North angle of this tract being the East angle of lele No. 1 of "Pau," and the S angle of "Loko Kuilei" of W. Sumner from which point Kaimuki Trig. Station bears 284° 8' True azimuth from South and running thence as follows:

1. S 43° 55' W. (true), 363 feet along L.C.A. 8559B Apana 29 being Lele No. 1 of "Pau" of W.C. Lunalilo
2. S 39° 50' W. (true) 163 feet along L.C.A. 8559B, Apana 29 being Lele No. 1 of "Pau" of W.C. Lunalilo
3. S 47° 30' E (true) 384 feet along L.C.A. 1738 Ap 2 of Kalaeone
4. S 44° 0' W. (true) 160 feet along L.C.A. 1738 Ap 2 of Kalaeone
5. S 45° 15' E (true) 394 feet along L.C.A. 1515 Ap 1 of Kaihoolua
6. S 49° 0' E (true) 262 feet along Grant 3118 of W.K. Kawaihapai

7. N 41° 45' E true 216 feet along L.C.A. 104 F.L. Ap 4, of Kekuanaoa
8. S 48° 30' E (true) 372 feet along L.C.A. 104 F.L., Apana 4, Kekuanaoa
9. N 48° 45' E (true) 187 feet along Crown Ili of Mookahi
10. N 48° 45' E (true) 132 feet along Crown Ili of Mookahi
11. N 51° 0' E (true) 400 feet along Crown Ili of Mookahi
12. N 52° 0' E (true) 256 feet along L.C.A. 2081 Ap 1 of Keoneanea
13. N 43° 0' E (true) 63 feet along L.C.A. 1442 Ap 2 Kumoanahulu
14. N 43° 0' E (true) 64 feet along L.C.A. 2083 Ap 3 Kahiloaha
15. N 5° 0' W. (true) 18 feet along L.C.A. 2083 Ap 3 Kahiloaha
16. N 49° 0' E (true) 61 feet along L.C.A. 2083 Ap 3 Kahiloaha
17. N 49° 0' E (true) 73 feet along L.C.A. 1445 Ap 4 of Kanemakua
18. N 41° 0' W. (true) 90 feet along L.C.A. 2880 of Keaka
19. S 54° 30' W. (true) 64 feet along L.C.A. 1386 Ap 2 of Ainoa
20. S 54° 30' W. (true) 84 feet along L.C.A. 4537 of Kauhao
21. S 61° 30' W. (true) 179 feet along L.C.A. 4537 of Kauhao
22. S 62° 0' W. (true) 125 feet along L.C.A. 1421 Ap 1 of Kao
23. S 67° 0' W. (true) 104 feet along L.C.A. 1421 Ap 1 of Kao
24. S 65° 0' W. (true) 119 feet along L.C.A. 4942 of Kawelohelii
25. N 28° 0' W. (true) 54 feet along L.C.A. 4942 of Kawelohelii
26. N 60° 0' E (true) 44 feet along L.C.A. 4942 of Kawelohelii
27. N 40° 0' W. (true) 64 feet along L.C.A. 5937 Ap 1 of Paukuwahie
28. N 60° 0' E (true) 144 feet along L.C.A. 5937 Ap. 1 of Paukuwahie
29. N 33° 0' E (true) 104 feet along L.C.A. 1430 of Huikau
30. N 59° 0' E (true) 102 feet along L.C.A. 1430 of Huikau [page 435]
31. N 30° 0' W. (true) 64 feet along L.C.A. 2076 Ap 1 of Kauai
32. S 60° 30' W. (true) 502 feet along L.C.A. 1281 Ap 4, being Kamoku II of Kuluwaihlehua
33. N 24° 30' W. (true) 468 feet along L.C.A. 1281 Ap 4 being Kamoku II of Kuluwaihlehua
34. S 65° 30' W. (true) 184 feet along L.C.A. 8559B being Kamoku I of W.C. Lunalilo
35. N 39° 15' W (true) 328 feet along L.C.A. 8559B being Kamoku I of W.C. Lunalilo

To the Initial point, containing an Area of 24 and 57/100 Acres
No. 65

No. 5

Certificate of Boundaries of the Land In the Ili of Kalia Govt. land District of Honolulu Island of Oahu;

L.C. Award No.

Commission of Boundaries

1st Judicial Circuit, R.F. Bickerton, Esq Commissioner

In the matter of the Boundaries of part the Govt land in the Ili of Kalia District of Honolulu Island of Oahu

Judgment

An application to decide and certify the Boundaries of the land in Ili of Kalia District of Honolulu Island of Oahu having been filed with me on the 23rd day of November 1881 by W.D. Alexander Supt of Government Survey & in accordance with the provisions of an Act to facilitate the settlement of Boundaries & approved on the 22nd day of June A.D. 1865; now, therefore, having duly received and heard all the testimony offered in reference to the said boundaries and having endeavored otherwise to obtain all information possible to enable me to arrive at a just decision which will more fully appear by reference to the records of this matter by me kept in Book No. 1, page and it appearing to my satisfaction that the true, lawful and equitable boundaries are as follows, viz.:

Beginning at the north angle of this tract at the junction of the S. W. boundary line of L.C.A. 6235, Apana 1st of C. Kapaakea, with the auwai of Alanaio and running thence:

1. S 45° 10' W. (true) 80 feet along the middle of Auwai Alanaio
2. S 53° 0' W. (true) 80 feet along the middle of Auwai Alanaio
3. S 58° 0' W. (true) 100 feet along the middle of Auwai Alanaio
4. S 64° 45' W. (true) 160 feet along the middle of Auwai Alanaio
5. S 63° 0' W. (true) 251 feet along the middle of Auwai Alanaio
6. S 55° 0' W. (true) 84 feet along the middle of Auwai Alanaio
7. S 44° 45' W. (true) 232 feet along the middle of Auwai Alanaio [page 436]
8. S 52° 0' W. (true) 168 feet along the middle of Auwai Alanaio
9. S 51° 30' W. (true) 133 feet along the middle of Auwai Alanaio
10. S 28° 0' E (true) 198 feet along L.C.A. 6716 Ap 3 of Haumea
11. N 38° 30' E (true) 120 feet along L.C.A. 4605 of Hakau
12. N 74° 0' E (true) 130 feet along L.C.A. 4605 of Hakau
13. S 68° 0' E (true) 78 feet along L.C.A. 4605 of Hakau
14. S 27° 0' E (true) 196 feet along L.C.A. 4605 of Hakau
15. S 50° 0' E (true) 63 feet along L.C.A. 4605 of Hakau

16. S 10° 15' E (true) 143 feet along L.C.A. 4605 of Hakau
17. N 86° 45' E (true) 98 feet along L.C.A. 8559B Ap 29, "Pau" of W.C. Lunalilo
18. N 63° 0' E (true) 264 feet along L.C.A. 154 of W. Sumner
19. S 29° 40' E (true) 240 feet along L.C.A. 154 of W. Sumner
20. N 56° 0' E (true) 224 feet along L.C.A. 8559B Ap 30, Kamoku I of W.C. Lunalilo
21. N 29° 30' W. (true) 226 feet along L.C.A. 7713 Ap 39 Paakea of V. Kamamalu
22. N 60° 30' E (true) 490 feet along L.C.A. 7713 Ap 39 Paakea of V. Kamamalu
23. N 77° 30' E (true) 100 feet along L.C.A. 7713 Ap 39 Paakea of V. Kamamalu
24. N 18° 0' W. (true) 204 feet along L.C.A. 2549 Ap 2 of Luaiku
25. S 65° 0' W. (true) 14 feet along L.C.A. 1270A Ap 2 of Kalakoa
26. N 31° 45' W. (true) 77 feet along L.C.A. 1270A Ap 2 of Kalakoa
27. N 66° 10' E (true) 246 feet along L.C.A. 1270A Ap 2 of Kalakoa
28. N 18° 0' W. (true) 160 feet along L.C.A. 1270A Ap 1 of Kalakoa
29. N 34° 0' W. (true) 52 feet along L.C.A. 6252 "Kaalawai" of Kukahiko
30. N 42° 0' W. (true) 22 feet along L.C.A. 2619 of Pahau
31. S 67° 0' W. (true) 366 feet along L.C.A. 6235 Ap 1 of C. Kapaakea
32. N 31° 40' W. (true) 283 feet along L.C.A. 6235 Ap 1 of C. Kapaakea to the Initial point and containing an Area of 22 22/100 Acre

No. 64

Certificate of Boundaries of the land of Kauamoa in the District of Kona Island of Oahu

L.C. Award No. ____

Commission of Boundaries

1st Judicial Circuit, R.F. Bickerton, Esq Commissioner

In the matter of the Boundaries of the land of Kauamoa Ili of Kalia District of Kona, Island of Oahu

Judgment

An application to decide and certify the boundaries of the land of Kauamoa Ili of Kaila District of Kona Island of Oahu having been filed with me on the 23rd day of November 1881 by W.D. Alexander Supt of Government Survey & in accordance with the provisions of an Act to facilitate the settlement of Boundaries & approved on the [page 437]

22nd day of June A.D. 1865 now, therefore having duly received and heard all the testimony offered in reference to the said boundaries and having

endeavored otherwise to obtain all information possible to enable me to arrive at a just decision which will more fully appear by reference to the records of this matter by me kept in Book No. 1 page and it appearing to my satisfaction that the true lawful and equitable boundaries are as follows, viz.:

Beginning at the South East angle of this piece being also the S angle of L.C.A. 6716 Apana 3 of Haumea and running thence:

1. N 42° 45' W. (true) 499 ft. along L.C.A. 6716 Ap. 3 of Haumea
2. S 80° 15' W. (true) 145 ft. along the middle of auwai Alanaio
3. S 12° 20' E (true) 103 ft. along L.C.A. 1409 Ap. 2 of Nakoko
4. S 38° 40' E (true) 148 ft. along L.C.A. 1409 Ap. 2 of Nakoko
5. S 43° 30' E (true) 132 ft. along L.C.A. 1775 Ap. 2 of Paoa
6. S 62° 15' E (true) 71 ft. along L.C.A. 1775 Ap. 2 of Paoa
7. S 46° 45' E (true) 55 ft. along L.C.A. 1775 Ap. 2 of Paoa
8. N 77° 0' E (true) 178 ft. along L.C.A. 8559B Ap 29 "Pau" Lele 1 of W.C. Lunalilo to the Initial point and containing an Area of 1.97 Acres... [page 438]

...Witness my hand this 13th day of March 1882

Richard F. Bickerton Commissioner of Boundaries for Island of Oahu. [page 439]

5. MODERN HISTORY OF THE PROJECT AREA AND ITS VICINITY BEGINNING WITH FOREIGN CONTACT AND THE CHANGING LANDSCAPE OF KONA DISTRICT

Since the early 1800s, the cultural landscape of the Honolulu-Waikīkī region of O‘ahu has been radically altered on the surface. Most of the significant changes in Hawaiian culture, religion, subsistence lifeways, politics, land tenure, and self-determination were played out on landscape of the Honolulu-Waikīkī region. The impacts of this cultural transformation and loss of Hawaiian identifiers may never be fully understood. On the following pages are excerpts from eyewitness historical accounts in the years between 1790s and the 1920s that set the foundation for the Hawai‘i in which we now live. The accounts were penned by native Hawaiians, foreign visitors, and residents. These narratives provide a chronology of events documenting: (1) changes in the landscape; (2) the decreasing Hawaiian presence; (3) loss of wahi pana and noted places; (4) concerns about United States control over lands of Honolulu and other areas on the island; (5) development of industrial business interests in the Waikīkī region; (6) the changing make-up of the communities; and (7) travel on the land.

DRAFT

The texts are generally cited chronologically, by period or activities being described. A number of the accounts are presented as article clippings from primary sources. These help set a foundation for interpretive and educational initiatives to promote awareness of, and appreciation for, the history of our island home. What is most noticeable in the narratives is how quickly nearly all facets of Hawaiian life were altered, obscured, and even erased from the landscape. Most of the significant history in the Hawaiian Kingdom after 1800 was initiated at places which today are commonly known as the City of Honolulu or “Downtown.” Places such as ‘Ai‘ēnui, Hale Hui, Hale Kauwila, Hauhauko‘i, Honoka‘upu, Honolulu, Honuakaha, Kapu‘ukolo, Kīkīhale, Kou, Kuloloia, Mauna Kilika, Pākākā, Pūlaholaho and Waikahalulu were at the epicenter of foreign dominance over the little island kingdom and landscape.

Today, the history of the Honolulu-Waikīkī region is a reflection of many cultures, economic pressures and sentiments which are not friendly towards Hawaiian culture. While the physical remains of traditional places and the pursuance of traditional and customary practices may not be readily evidenced, there is belief among many Hawaiians that the po‘e kahiko (ancient people) still walk the earth and that the wahi pana still exist through their names and in the beliefs of native families.

5.1 Kama‘āina and Visitors Descriptions – Travel in the Waikīkī Vicinity and Larger Kona District

The historical record shares a wide range of descriptions of the Waikīkī, life of the people, expressions of aloha for place, and the cultural attachment shared by Hawaiians in their living environment. The narratives below were found in Hawaiian and English language

sources and reflect both native and foreign experiences and observations on the land. The texts include some of the earliest descriptions of the native communities shortly after Western contact; provide descriptions of travel across the Kona District; include mele describing the cultural landscape; and cite first-hand accounts of the challenges faced by native residents and loss of access and title to the land. The excerpts of articles help us understand how quickly change came to the land and lifeways of the people.

5.1.1 Archibald Campbell's Journey in 1809

In 1809, Archibald Campbell visited O'ahu from the Aleutian Islands while recovering from frost bite, which led to the amputation of both his feet. Campbell wrote about the beauty of the Waikīkī-Honolulu region and the genuine concern and love of the Hawaiians. Below follow excerpts from Campbell's journals during his residency in Kou, where he lived for a few months in the residence of Isaac Davis (one of Kamehameha I's two highly trusted foreign advisors):

Upon landing I was much struck with the beauty and fertility of the country, so different from the barrenness of the Fox islands. The village of Hanaroora [Honolulu], which consisted of several hundred houses, is well shaded with large cocoa-nut trees. The king's residence, built close upon the shore, and surrounded by a palisade upon the land side, was distinguished by the British colours and a battery of sixteen carriage guns, belonging to his ship, the Lily Bird, which at this time lay unrigged in the harbour. This palace consisted merely of a range of huts, viz. the king's eating-house, a store, powder magazine, and guard-house, with a few huts for the attendants, all constructed after the fashion of the country.

At a short distance were two extensive storehouses, built of stone, which contained the European articles belonging to the king. [page 91]

...His [Isaac Davis'] house was distinguished from those of the natives only by the addition of a shed in front to keep off the sun; within, it was spread with mats, but had no furniture, except two benches to sit upon. He lived very much like the natives, and had acquired such a taste for poe [poi], that he preferred it to any other food.... His wealth, consisting of mats, feathers, and cloth, the produce of the island, and a large assortment of European articles, which he had acquired by trading with the ships that touched here; these were contained in a large storehouse, built of stone, adjoining his dwelling. [page 98-99]

...Three miles to the west of Whyteete [Waikīkī] is the town of Hanaroora, now the capital of the island, and residence of the king. The harbour is formed by

the reef, which shelters it from the sea, and ships can ride within in safety in any weather, upon a fine sandy bottom. There is a good channel through the reef, with three or four fathoms water; but if there is a swell it is not easily discovered, as the sea often breaks completely across. Pilots, however, are always to be had; John Harbottle, captain of the Lily Bird, generally acted as such. The best anchorage is in five fathoms water, about two cables length from the shore, directly in front of the village. Ships sometimes anchor on the outside of the reef, but they run the risk of having their cables cut by the coral.

The entrance to this harbour may probably, at no very distant period, be filled up by the growth of the coral, which must be rapid indeed, if Harbottle, the pilot, was correct, when he informed me that he knew a difference of three feet during the time he had been at Hanaroora... (Campbell, 1967:91-113)

5.1.2 The Hawaiian Journal of John B. Whitman in 1813-1815

With little information on the author, “The Hawaiian Journal of John B. Whitman, 1813-1815” (1979) presents early glimpses into the landscape and life of lands in the Honolulu region. Editor John Dominis Holt observed: “If you can ignore Whitman’s irksome and fanatical views common to American Calvinists of the time, the ‘notes’ or ‘Journal’ may be read with great pleasure. It presents a unique view of Hawaii and Honolulu a few years before the death of Kamehameha” (Whitman, 1979:9):

...Honoruru [Honolulu] is the most fertile district on the Island. It extends about two miles from the Harbour where it is divided into two valleys by a ridge of high land. The district is highly cultivated and abounds in all the productions of these Islands. The village consists of a number of huts of different sizes scattered along the front of the Harbour without regularity [page 67] and the natives have lost much of the generous hospitality and simplicity that characterize those situated more remotely from this busy scene. One of the valleys formed by the ridge of land is called To [Kou] or sugar cane and is about one mile long. At the head of this valley great quantities of the Tee or Tea rood grows to perfection.

Whytete [Waikiki] is a large district extending from Diamond Hill to Hanoruru. About one mile from Dimond Hill there is a large area enclosed by a stone wall about ten feet high as it is a tarbooed Morair [Heiau]. I watched an opportunity to enter it and perceived a quantity of bones and coca nui shells scattered about and on one side there was a pile of human skulls reaching half way to the top of the wall. I afterwards learned that the skulls and bones were the remains of victims sacrificed to the Etour [Akua]. The walls of this charnel

house were decorated with skulls placed along on the top at intervals of a foot with the face outward to warn the unwary of their doom if their feet encroached upon the sacred spot.

There is in Hanoruru several objects worthy of notice and the contemplative mind in viewing the various productions of nature and the works of man displayed in this beautiful spot is forcibly impressed with the goodness of providence who alike distributes his bounties to the heathen to whose ear his name is an unknown sound and to the Christian... everything necessary for the subsistence and comfort of man is found in the valley, watered by a rivulet it produces the best taro in great abundance, the ridge dividing the taro patches are covered with sugar cane. The high ground yields sweet potatoes and yams and all the other productions of the Island are found in the various situations and soils adapted to their nature.

Whytete is said to have been a favorite residence of Tamaahaah [Kamehameha] while on Woahoo and the facilities it affords for the exercise of the various athletic sports which he delighted in in his younger days makes it doubtful whether he could have chosen a more appropriated residence. A grove of trees planted along the beach in three parallel rows nearly a quarter of a mile long, the branches of which meet and for a cool shade, sheltered [page 68] him from the sun, while he amused himself in witnessing the sports of the young Chiefs who assembled here to display before him their activity in throwing the spear, rolling of stones, wrestling and playing on the surf board.

Between the village of Whyteetee and the Harbour, there is a level plain of near two miles extent, near the centers stand an isolated hut in which lies the remains of an European. A yearly sacrifice is made to the Etour supposed to preside over them and suspended in front of the hut, this generally consists of a small pig or dog and a bunch of plantain. He was long a resident on the Island and a favourite with Tamaamaah who places the most undoubting confidence in his veracity, revering his memory and averring that he never knew Isaac Davis to tell a lie (Whitman, 1979:67-69).

5.1.3 Honolulu and Vicinity in 1818

In 1818, Peter Corney resided on O'ahu as a representative of the Northwest Company, which was engaged in trade of sandalwood and various items. During his residency on O'ahu, Corney traveled in the company of chiefs and Francisco de Paula Marin. His journal notes include rich historical observations and provide firsthand accounts describing the environment of the Waikiki-Honolulu region (including the Fort on the Honolulu

waterfront), native practices, beliefs and customs, and changes taking place in the Kingdom at the time.

The Island of Woahoo is by far the most important of the group of the Sandwich Island, chiefly on account of its excellent harbours and good water. It is in a high state of cultivation; and abounds with cattle, hogs, sheep, goats, horses, etc., as well as vegetables and fruit of every description. The ships in those seas generally touch at Ohwhyhee, and get permission from Tameameah, before they can go into the harbor of Woahoo. He sends a confidential man on board to look after the vessel, and keep the natives from stealing; and, previous to entering the harbor of Honorora (Honolulu), they must pay eighty dollars harbor duty, and twelve dollars to John Harbottle, the pilot... [page 96]

...On rounding Diamond hill the village of Wyteetee (Waikiki) appears through large groves of cocoanut and bread-fruit trees; it has a most beautiful appearance, the land all round in the highest state of cultivation, and the hills covered with wood; a beautiful plain extending as far as the eye can reach. A reef of coral runs along the whole course of the shore, within a quarter of a mile of the beach, on which the sea breaks high; inside this reef there is a passage for canoes. Ships frequently anchor in the bay, in from sixteen to twenty fathoms, over a sand and coral bottom. Several of the king's old vessels are hauled upon shore and sheds built over them. His Majesty formerly resided at this village, but of later years has preferred his native place, Owhyhee. About four miles to the westward of Wyteetee is the village and harbor of Honorora; it is the largest on the island, as the natives collect from all other parts to be near the shipping. The harbor is known by a deep and remarkable valley over the village, through which the N.E. trade wind blows very strong. The island is not more than five leagues across at this part. The best time to get into the harbor is early in the morning, before the wind set violently in a contrary direction; the chief generally sends a number of large double canoes to tow the ship in, as the entrance of the harbor is not more than a quarter of a mile wide. Small vessels, when about to enter, run close to the east side of the [page 97] reef, where hundreds of the natives are collected, and, by throwing a rope to them, the ship is pulled up to the anchorage.—Ships can moor close to the shore, so as to have a stage from thence, and be as safe as if they were in the London Docks.

A fine round battery on the S. E. flat, or point, mounting about sixty guns, protects the village and harbor. The fort occupies about eight acres of ground;

the facing of the wall is stone, about eighteen feet high, and about the same breadth on the top, gradually sloping to make a base of about thirty feet. It is constructed of hard clay and dry grass and sand well cemented together; on the top of this wall are embrasures built of the same materials, without stone; the guns are mounted all round, and are from four to eighteen pounders, the heaviest guns facing the sea. the magazine is under ground and well secured; and in the middle of the fort stands a flag-staff, on which the island colours are displayed, consisting of a union jack, with a red and blue stripe for each island. Round the flag-staff are the chiefs houses, and barracks for the soldiers. The strictest discipline is observed; the guard relieved very regularly in the night, and the word "All is well," sung out in English every ten minutes! The Americans supply them with powder and stores, for which they get sandal wood, rope, hogs, vegetables, etc. The village consists of about 300 houses regularly built, those of the chiefs being larger and fenced in. Each family must have three houses, one to sleep in, one for the men to eat in, and one for [page 98] the women,—the sexes not being allowed to eat together. Cocoonut, bread-fruit, and castor-oil-nut [kukui] trees, form delicious shades, between the village and a range of mountains which runs along the island in a N. W. and S. E. direction.

The ground is laid out in beautiful square patches, where the taro grows, round which they plant sugar canes and Indian corn. They have also a number of fine fish ponds, in which they keep mullet and a fish they call *ava*. On the N. W. side of the harbor is a fresh water river, where a ship's long boat can go up about two miles and fill the water casks in the boat. About three miles to westward of Honorora is a second harbor, easier of access and superior to the other in every respect, except the want of a watering place. There are but few farmers' and fishermen's houses hereabouts, and for this reason, it is not frequented; in fact few ships know anything of it. About six miles to the westward of this harbor, is Wy Momi, or Pearl Water... (Corney, 1896:96-99)

5.1.4 Tours Made Around O'ahu in 1826 & 1828

In 1820, the first contingent of Protestant missionaries associated with the American Board of Christian Foreign Missions (A.B.C.F.M.) arrived in the Hawaiian Islands. The Honolulu station became the focal point of the missionary's operations, with sub-stations on the major islands, in the largest population centers. Periodically, the Honolulu station managers would travel around O'ahu to inspect the progress being made in the outlying stations, including church work, educational endeavors, and facilities to support the foreign missionaries living situation. Levi Chamberlain made tours of O'ahu in 1826 and 1828, writing fairly detailed descriptions of the districts he visited, including lands of the Kalihi-Honolulu-Waikiki region.

Excerpts of Chamberlain's original handwritten notes (digitized from the A.B.C.F.M. archives at Harvard, by Kumu Pono Associates LLC in 2004) records the continued decline of the Hawaiian population, the diminished use of the land in traditional agricultural development, and the increasing Westernization of the kingdom.

September 12, 1828

Levi Chamberlain to Rufus Anderson

A Visit to 'Ewa to Examine the Schools and Determine Progress in Education of the Natives.

(Typed from a copy of the original handwritten letter in the collection of the A.B.C.F.M., Houghton Library, Harvard – Reel 794)

About two years ago I performed a tour around this island, and I have recently made another. It was my intention to give you a brief account of my first tour, but I could not find time to do it while the scenes that passed under my observation and the events that transpired were fresh to my mind & retained their hold upon my feelings.

DRAFT

I propose now to give you a history of my last tour, and in doing it I may refer to my minuets of the former tour. I feel utterly inadequate to the task I have imposed upon myself, and I should perhaps not have undertaken it, but for the request contained in one of your letters. I take the liberty to address the communication to you, as I shall feel more freedom in writing to a private friend than in making out a formal communication or report for the Corresponding Secretary. I doubt whether I shall be able to write anything that will be worth of your perusal, but as coming from an old friend, your candor will incline you to overlook what is amiss in style or deficient in matter.

Soon after the examination at this place in July last, a plan was adopted for visiting at stated seasons all the schools throughout the island. Sixteen persons approved by the Governor and the other chiefs [page 1] were appointed as a visiting committee to undertake at stated seasons the tour of the island for the purpose of inquiring into the state of the schools, and of giving instruction and advice to the teachers. They were moreover directed faithfully to examine the scholars in spelling and reading, encourage punctual attendance, and to excite, as far as possible, in all, an attention to instruction. The persons appointed were divided into two companies to perform alternately the duties assigned them; and the plan was carried into immediate effect, and with the prospect of promoting improvement.

In the month of January I set out with one division of the committee to make

the tour of the island & examine the schools.

I shall now attempt to give some account of the tour, and of the schools which I visited. I will begin my mentioning the names of my hoahale, [fellow travelers] which were as follows: Jesse Kahananui, Lazarus Kamakahiki, Abraham Naaoa, members of the church, Kaukalii & Kauhikoa, serious and intelligent native teachers, each of whom had one or more attendants to accompany them & to carry food and baggage. I was also furnished by Kaahumanu with a suitable number of persons to carry my food & bedding, and to attend to my wants on the way.

We started from the mission house on Thursday January 29th at 10 o'clock A.M. and to the direction [page 2] towards the East end of the island. Our course for about a mile and a half lay over a smooth level road, the race ground of Honolulu, about half a mile from the sea and three quarters from the point where the sloping sides of the mountains are lost in the plain on a part of which the village of Honolulu is built. Near the pleasant establishment of Mr. Allen we took a path on our right, leading through a grove of tall cocoanut trees towards Waikiki. Our path led along the borders of extensive plots of marshy ground, having raised banks on one or more sides, and which were once filled with water, and replenished abundantly with excellent fish, but now overgrown with tall rushes waving in the wind. The land all around for several miles has the appearance of having been once under cultivations. I entered into conversation with the natives respecting its present neglected state. They ascribed it to the decrease of population. There have been two seasons of destructive sickness, both within the period of thirty years, by which according to the account of the natives, more than one half of the population of the island was swept away. The united testimony of all of whom I have ever made any inquiry respecting the sickness has been that "Greater was the number of the dead than of the living." Making due allowance for the hyperbolic manner in which the natives sometimes express themselves, it may, I think be sagely asserted that since the discovery of these islands by Capt. Cook, there has [page 3] been a decrease of population by desolating wars, the ravages of disease and other causes, of at least one half of the number of the inhabitants that might have been fairly estimated at the time that celebrated voyager last visited these islands.

On arriving at Waikiki I found the schools in the district assembled, 9 in number. They were however, small, containing, in all, only 158 scholars, and were under the general superintendence of William Kamohoula... [page 4]

...Monday Feb. 11th. At 25 min, past 12 o'clock, we set out from the school house, and at 15 min. before 2 o'clock arrived at Moanalua a small well cultivated valley distant about 4 miles from Honolulu. We waited about half an hour for the assembling of the scholars which took place at the house of Hoomoeapule, the head man. Having attended to the examination, with which upon the whole I was well pleased, at 10 min after 3 o'clock I set out with my attendants for Honolulu; on our way thither we stopped at Kalihi & Palama, and attended to the examination of 4 small schools. Just as the sun was sinking below the horizon, I reached the mission house after an absence of 13 days & 8 hours; having experienced during the whole of my journey the divine protection and favor, & having examined sixty three schools containing 1,583 scholars; of whom 629 could read in place reading; 307 in spelling; 460 were acquainted with the alphabet, but not able to spell, and 189 in the alphabet, but not perfectly acquainted with the letters. In the whole number I found 150 able to write upon the slate... [page 32]

5.1.5 Report of the General Meeting of the Sandwich Islands Mission (July 1834)

Members of the Sandwich Island Mission attended annual meetings each year and developed reports for transmittal to the headquarters in Boston (A.B.C.F.M. records digitized by Kumu Pono Associates LLC from collection of the Houghton Library, Harvard). The report of 1834 describes ongoing efforts in the Honolulu-O'ahu Station with details of population and "progress" in the transformation of Honolulu and vicinity.

...Oahu.

Honolulu station.

Question 1.

How large is boundary and how many people is it possible for your present number of missionaries to supply with preaching and pastoral care?

Connected with this station at Honolulu are two ordained missionaries. Besides these there are at present at this station five lay members of the mission, whose time is about entirely taken up in their appropriate departments.

The village of Honolulu contains about 6,000 inhab. And the town of Honolulu in the rear of the village, with a few of the settlements in the vicinity contains about 4,500 more. For these is furnished one Place of public worship, and one meeting on the Sabbath; but week day meetings have been for sometime part maintained in the rear of the village of Honolulu. With the congregation at Honolulu is connected a church of 208 members embracing many chiefs &

persons of influence. The amount of pastoral labors required for this church is not less than that connected with a church of similar size in America. Some think that the pastoral labor really needed in a church at the island is much greater than in a church of similar size in America.

Honolulu is the residence of the King and principal chiefs, attention to whom necessarily increase the labor of the missionaries at the station. Honolulu is also the residence of most of the foreign population, and the principal place of resort for shipping. With regard to foreign residents and visitors, we are much relieved by the labor of the Rev. H. Diell; but attention in this class of our fellow men must still consume not a little of our time.

The printing department, schools, &c; call for much attention from the ordained missionaries as well as from the members of the station. It is plain, therefore, that the whole time of two ordained missionaries can be well occupied without going beyond the land, of Honolulu. There is indeed much more work crowding upon their hands than they are able to perform.

...Question 3.

The territory to the east of Honolulu extending about 12 miles embraces a population of about 3,000 inhabitants. The most important place in this territory is Waikīkī, three or four miles from the village of Honolulu. A missionary might be established here to good advantage. Waikīkī is itself a land as large as a common township in New England and contains 2,571 inhabitants. This place might be supplied with preaching a part of the time on the Sabbath by one of the missionaries at Honolulu, unless another place of worship should be opened in the rear of the village of Honolulu, called Honolulu aina. But very little pastoral care could be performed for them. There is a good carriage road east from Honolulu to this place.

Besides Honolulu and Waikīkī the limits of Ewa, and Palikoolau are at present connected with the station at Honolulu; but it is evident from the answer to the first question that these two districts together with Waikīkī may be regarded as unprovided with preachers of the gospel. Ewa can be visited occasionally by one of the missionaries at Honolulu by regulating work nearer home. Koolau is more deficient of access, & can be visited but seldom from Honolulu. The district of Ewa extends ten or twelve miles on the coast and containing according to the late census 4,015 inhabit. They nearly all live within a mile of the sea, and, are scattered, about equally, over the whole extent of coast. Waiawa is perhaps the most important place and is near the center of the district. This place is easily accessible from Honolulu by land or

water. The climate is such the same as at Honolulu, but probably a little cooler. Several head men and others are very desirous that a missionary should be established among them...

Question 4.

The field described under questions 1 & 3 may all be regarded as in an inviting state to receive missionary labor. We would advise as a supply for this field including the two ordained missionaries now at Honolulu, and ordained missionaries are lay teachers (in addition to the present lay member of the station) for Honolulu village; and one ordained missionary for that part of Honolulu called Honolulu aina; – one missionary and one teacher for Waikīkī; – one missionary and one teacher for Ewa, and one missionary and one teacher for Palikoolau. The geographical portion of these places have already been described. The soil & climate are good. The people are poor and ignorant, living in miserable straw huts. They are naturally ignorant, insolent and in their general character, resemble the people in other parts of the islands. Many of the people at Honolulu, however, are more hardened in view than the people of the islands, generally. In all these proposed stations there are few professions of religion and several others who wish to be regarded as on the side of the Lord. The expense of living would probably be about the same as at our present stations. It would be necessary to lay out 1000 or 1200 dollars for buildings at each station. In addition to this the annual expenses of a family could probably amount to \$400 or \$500 dollars.

The productions of the island for one or two families, at each of three places could be procured with less expense than at some of our present stations, and if books should be in demand much help could be obtained from them. It would probably be more expensive transporting supplies to Kaneohe than to most of our present stations, as a vessel must be chartered, on purpose. Many things, however could be conveyed by land, with little expense. The character and qualifications of the missionaries or the station should be such as required in other parts of the Islands. They should be diligent, self-denying, patient, and wholly devoted to their work.

Summary

Islands		Missionaries
Honolulu village	...	1 Missionary paired laymen
Ditto	...	1 Teacher not included
Honolulu aina	...	1 Missionary
Ewa	...	1 Missionary

Ditto	...	1 Teacher
Palikoolau	...	1 Missionary
Ditto	...	1 Teacher
Waikīkī	...	1 Missionary
ditto	...	1 Teacher (A.B.C.F.M., 1834)

5.1.6 Notes of a Tour Around Oahu in 1839

In 1839, E.O. Hall and a group from the mission in Honolulu traveled around the island of O‘ahu, visiting various localities. His notes from the journey were published in Volume II, No. I of the *Hawaiian Spectator* under the title “Notes of a Tour around Oahu.” Hall’s narratives include descriptions of places visited, changes in agricultural endeavors, and living conditions. Hall referenced the route traveled along the former coast of the Kalihi-Moanalua vicinity, now buried under new land.

The objects of the tour were, principally, to become better acquainted with the people, by seeing them at their own houses; and, by being cut off from the English language for a time, to acquire of the people among whom I expect to spend the remainder of my days...

As the journey from Honolulu to Ewa, or Pearl River, is so frequently made, it will be unnecessary to dwell on that part of the route; unless it be merely to say, that after the first mile is passed, most of which is through the sea where one has to ride in a most uncomfortable position or get at least his feet wet, the road is quite pleasant. After leaving the sea, and galloping for half a mile or more over a level formation of coral, elevated a few feet above the level of the sea, and partially covered with soil, you arrive at a small valley where the road in the wet season is very uncomfortable, but in the dry, is passed without difficulty. A mile or two farther on, and you come suddenly upon the edge of a precipice which is so high that you find yourself far above the tops of the cocoa nut trees, with which the valley below is filled.

To one unaccustomed to such excursion, and such road, the descent into this and other vallies on the island, on horseback, requires some nerve to get along comfortably; for it is sometimes almost perpendicular, and accomplished by a winding path, where the faithful animal on which you ride dares hardly venture to raise his feet from the ground, lest the downward tendency should give him an impulse beyond his control... [page 95]

But to return to the little valley [Moanalua], about three miles from Honolulu on the road to Ewa, overlooking which we left you a moment ago. On looking down, you behold a large grove of cocoanut trees, some of which give evidence

of having been blown upon with no ordinary breath; appearing to have been nearly prostrated when about twenty feet high, they again shot up in perpendicular direction, and now present the curious phenomenon of living trees, the upper half of whose trunks are almost at right angles with the lower. It is a little remarkable that the surrounding trees on every side are perfectly straight... (Hall, 1839:95-96)

Census of Oahu.

The following table will give the result of a census of the island, taken in the year 1836. Although not strictly accurate, it probably nearly approximates the truth; being supposed by some, who have the best opportunities for judging, to fall somewhat short of the actual number of inhabitants. In round numbers, 30,000 is the general estimate of the population of this island at the present time.

Honolulu and <u>Waikīkī</u>	12,994
Ewa	3,423 <small>DRAFT</small>
Waianae	1,654
Waialua	2,415
Koolauloa	2,681
Palikoolau	4,631
Total	27,789 (Hall, 1839:112)

5.1.7 United States Exploring Expedition (1840-1841)

In 1840 and 1841, Commander Charles Wilkes of the United States Exploring Expedition toured the Hawaiian Islands (Wilkes, 1845, Vol. IV; reprint 1970). During the month of July 1840, Wilkes and other members of his party toured the Kona District on O‘ahu. Notes compiled by Wilkes from the various exploration trips provide good descriptions of the region. Through the narratives, cultivation of the land, the abundant flow of water from springs and streams, use of fishponds, various marine and forest resources, the making of salt, and the continued decline of the native Hawaiian population are learned.

Graves Situated in the Kawaiahao Vicinity

In the neighbourhood of the old churches, near the mission, is the burying-ground, which is a mere common, and the graves are exposed to every kind of neglect. Foreigners, as well as natives, are buried here. The only grave that was pointed out to me was that of Douglas, the botanist, which was without any inscription whatever. He was gored to death, on Hawaii, having fallen into one of the cattle-pits, where a wild bull had been entrapped. The skull of the bull was lying in the yard of an inhabitant of Honolulu. It is to be hoped that when

the new church shall be finished, the space which adjoins it will claim from the authorities some attention, and be suitably enclosed. [page 54]

Hawaiian Games and Sports Observed on the Fields of Honolulu

The native games formerly practiced were all more or less those of hazard, which doubtless gave them their principal zest.

The governor was kind enough, at my request, to have the game of maika played. This was formerly a favourite amusement of the chiefs, and consists in the art of rolling a stone of the above name. I had heard many extraordinary accounts of the distance to which this could be thrown or rolled, which was said to be sometimes upwards of a mile.

In some places they had trenches dug for this game upwards of a mile in length, about three feet wide and two deep, with the bottom level, smooth, and hard. The game is still practiced, (although none of the trenches remain), on any level ground that may be suitable. In the present instance, the governor selected the road in front of the house I occupied. There was a large concourse of spectators, and several men were chosen by the governor to throw. The maika is a piece of hard lava, in the shape of a small wheel or roller, three inches in diameter and an inch and a half thick, very smooth and highly polished. The greatest distance to which they were thrown by the most expert player, was four hundred and twenty yards. Many were extremely awkward, and it was necessary for the spectators to stand well on the side of the road for fear of accidents. All of them threw the maika with much force, which was evident from its rebounding when it met with obstruction. The crowd, which amounted to three thousand persons, were greatly amused. This was their great gambling game, and such was its fascination, that property, wives, children, their arm and leg bones after death, and even themselves while living, would be staked on a single throw in the heathen time (Wilkes, 1970:54-55)

Fishponds, Fishing and Cultivation of Crops in the Honolulu Vicinity

In the neighbourhood of Honolulu, there are a number of fish-ponds belonging to the king, in which are bred several kinds of fish. There are many other ponds belonging to individuals. The taro-patches are used occasionally for this purpose, and not un-frequently are seen to contain large fish; thus poe [poi] and fish, their principal food, though of such opposite natures, are raised together.

They have several modes of taking fish, with the net and hook, and sometimes

with poisonous herbs.

They likewise take shrimps and small fish by forming a sort of pen in the soft mulch, in one corner of which a net is placed; the shrimps and fish leap over the enclosure of the pen, which is gradually contracted towards the net, which acts like a large seine.

Leahi, the Heiau (Papa'ena'ena), and Village of Waikīkī Described

The most conspicuous point about Oahu, is the noted crater on its east end, called Lealu [Leahi] or Diamond Hill. This lies about four and a half miles from Honolulu, and forms a very picturesque object from the harbor. It is the largest coast-crater on the island, and was visited by many of us. The rock, for the most part, consists of vesicular lava, very rough and black. The ascent to it is somewhat difficult. On the margin of the crater, calcareous incrustations are formed. It is quite shallow, and between a half and a third of a mile in diameter. There is no appearance of a lava-stream having issued from it. Its surface is thickly strewn with lava-blocks, which were also found embedded in the coral rock along the shore. The raised coral reef was also seen here, where it is partially decomposed, so as to resemble chalk, and had been quarried. This rock was found to contain fossils of recent species.

At the foot of this hill, on the western side, are the remains of a heiau or ancient temple. Certain ceremonies were performed on the consecration of these temples, a description of which my friend Dr. Judd obtained for me, from the best native authorities, and for which I must refer the reader, who may be curious in such matters, to Appendix III. The mode of building these structures, if so they may be called, was for each of the inhabitants, both high and low, to bring stones by hand. They are usually quadrangular. The one above noticed was on the hill-side overlooking the plain lying towards Honolulu, on which is the village or town of Waikīkī.

Off the village of Waikīkī there is an anchorage, and the reef between it and Honolulu is extensive. The natives derive great advantage from this reef in the way of food. [page 85]

Salt Making Ponds of the Kewalo-Kaka'ako Vicinity

Between Waikīkī and Honolulu there is a vast collection of salt-ponds, and I was greatly surprised to find the manufacture of it so extensive. It is piled up in large heaps, in which there was, when I saw them, from one to two hundred tons. The salt is now exported to California, China, Oregon, Kamtschatka, and the Russian settlements at Sitka. The natives use it for salting fish and pork, an

art which it is said they have long practiced.

The women are also frequently seen collecting, in the salt-ponds, *Confervae* and *Fuci* (sea-weed) for food (Wilkes, 1970:85-86).

5.1.8 Sites of Honolulu Region in 1868

Ka Nupepa Kuokoa

He wahi huakai makaikai ma ka aoao Komohana Akau Oahu.

August 8, 1868 (aoao 4)

E Ka Nupepa Kuokoa;—Aloha Oe.

I ka la 16 o Iulai nei, ua hoomaka aku ka hele ana mai Palolo aku ma ke alahele ma Ewa, e hiki aku ai ma Keawaula i Waianae, he la malie no ia, ua kalae pono ka lani, ua hoomalamalama mai ke'lii o ke ao i kona mau kukuna olinolino; i ka hala ana ae o ka hora 5 a me ka hapa, pane aku au i ko'u wahi keiki hoahale; E hoomakaukau mai oe i ka haliilii o ko kua mau wahi palaumoena, i lawa no i ka makaukau ana, oia no ka hora 5 3/4, o ke kau iho la noia o maua maluna o ua mau wahi palau moena nei; e panee aku ana kela i ka loa, he noho malie wale no ka maua hana; i ike hoi keia mea he hele makaikai, i ka hele hoi o ka wawae, he hoololo pu wale iho la no e noho malie ai, na kahi moena no e panee, (he lio a me kona mau lako,) ua hala hope o Palolo.

Waikiki-Waena.

Ua hala mai ke kula, a ke hoea mai la ka halelaau kiekie o J. Kahai ma ke Ahupuaa a Ili paha o Paho, ma keia aoao o Kaupapalo, (aoao hema,) he mau uapo nui elua e hali hope mai ia oe, a loa aku ke ahua maloo i noho mauia e na pohaku iliili, a nolaila paha kona inoa hanohano Kamoiliili, he halepule nui malaila e ku ana no ka ekalesia e pili ana me Kawaiahao, ua maalo ae kona helehelena ma ko'u lima hema, a he mau kauhale laau, a hale pili e ae no kekahi no na kamaaina oia wahi. Ua hala ihope lakou a pau, hoea mai ana he wahi haalu kaulana, oia hoi o Kaluaohau, a he uapo pohaku aku i hanaia mawaena o ka loko pohopoho, a pae ma kela aoao, he kula papaakea aku o Kapaakea no kona inoa, a hala ihope ia mau wahi.

Ke Kula o Kahua.

Ua halawai mai la oe me ka aoao manae o ke kula kaulana o Kahua, he kula maikai keia; he akea, a me ka palahalaha, he pohopoho a hakukele nae kekahi wahi i ka wa ua nui, elua mile a keu paha e hiki aku ai oia iloko o ke kulanakauhale Alii, ke nana ae la oe ma kou aoao akau mauka, e waiho kahelahela mai ana ke awawa nani o Manoa, e kupuni mai ana ka ua kaulana o

ua aina uka la, oia hoi ka uakuahine, a mauka pono ae e ku kelakela mai ana me kona hanohano nui ka hale kula keikie o Kapunahou, a me kona mau pa e hoopuni ana, a ma ke Komohana ae olaila, o Makiki me kona hale halawai maikai, a me kekahi hale kiekie nani e ae, no Rev. P.J. Kulike, a eia paha i ko lakou mau luau ikeia manawa, a makai ae e pili kokoke ana i ke alanui, ka hale kula kaikamahine kaulana o Makiki, o Ululani ua wahi la.. A manae koke mai o ua hale kula la ke alapii o Manoa, Makiki, Kapunahou. Ua pau paha kau alawa ana mauka, a e nana ae kua makai, he nani a he mea hou no hoi no keia mau makahiki hope mai nei no, he pa laau nui a hanohano no Makale, (Mr McCully.) kakauolelo o ka Ahakiekie, he huilawai nui malaila, a me ka e-a maia o ka wao, a makai ae he pa mauu nui ai a ka lio, he mau haneri kanaka paha e hana mau ana malaila i kela a me keia pule, a he mau hale nui e waiho ai na mauu i hoonohe papa ia, a he mau kaledesona paakai ke hoopau ia ma ia hana, ma ke kopi ana i mea e makaala maikai ai ka mauu, aole e punahelu a popopo paha; a makai ae o Pawaa ma, a ke hele aku nei kakou i waena pono o ke kula, aia mauka kahi heihei lio, a makai ^{DRAFT} mai o Kewalo, a kokoke komo i ke kulanakauhale. Aia no mauka ka puu kaulana o Puawaina, a ma ka aoao makai, au-i komohana ka luakini kaulana o Kawaiahao.

No Honolulu.

Ua komo aku la kakou iloko o ke kulanakauhale nui o keia pae aina, a kulanakauhale alii hoi, kahi e ku nei ka hale alii o ka Moi, a kahi hoi e noho mau nei na poo Aupuni, a me na oihana nui a hanohano e ae o ke Aupuni, he mau alanui loaloa maikai e ae e moe kapakahi ana mai ka hema hikina ike ae, a ka akau komohana ae, o ke alanui waena, oia ke alanui alii a hele loa i Ewa, a mai ka puka pa o Halealii aku e mana ana a hele hou ua alanui a hiki i Ulakoheo, oia ke alanui kalepa, a makai ae ke alanui Moi-wahine e hiki ana i Ulakoheo kekahi aoao, a e puka loa ana i ke kaha alialia o Kukuluaeo ma, a mauka ae o ke alanui alii. he wahi alanui e hoomaka uuku ana mai ka halepaipalapala mua iho nei o na misionari, e hele ana mauka o na pa Alii, a hiki i Monikahaae, a i ka Nekina, a poomuku mai i ka huina o Alanui Maunakea, a ua kapaia keia Alanui, o Alanui Hotele, a mauka ae kekahi alanui, e hoomaka ana mai kula mai o Kahua a hele loa i Kekaha, a komo hoi i ke kulanakauhale a hiki aku i ka muliwai o Kaumakapili i ka uapo a Kamika, (L.S.) Ua kapaia kela alanui, Alanui Beritania. A mauka ae kekahi alanui e kokoke ana i ka halekula alii; a he mau alanui kekahi ma ka laula, e pili ana i ke kula o Kahua, oia ke Alanui Alapai, a mawaena aku ke Alanui Puowaina, e holo ana i uka a hiki i ka halemai Moiwahine, a hoohualala loa aku i Pauoa, a hooiho loa iho makai o Apua, Kakaako ma, a mawaena ae hoi ke Alanui Rikeke, mai ka hale noho o W. Rikeke e pili ana i ke Alanui Beritania, a Limaikaika ma i noho iho nei, aole i puka loa aku iuka, a

hooiho loa aku la makai o Huehue a hiki i ke kahakai; a mawaena aku ke Alanuikea, e hui ana kona lihi makai me Alanui Moiwahine, a hoopale koke ia mai la e na pa hale no M. Kekuanaoa paha, a hooholo loa kona pua mauka a hui me Alanui Ema, a hui me Alanui Beritania. O ke alanui Ema hoi, ua hoomaka aku mai Alanui Beritania a hui me Alanui hele i Pauoa.

A mawaena aku ke Alanui Papu, maikai loa mai o Ainahou a hiki i Monikahaae a hala loa'ku i uka, ua okiia e ia ke Alanui Moiwahine, ke Alanui Kalepa, ke Alanui Alii, ke Alanui Hotele, ke Alanui Beritania a mauka aku. A mawaena aku o laila, he mau alanui liilii a pokole, Alanui Kaahumanu, mai na hale mahoe mai makai o ka uapo, a hiki i ka hale leta, a malaila pau mai, ua okiia mai ke Alanui Moiwahine, a me Alanui Kalepa. A he wahi alanui mawaena o ka halepaipalapala o ke Aupuni a me ke Keena Kuokoa; oia ke Alanui Betera, a he mau wahi alanui liilii aku mai ka halekuai o Kakela me Kuke, a holo kapakahi a hiki i ka Nekina, a hookapakahi nohoi manae e kokoke ana i Monikahaae. A mawaena aku no hoi ke Alanui Nuuanu, e hoomaka ana mai ka uapo mai, a holo loa i uka ma ke awawa o Nuuanu a hiki aku i Koolau. A ma o aku ke Alanui Maunakea, e hoomaka ana mai Ulakoheo mai, a e hui ana me Alanui Beritania, e kokoke ana i ka halepule i Kaumakapili, a he wahi Alanui uuku mai ka halepule pono mai a hui me Alanui Hotele, a he wahi Alanui uuku kekahi mai Alanui Papu mai a hiki i Alanui Nuuanu, kokoke i ka halepule o Roma. (Aole i pau)

Summary – A little journey to the North West side of Oahu

To the Newspaper Kuokoa—Aloha:

On the 16th day of this past July, the trip was started from Palolo along the road to Ewa, out to Keawaula at Waianae...

Waikīkī-Waena (Middle Waikīkī).

Passing the flat land, I arrived at the wooden house of J. Kahai in the Ahupuaa or perhaps ili of Pahoa, on this side of Kaupapalo, (south side) where two large bridges are set behind you, and you arrive at the dry hillock where are found the little stones. That is perhaps how it came to be called by the distinguished name of Kamoiliili. There is a large church found there which is associated with Kawaiahao. I passed it on my left side and there are some wooden houses and thatch houses belonging to the natives of that place. Leaving them behind I arrived at the famous hollow (low area in the land), which is Kaluaohau, and there is a stone bridge made between the ponds and the side where is the coral plains known by the name, Kapaakea. Then I passed those places.

Ke Kula o Kahua (The Plain of Kahua).

You then meet with the eastern side of the famous plain of Kahua, this is a fine kula land; wide and long, there are depressions and boggy areas in places, particularly in times of great rain. Some two miles beyond, you arrive at the Chiefly city. Looking to the uplands on the right, you see the beautiful open valley of Manoa, surrounded by the famous rain of the uplands, that is the Uakuahine, and right above you is the distinguished high school of Kapunahou, surrounded by its wall. On the West is Makiki with the fine meeting house, and the majestic house of Rev. P.J. Gulick. And here at this time, one may know that makai, you are close to the road and the famous girl's school of Makiki. That place is Ululani. And nearby on the east of that school is the ascent to Manoa, Makiki and Kapunahou. This is perhaps enough of our looking to the uplands. Let us now look to the lowlands. There is a new thing of beauty in these last few years, at large wooden wall of Mr. McCully, Secretary of the Legislature. There is a large grinding wheel there, and growth of the e-a banana's of the wild, and below is a large hay lot for horse feed. There are perhaps several hundred men working there all the time from week to week, and many large houses in which the hay is kept, and the salt stored so that it will not go bad. Below there is Pawaa, and we then go between the kula land, where above is the horse race track, and makai is Kewalo. Now we come near the entry of the city. There above is the famous hill, Puowaina, and on the makai and west side is the famous church of Kawaiahao.

About Honolulu.

We have now entered the great town of this island group, the chiefly city, where the palace of the King stands, and where the leaders of this nation reside. Where the distinguished work of the nation is done. There are many long streets and those that cut across them south to east, and north to west. The central street is King Street which runs to Ewa, and from the gate of the Palace, there are branches of new roads going to Ulakoheo, that is Market Street, and shoreward of Queen Street to Ulakoheo on one side, and running all the way to the salt flats of Kukuluaeo. And above King Street is a little street that begins at the first print house of the missionaries, running along the Royal enclosure to Monikahaae, and to Nekina; then to the intersection at the top of Maunakea Street, and the street called Hotel Street. Then the road mauka of there is where the plain of Kahua begins, running all the way to Kekaha. Now coming into the city, you reach the estuary of Kaumakapili and the Smith Street Bridge. That street is called Beretania. Just upland is a street near the royal school; and there are several roads across the expanse adjoining Kula o Kahua, Alapai Street, and between there Punchbowl Street, running upland to the

Queen's Hospital, rounding up to Pauoa, and descending down to Apua, Kakaako and such. Also, between is Richards Street, from the residence of W. Richards next to Beretania Street, and where Armstrong folks resided. It does not go far inland, but it goes makai of Huehue to the shore; and between is Alakea Street, with its shoreward section joining with Queen Street, and perhaps ending at the house lot of M. Kekuanaoa. At its upper limit it joins with Emma Street, and joins with Beretania Street. Emma Street begins at Beretania Street and joins with the road that goes to Pauoa.

Then in the middle is Fort Street, the shoreward extreme is Ainahou and it reaches up to Monikahaae, cutting off Queen Street, Merchant Street, King Street, Hotel Street, Beretania Street and above. Between there, there are many short, little streets. Kaahumanu Street, from the twin houses, shoreward at the wharf, to the post office, and from there cutting across Queen Street. There is a little street between the Government print house and the office of the Kuokoa; being Bethel Street, and other little streets from the store of Castle and Cooke, running at an angle to Nekina, and at an east angle to near Monikahaae. Also running between is Nuuanu Street which begins at the wharf, and runs upland to the valley of Nuuanu and on to Koolau. And next is Maunakea Street, beginning at Ulakoheo and intersecting Beretania Street near Kaumakapili Church, as well as little streets from the church over to Hotel Street. There are also little streets from Fort Street to Nuuanu Street close to the Catholic Church...

5.1.9 Ka Honua Nei (About the Lay of the Land) – The Importance of the Estuaries of Honolulu and Around O'ahu

J.H. Kānepu'u, a native writer and frequent contributor of traditions and historical narratives to native newspapers, shares with readers of *Ka Lahui Hawaii* his thoughts about the geography of the Hawaiian Islands and the important muliwai (estuary bays) which occur.

Ka Lahui Hawaii

Ka Honua nei.

A me na Mea a Pau Maluna Iho. (Kakauia e J. H. Kanepuu)

Aukake 16, 1877 (aoao 4)

No Oahu.—Ua olelo ia ma ka Hoikehonua a Rev. H. Binamu ma me kona mau hoa i unuhi mai ai, he 28 muliwai o Oahu. E nana kakou, Kikihale mawaena o Honolulu me Kapalama, aia kona welau mauka o Nuuanu a me Manoa,—Apuakehau ma Waikiki-kai, aia kona welau mauka o Manoa, a mana ae la kekahi ma Palolo, aia kekahi ma Waialae a me Wailupe; a ma Kuliohou, apana

o Kona, Honolulu, Oahu. Aia ma Puha, Waimanalo, aia kekahi ma Kalapawai ma Kailua, aia kona welau ma na loko nui o Kawainui a me Kaelepulu, aia kekahi ma Kaneohe ke kahawai o Puiwa paha. Aia kekahi ma Kahaluu malalo aku o ka halekula aupuni, ina nae paha no Waihee ia muliwai. Aia ma Kaalaea, Waiahole, Waikane ma Koolaupoko. Aia ma Kahana he muliwai nui me kona uapo kieke ua olelo ia, he komo ka mano iloko oia muliwai. Aia ma Laie-wai kekahi muliwai, aia ma Waimea kekahi muliwai ma Koolauloa, Oahu. Aia he ekolu muliwai ma Waialua, ke huiia me ka muliwai o Kaiaka, aia kona welau mauka o Wahiawa paha, a ma Kaukonahua mai, oia paha ka muliwai loihi ma Oahu nei. Ua manao ia, aohe paha muliwai ma Waianae; aia ma Ewa kekahi mau muliwai ma Waikele, Waipio a me Waiawa, a me kekahi wahi e ae paha. Aia ma Moanalua, Kalihi a me Niuhelewai. Ina kakou e hoomaopopo ae, 1 Kikihale, 2 Apuakehau, 3 Waialae, 4 Wailupe, 5 Kuliouou, 6 Puha Waimanalo, 7 Kalapawai, 8 Kaneohe, 9 Waihee, 10 Waiahole, 11 Waikane, 12 Kahana, 13 Laie-wai, 14 Waimea, 15, 16, 17, Waialua, 18, Waikele, 19 Waiawa, 20 Moanalua, 21 Kalihi, 22 Niuhelewai.

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Ina he 22 muliwai ma Oahu nei ma keia papahelu, e lawe he 22 noloko o ka 28, koe 6 muliwai ma keia papa; na ka poe ike e hai mai i ke koena, a e hoomaopopo iho no paha. He mea waiwai nui na muliwai ma Hawaii nei. Pakele loa aku na aina haole, aia a hiki aku ko kakou olelo ana ilaila, e hai aku no au i na muliwai o laila, ka loa, ka laula, a me ka hohonu, he mau tausani mile ka loa...

J.H. Kanepuu.

Summary – Valued Estuary Bays of O’ahu

About Oahu. As translated from the geography by Rev. H. Bingham, there are 28 estuaries on Oahu. Let us look at Kikihale between Honolulu and Kapalama, its highest point (source) is at Nuuanu and Manoa. Apuakehau, at Waikīkī kai, its source is split between Manoa and Palolo... ...There are also estuaries at Moanalua, Kalihi and Niuhelewai... All these are of great value in Hawaii...

5.1.10 An Itinerary of the Hawaiian Islands (1880) by George Bowser

George Bowser compiled and published *The Hawaiian Kingdom Statistical and Commercial Directory and Tourists Guide* in 1880. He described his journey across the Hawaiian Islands and provided descriptions of the landscape, life of the people, Western influences and development in the islands. The narratives include the history of change in Honolulu, the rise and fall of Western businesses through 1880, and layering of the cultural-historical landscape. Excerpted is his description of Waikīkī:

To complete my tour of the Island I had now to visit the southeastern coast. For this purpose I made a fresh start by the King Street road. This road follows for some distance the shore line of the bay, at the head of which the harbor of Honolulu is situated. The first object of interest is the Kapiolani Park. On the way there we passed Waikīkī, at which place, and all along the road hereabouts, are the Summer residences of many of the principal personages of Honolulu both native and foreign, together with many native houses of less pretension, not that any of these houses are of a pretentious character. The fashion here appears to be rather to have a number of low buildings in a group rather than one large one if any considerable amount of accommodation is required, and I have no doubt it is a custom well suited to this balmy climate. There is a good beach for bathing at Waikīkī; it is, in fact, the chief bathing resort of the people of Honolulu... (Bowser, 1880:498)

5.2 Business Ventures in the Waikīkī Vicinity

5.2.1 An Act to Develop Steam Railroads on the Island of O‘ahu (1884)

By the 1870s, businessmen had developed plans for the development of a steam rail system in the Kingdom as a means of further opening lands to plantations, ranching, and other endeavors that would benefit from easier access to delivering goods to Honolulu. King David Kalākaua and the Legislature enacted a law to promote acquisition of land for the development of the rail line. Notice and description of the new law was announced in the *Hawaiian Gazette* in the following article:

The Hawaiian Gazette
Session Laws of 1884
An Act.

September 24, 1884 (page 8)

To promote the construction and operating of steam railroads on the island of Oahu.

Be it Enacted by the King and the Legislative Assembly of the Hawaiian Islands, in the Legislature of the Kingdom assembled:

Section 1. The Minister of the Interior is hereby authorized, with the advice and consent of the King in Privy Council to grant Chas. B. Wilson and... his associates and successors, upon their fulfilling the necessary conditions there for, as provided by the corporation Act of the Kingdom, a Charter of Incorporation, which shall in terms, confer upon such Corporation the privilege for the term of thirty years of constructing and operating entirely at

the expense of such corporation without any subsidy or allowance from the Hawaiian Treasury, steam railroads for carrying passengers and freight, of not less than thirty inches gauge, under the powers, rights and liabilities set forth in an act to promote the construction of railways, the same being Chapter 29 of the Laws of 1878, as amended by Chapter 41 of the Laws of 1880, as follows:

“From the south easterly side of Fort Street in said Honolulu at its junction with Halekauila street easterly along said Halekauila street and the back bay of Honolulu harbor across the flats makai of King street to Waikīkī and through Waikīkī to Kapiolani Park and through Kapiolani Park on to Niu, passing makai of Diamond Head and from the same point on to the north westerly side of Maunakea street makai of King street in said Honolulu, westerly makai of King street, to and along the shore of Pearl River Lagoon to any point at or near the said Lagoon.”

Section 2. Such steam railroads shall not be constructed with any grade over the rate of eighty feet per mile nor with any curve on less than a three hundred feet radius.

Section 3. The railroads shall not run so near the public road, except at necessary crossing as to interfere with the same or as to make the use of the public road with horses insecure; nor shall the railroad in more than one place on the route; and such rules and precautions for the crossing shall be required in the Charter as will secure the safety and convenience of the public.

Section 4. The construction and equipment of the railroads must be approved by the Minister of the Interior by and with the advice of the King in Privy Council.

Section 5. The Charter shall define by survey the entire route of railroads provided for by this Act, which survey must be approved by the King in Privy Council.

Section 6. The said Corporation shall, within one year from the date of their charter, begin the construction of that part of the said steam railroad lying between said Fort street and the Kapiolani Park, and shall within two years from the date of the Charter complete and furnish with rolling stock, and open to the public such section of the said road lying between Fort street and Kapiolani Park, and after the expiration of three years from the date of the charter, this privilege for all that portion of the proposed lines not at that time occupied by tract shall be forfeited.

Section 7. Except as herein otherwise provided, the rights and privileges mentioned in the foregoing sections are granted to the said Charles B. Wilson and his associates and assigns upon such terms, conditions and restrictions as are now imposed or may hereafter be imposed by the Laws of the Hawaiian Kingdom in relation to the matter of constructing and maintaining railroads in this

Kingdom, and a strict compliance on the part of the said Charles B. Wilson his associates and assigns and successors with all the provisions of such laws are hereby required.

Section 8. This Act shall take effect and become a Law from and after the date of its approval.

Approved this 29th day of August, A. D. 1884
Kalakaua Rex.

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In 1885-1886, James Campbell and Benjamin Franklin Dillingham entered into a partnership to implement a “great land colonization scheme” for Honouliuli (Thrum, 1886:73). Initially, there was little interest in the effort, but within a few years, Dillingham was developing the O’ahu Railway and Land Company (O.R. & L. Co.). By 1889, the rail system ran from the Honolulu Harbor to Mānana, ending near the old ‘Ewa Court House in Waiawa (Whitney, 1890:155). The railroad opened up lands west from the environs of Honolulu to new business opportunities. The ‘Ewa Sugar Plantation Company was chartered on January 29, 1890 and operations set in motion. The region that had formerly been described as a “veritable desert,” grew “into a full-fledged sugar venture” (Conde and Best, 1973:278). Within ten years, two other plantations and various businesses were being built up and the transportation of goods, supplies and passengers had become well established.

5.2.2 The Electric Franchise (1894)

The Hawaiian Gazette

The Electric Franchise – What the Projectors Intend to Do for Honolulu Streets the Cars Will Traverse.

September 25, 1894 (page 5)

What the Road will be Capitalized at—Work on the System will be Commenced within a year after the Franchise is Granted to the Company.

At the meeting of the Councils on Thursday, an Act to grant a franchise for an electric railway in Honolulu was introduced. Following will be found the most important portions of the bill.

Section 1. James Dunsmuir, John H. Turner, Thomas B. Hall, Frank W. McCrady, Robert Menaugh, Clinton Graham Ballentyne, all of the City of Victoria, in the Province of British Columbia; William N. Armstrong and James B. Castle, of the City of Honolulu, in the Hawaiian Islands; and any other persons who may hereafter become associated with them, are hereby constituted a body corporate under the name of the “Honolulu Electric Railway and Power Company, Limited.”

Section 3. The capital stock of the company shall be six hundred and twenty-five thousand dollars (of which one hundred and twenty-five thousand dollars shall be non-assessable), and shall be issued in such manner as the directors may determine. The liability of any shareholder of assessable stock shall be limited to the unpaid portion, if any, of his or her shares in the capital stock of the company. The non-assessable stock may be issued by the directors for the compensation and profit of the undertakers and promoters of the objects for which the company is formed, and no stock in excess of the amount of the capital stock shall be issued without the consent of the Executive Council of the Republic of Hawaii, upon good reason shown therefor, and with the approval of a majority, in value, of the shareholders. The stock may be issued as above provided, with a preferential or qualified right to dividends.

Section 12. The Company are hereby authorized and empowered to construct, complete, equip, maintain and operate a single or double track street railway, with all the necessary switches, side-tracks, turn-outs, poles, wires, underground wires, conduits and other requisite appliances in connection therewith, for the passage of cars, carriages and other vehicles adapted to the same upon and along the following streets in the city of Honolulu, and upon and along the road or roads adjacent to the said City: Commencing at the junction of Judd and Liliha streets, thence in a south westerly direction along Liliha street to King street, thence along King street in a southerly direction to the bridge crossing the Nuuanu stream, thence diverging across the Nuuanu stream to the north westerly end of Hotel street, thence south easterly along Hotel street to Punchbowl street, thence to Young street through the intervening block bounded by Beretania and King streets, thence along Young street and through Thomas square to Keeaumoku street.

Commencing again at the intersection of Alapai and Young streets, then northeasterly along Alapai street to Lunalilo street, thence along Lunalilo street to Pensacola street, thence northeasterly along Pensacola street to Wilder avenue to Beckwith street, and along Beckwith street to Metcalf street;

or in the alternative continuing easterly along Lunalilo street, from Pensacola street to Keeaumoku street, instead of Pensacola street to Wilder avenue and Wilder avenue to Keeaumoku street.

Commencing again at the intersection of Wilder avenue and Keeaumoku street, thence southerly along Keeaumoku street to King street, thence westerly along King street to Sheridan street, thence along Sheridan street to the Beach road.

Commencing again at the junction of Hotel and Union streets, thence along Union street to and across Beretania street to Emma street, thence along Emma street to Punchbowl street, thence northerly along Punchbowl street to a point near Pauoa stream or road, thence through the intervening land to Judd street or Nuuanu avenue, thence along Nuuanu avenue to the Pali; or in the alternative, commencing at the intersection of Alakea and Hotel streets, thence northeasterly along Alakea street to and across Beretania street to Emma street, thence along Emma street as aforesaid, instead of Union street as aforesaid; also in the alternative, School street from its junction with Emma street, to Nuuanu avenue and Nuuanu avenue to the Pali, instead of Punchbowl street and intervening lands to Judd street or Nuuanu avenue.

Commencing again at the junction of Bethel and Hotel streets, thence along Bethel street to Merchant street, thence southeasterly along Merchant street to Richard street, thence southwesterly along Richard street to Queen street, thence south easterly along Queen street and intervening lands to the Beach road and intervening lands to the Waikīkī road, Thence along the Waikīkī road to Kapiolani park.

Commencing again at the intersection of Hotel and Richard streets, thence south-westerly along Richard street to the water front, and upon and along such other streets and roads as the said Company, with the consent and approval of the President and Council shall determine, and for that purpose to enter into and upon the said streets and roads, and to do all necessary excavations and alterations upon the said streets and roads, subject, however, to the approval and supervision of the Minister of the Interior, or other officer duly appointed for that purpose, as to the location of all tracks, poles and other works of said Company; and to take, and transport and carry passengers, freight express and mails upon the said railway, by the force of electricity, either by overhead wires, storage battery, or underground conduits, or by such other motive power, other than horse or steam power, as the said Company may from time to time deem expedient, and to construct and

maintain all necessary works, buildings, appliances, and conveniences connected therewith.

Section 17. The Company shall have the right to buy, sell, manufacture electric motors, cars, locomotives, electric heaters and electrical appliances of all kinds and to be general dealers in electrical supplies and apparatus of any kind whatsoever.

Section 18. The said Company shall commence the construction of the said tracks or railway lines not later than one year from the date of the charter herein granted, and shall complete and have thoroughly equipped, and in running order, not less than fifteen miles of such track or railway within two years from the said date, and if the said Company shall fail to comply with the provisions herein made, in this regard, they shall forfeit the right to use and occupy any streets not at the time used or occupied by them unless an extension of the time herein specified shall be granted to them by the Executive Council; but delays owing to litigation, strikes or other cause for which the said Company is not responsible, after exercising due diligence, shall not be included in the foregoing time limit.

Section 23. The style of rail to be employed by said Company in constructing and laying down the several railway tracks shall be such as is used in the best modern practice in the United States of America, and subject to the approval of the said Minister of the Interior, or other officer appointed for that purpose, as to the manner of laying the said rails.

Section 30. Wires along which the trolleys run shall be at a distance of not less than fourteen feet above the street.

Section 31. The said company shall have the right, and it shall be lawful for them, to cross the track or tracks of any street or other railway in the city of Honolulu or Island of Oahu, and for that purpose to lay their rails across the track or tracks of such other railway, subject to the supervision and approval of the Minister of the Interior, or other officer appointed for that purpose, as to the manner of laying the said rails.

Section 32. The said company, in addition to the powers hereinbefore expressed, may lay, construct and operate a single line of street railway over and along any bridge on the line of said railway in the said city of Honolulu or Island of Oahu, the tracks of such railway on any bridge to be flush with the flooring of the same; provided, that the location of any such bridge line, and

the work done therein, and the material provided therefor, shall be to the satisfaction of the Minister of the Interior or other officer duly appointed for that purpose.

Section 33. The company shall have the power to purchase, lease, take over or otherwise acquire, all or any part of the property, real and personal, rights, privileges and franchises, of any other electric railway or lighting, or power, or other electrical company or companies, or any company having objects altogether, or in part, similar to those of this company, and shall have, when the same are acquired, all the powers, privileges, rights and franchises of any such company or companies under its charter or act of incorporation, so that the same shall be held, exercised and enjoyed by the company as fully as if specially conferred hereby.

Section 34. The company may unite, amalgamate and consolidate the stock, property, business and franchises, may enter into working engagements with, or may enter into a lease of, or take and hold shares in, or the right to operate the works of, any other electric railway, or lighting, or power, or other electrical company or companies, or any company having objects altogether, or in part, similar to those of this company, or any company generating, using or supplying electricity for any purpose whatsoever.

Section 35. The said company may purchase, lease, hold or acquire and transfer any real or personal estate necessary for carrying on the operations of the company.

5.2.3 Burials Found at Waikīkī During Construction for Hawaiian Hotel (1898)

Evening Bulletin

A Golgotha at Waikīkī – Several Human Skeletons Found in “One Burial Blent.”

Evidence That They Are Remains of Heroes of the Defense of Oahu Against Kamehameha the Great.

May 11, 1898 (page 5)

It is a strange coincidence that, while Minister Damon’s bill to provide for the preservation of ancient heiaus and puuhonuas is pending in the Legislature, a heiau not hitherto heard of in these days should have been unearthed in the suburbs of Honolulu. That is what happened yesterday.

Col. Geo. W. Macfarlane, who lately leased the Bishop premises at Waikīkī,

whereon to establish a seaside annex to the Hawaiian Hotel, had a gang of seven Japanese at work yesterday morning leveling off some mounds in the cocoanut grove. They had occasion to remove a tree and adopted the method of cutting off the roots. There was not much left to hold up the tree when they knocked off work for the noon hour.

As the Japanese were approaching the spot at one o'clock, the elements performed a regular freak. A gale rattled the foliage of the tall palms like castanets. The undermined tree shivered in the blast and began to reel to its fall. Even the ground rumbled and, it is authentically stated, the awa and mullet in an adjacent pond leaped upon their fins clear out of the water.

The Japanese happening to be coming along on the lee side of the tree retreated for their lives before the falling besom of destruction. Then an uncanny thing happened in reality which would have made a bold exploit of the imagination even for a Stevenson or a Verne. Flung high in the air by the catapultic motion of the roots was a mass of human bones —entire skulls, femurs, vertebra, ribs, everything. One skull struck a Jap in the back, and when he turned to see the missile he almost died of fearsome horror.

It was in vain to try to get that gang to resume work at the same spot. Only the foreman, through fear of losing the whole employment, returned. He began delving in the soil—a whitish substance, either volcanic ash or decomposed coral sand—when close to the surface he found an entire skeleton. It was in a sitting posture with arms extended over the head, as if the subject had been warding off a blow when struck down to his ultimate tomb.

There was another skeleton disframe. When a Bulletin reporter inspected the scene at six o'clock the bones had been placed in a heap, the most conspicuous feature of which was a row of five skulls. Some of these had perfect sets of teeth intact. Only one was badly broken. Another had a temple dinged in, as if from a spear thrust.

The Golgotha thus exhumed is situated by the marshes at the Ewa corner of the Bishop premises within an easy stone's throw of the main Waikīkī road. It is in a long uncared for and unimproved section of the demesne, some considerable distance from the residence structures to compose the hotel annex.

Col. Macfarlane very much doubts if Mr. Bishop himself knew of the existence of this remarkable deposit on the premises. There is not, however, entire

absence of light upon the subject. Kaohi, a very aged native woman who was a retainer of the late Mrs. Pauahi Bishop, is still living on the place. She was in fact born there. Kaohi says there was a heiau on the spot, and that the bodies of Hawaiians slain in battle were buried within its walls. There is therefore a strong presumption that the remains now disinterred are those of brave defenders of the island of Oahu against the conquest of Kamehameha the Great. If such is the case they show remarkably good preservation after more than a hundred years of entombment.

The site of the heiau is known as Puuo'niihau. It was at the mouth of the stream adjacent, close to the Long Branch baths, that Vancouver landed on this island. That stream was then so free as to admit the great navigator's boats up as far as Ainahau, the residence now of Princess Kaiulani and her father, Hon. A.S. Cleghorn. Two natives were hanged in the vicinity to render satisfaction to Vancouver for some pilfering from his ship. Mr. Cleghorn, it is understood, has collected a considerable body of authentic tradition regarding events of early Hawaiian history of the modern era in that neighborhood.

Close to the lane leading from the road to the Bishop residence there is well preserved the grass house in which Kamehameha V. is reputed to have prepared the new constitution which he forced upon the surprised Legislature that had failed to agree in attempting to frame the desired instrument.

6. THE BIOCULTURAL ENVIRONMENT AND THE CULTURAL LANDSCAPE

To employ the Hawaiian landscape perspective and emphasize the symbiosis of natural and cultural resources, Honua Consulting uses the term 'biocultural' to refer to natural and cultural resources, with additional sub-classifications by attributes.

Honua Consulting employs three broad terms that are both well-defined and flexible enough to be used to place traditional cultural areas/properties, naturally occurring non-modified features, archaeological features, and other areas of cultural significance within a specific spatial-temporal framework. Hawaiian epistemology categorizes ecological regions much like non-indigenous science categorizes different ecosystems in biomes. Hawaiian ecological regions are referred to as wao (realms). While numerous wao exist, focus is placed on the wao most important to this assessment:

Wao kānaka: the region, usually from coast to inland plain (exclusive of inland forests), characterized by permanent human occupation, active resource management, and resource modification. This is observable through the presence of archaeological features indicating permanent occupation, including large concentrations of house lot complexes, religious complexes, and fishponds.

Wao kele: the inland forest region, including rain-belt forests, characterized by large-scale subsistence systems, active resource management, and resource modification. This is observable through the presence of agriculture-related archaeological features, fewer heiau than the wao kānaka region, and smaller concentrations of house lots.

Wao akua: the distant realm inhabited by the gods and demigods, this area was kapu and the general populous only entered the realm with reverence. Wao akua can include the mountains, mountain tops, and ridges of entire islands and/or regions where clouds settle upon the land (thus at varying elevational zones depending on district and region).

A brief further discussion of environmental zones and traditional Hawaiian land management practices is necessary to understand the tangible and intangible aspects of the Hawaiian landscape. Additionally, it is important to point out once again that in the Hawaiian landscape, all natural and cultural resources are interrelated and culturally significant. Natural unaltered landscape features such as rocky outcrops, cinder cones, intermittent streams, or an open plain can carry as much significance as a planted grove of wauke (*Broussonetia papyrifera*) or a boulder-lined 'auwai (canal).

Maly presents a narrative of traditional Hawaiian land management strategies and the different environmental zones recorded in *Ka Hoku o Hawaii* (September 21, 1916):

Hawaiian customs and practices demonstrate the belief that all portions of the land and environment are related, like members of an extended family, each environmental zone was named, and their individual attributes were known. Acknowledging the relationship of one environmental zone (wao) to another, is rooted in traditional land management practices and values. Just as place names tell us that areas are of cultural importance, the occurrence of a Hawaiian nomenclature for environmental zones also tells us that there was an intimate relationship between Hawaiians and their environment.

The native tradition of Ka-Miki provides readers with a detailed account of Hawaiian land divisions and environmental zones. While competing in a riddling contest at the court of the chief, Palikū-a-Kīko'oko'o, the hero, Ka-Miki sparred with Pīna'au, the foremost riddler of the district of Hilo Palikū (northern Hilo). The riddles covered topics describing regions from the mountain tips to the depths of the ocean, and descriptions of kalo (taro growth), the ala loa (trail systems), and nā mea lawai'a (fishing practices). As the contest unfolded, it was seen that each of the competitors were well matched. In one of the riddles, Ka-Miki described the various regions of the island of Hawaii, extending from the mountain to the sea. Ka-Miki then told his opponent, that if he could rise to the challenge of answering the riddle, his knowledge could be compared to one who has ascended to the summit of the "mauna o Paliāhu" (mountain of Poli'ahu, or Mauna Kea) (in *Ka Hoku o Hawaii*, September 21, 1916).

Through one of the riddles [the] reader learn[s] about the traditional wao or regions of land, districts, and land divisions of the administrators who kept peace upon the land. The environmental zones include:

1 – Ke kuahiwi; 2 – Ke kualono; 3 – Ke kaumauna; 4 – Ke ku(a)hea; 5 – Ke kaolo; 6 – Ka wao; 7 – Ka wau ma'u kele; 8 – Ka wao kele; 9 – Ka wao akua; 10 – Ka wao lā'au; 11 – Ka wao kānaka; 12 – Ka 'ama'u; 13 – Ka 'āpa'a; 14 – Ka pahe'e; 15 – Ke kula; 16 – Ka 'ilima; 17 – Ka pu'eone; 18 – Ka po'ina nalu; 19 – Ke kai kohola; 20 – Ke kai 'ele; 21 – Ke kai uli; 22 – Ke kai pualena; 23 – Kai Pōpolohua-a-Kāne-i-Tahiti.

1 – The mountain; 2 – The region near the mountain top; 3 – The mountain top; 4 – The misty ridge; 5 – The trail ways; 6 – The inland regions; 7 and 8 – The rain belt regions; 9 – The distant area inhabited by gods; 10 – The forested

region; 11 – The region of people below; 12 – The place of ‘ama‘u (fern upland agricultural zone); 13 – The arid plains; 14 – The place of wet land planting; 15 – The plain or open country; 16 – The place of ‘ilima growth (a seaward, and generally arid section of the kula; 17 – The dunes; 18 – The place covered by waves (shoreline); 19 – The shallow sea (shoreline reef flats); 20 – The dark sea; 21 – The deep blue-green sea; 22 – The yellow (sun-reflecting sea on the horizon); and 23 – The deep purplish black sea of Kāne at Tahiti (Maly, 2001:3).

Waikīkī ahupua‘a has been extensively developed over many decades that, regrettably, the cultural landscape has all but disappeared from this once important center of ali‘i and mō‘ī rule. The wao kānaka of Waikīkī has been covered by concrete and buildings, and the natural streams and springs have been altered through hydromodification. The once existing lo‘i and loko i‘a found abundantly within Waikīkī ahupua‘a have become nothing but memory and recollection of kūpuna.

6.1 Historic Sites

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The APE currently has four historic properties identified: the Ala Wai Canal (SIHP #50-80-14-9757), Buried Waikīkī Wetland Surface (SIHP #50-80-14-5796), the Hawaiian Canoe *Malia* (SIHP #50-80-14-9762; NRHP #93001385), and the Ala Wai Park Clubhouse (SIHP #50-80-14-1388). The Ala Wai Canal comprises approximately 48.5 acres and extends 2 miles from Kapahulu Avenue to the ocean near the Ala Wai Boat Harbor. The canal was constructed to drain the ponds and wetlands of the Waikīkī area; subsequent land reclamation activities led to the development of the Waikīkī District as it exists today (Steele, 1992).

The original buried Waikīkī wetland surface consists of deposits of agricultural wetland sediments, non-agricultural wetland sediments, peat sediments, pond sediments, and pond berms dating from the pre-contact era to the early 1900’s; the wetland deposits are generally encountered beneath 1.3 to 2.0 meters of various road, utility, and land reclamation fills and are found just above or at the water table in most cases. Due to the proximity of the site it is likely to be encountered during the current project; the site is currently eligible for listing under Criterion D.

The *Malia* is a six-man Hawaiian racing canoe owned by the Waikīkī Surf Club and stored within a covered canoe hale at the Ala Wai Community Park. It was hewn from a single koa (*Acacia koa*) log by James Takeo Yamasaki in Kailua-Kona on Hawai‘i Island in 1933. It has been modified twice since that time, once in 1950 and once in 1973. The *Malia* is an excellent example of a Hawaiian racing canoe and inspired, and served as a model for, an entire division of fiberglass canoes. It is significant for its contribution to the sport of open canoe racing and as a distinct representation of a Hawaiian dugout racing canoe (Travers, 1993).

The Ala Wai Park Clubhouse is a painted brick, single-story, *u*-shaped art-deco building constructed in 1937 for the Ala Wai Canal canoe clubs. It is located on the west side of the Ala Wai Community Park at the southeast corner of McCully Street and Kapiolani Avenue. The building is representative of the art-deco style of the 1930's parks and playgrounds of Honolulu (Hibbard, 1988). It is currently used as a community recreation center and canoe hale.

Mason Architects recently conducted an Identification of Historic Properties report for the proposed Ala Wai Bridge project (Mason Architects 2020). Their study identified 30 resources within the project APE, of which 12 were already listed or found eligible for the State and/or National Register and 18 were evaluated as not eligible (Figure 31). Identified sites included the Ala Wai Canal (SIHP # -9757), Ala Wai Park Clubhouse (SIHP # -1388), the *Malia* Canoe (SIHP # -9762, NRHP #93001385), McCully Street Bridge (eligible), Ala Wai Community Park (not eligible) including Ala Wai Neighborhood Park North Comfort Station (not eligible), South Comfort Station (eligible), Ballfield Improvements (not eligible), University Halau (not eligible), and Bike Path/Trail (not eligible), Ala Wai Plaza Condominium (eligible), Ala Wai Cove Condominium (not eligible), Ala Wai Elementary School (eligible), Waikiki-Kapahulu Library (eligible), Aston Coconut Plaza (not eligible), 2169 Ala Wai Blvd. (not eligible), 2167 Ala Wai Blvd. (not eligible), 2163 Ala Wai Blvd. (not eligible), 2153 Ala Wai Blvd. (eligible), Rosalei Apartments (eligible), 2121 Ala Wai Blvd. (not eligible), 2115 Ala Wai Blvd. (not eligible), 2107 Ala Wai Blvd. single-family residence (eligible) and 3-story apartment (not eligible), 2103 Ala Wai Blvd. (not eligible), 441 Kālainmoku St. (eligible), 445 Kālainmoku (not eligible), 2085 Ala Wai Blvd. (not eligible), 2067 Ala Wai Blvd. (not eligible), and 2055 & 2061 Ala Wai Blvd. (not eligible).

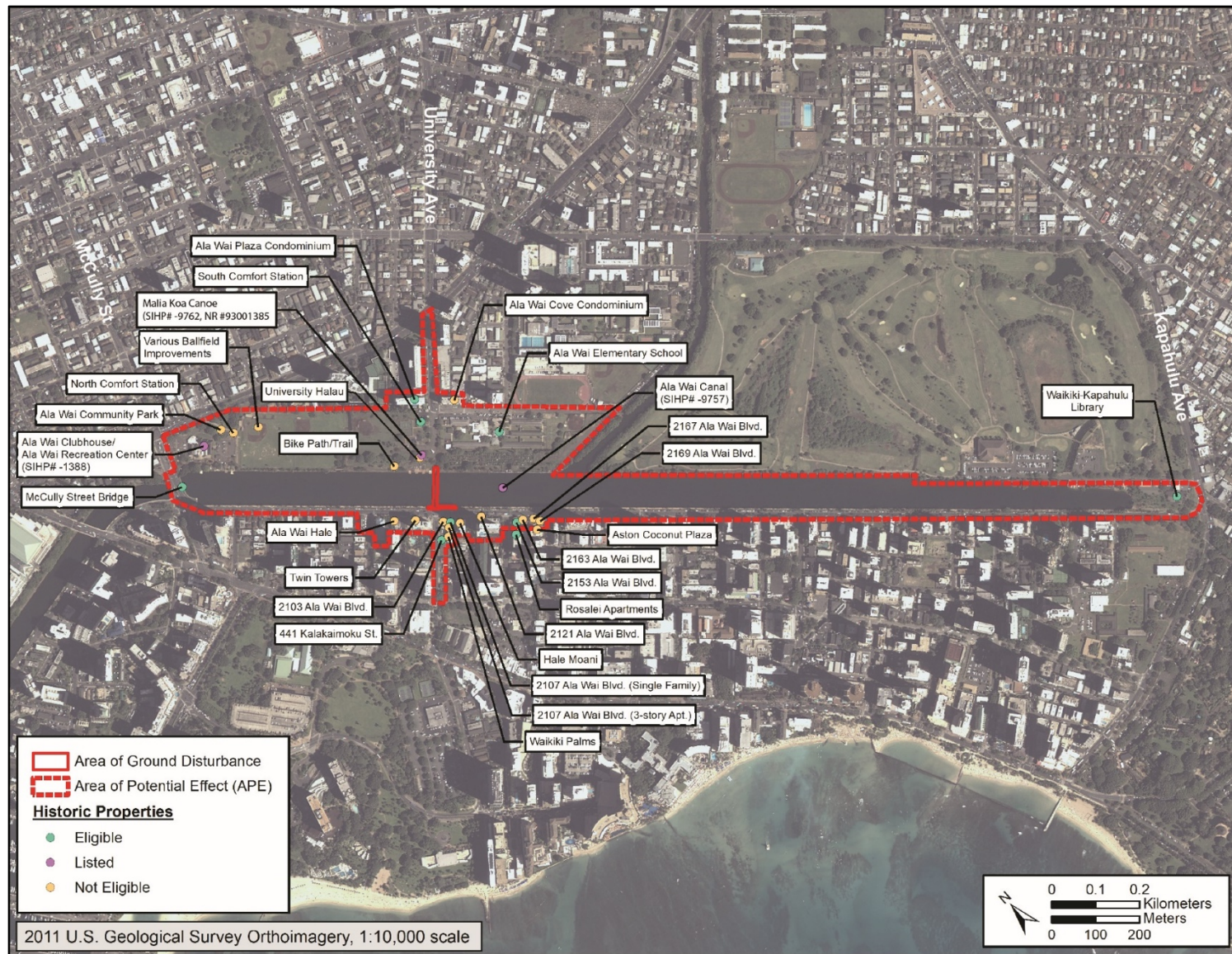


Figure 11. Aerial photo showing historic properties identified by Mason Architects (2020)

6.2 Natural Resources

Project-specific surveys for biological resources in the project area have not been conducted; however, several previous surveys and projects overlap with the project area. Due to the condition of the project area, no endemic or indigenous species of cultural or environmental concern are expected to utilize the subject parcel.

6.2.1 Flora

The project area is located in an urbanized setting and, as a result, the vegetation is dominated by landscaped and non-native ruderal species. Natural vegetation that would have been found in the project area during the pre-Contact and early post-Contact periods consisted of coastal marshland species (Belt Collins, 2017). Botanical surveys overlapping the majority of the proposed project area were conducted in 2013 and 2016 to support the Ala Wai 46kv Underground Cable Relocation project (Belt Collins, 2017). During these surveys, over 100 plant species were recorded and of those, only a little over 5 percent were native (SWCA, 2016). A description of vegetation in the project area is provided below, starting on the makai side of the project area and moving to the mauka side.

The makai side of the Ala Wai Canal is limited to manicured landscaped vegetation lining the roadways. Species growing along the mauka (canal) side of Ala Wai Boulevard include coconut tree (niu; *Cocos nucifera*) planted at regular intervals and underlain by a manicured lawn of non-native grasses, including smutgrass (*Sporobolus africanus*), dallisgrass (*Paspalum dilatatum*), Carolina lovegrass (*Eragrostis pectinacea*), Henry's crabgrass (*Digitaria ciliaris*), Bermuda grass (*Cynodon dactylon*), and St. Augustine grass (*Stenotaphrum secundatum*). The makai side of Ala Wai Boulevard is similar to the mauka side, with the addition of scattered ornamental shrubs (SWCA, 2016).

Across the Ala Wai Canal, on the mauka side, vegetation associated with the community garden, boat launch, park, and parking areas is more varied, but still dominated by non-native landscaped species. Most of the areas are characterized by a ground cover of lawn grasses and other weedy grass species. Trees in these areas include monkeypod ('ohai; *Samanea saman*), coconut, rainbow shower tree (*Cassia x nealiae*), and kou (*Cordia sebestena*) (SWCA, 2016).

Federal and state listed plant species are not anticipated to occur in the project area due to an absence of suitable habitat and the highly urbanized environment. The project area does not contain any designated or proposed critical habitat for threatened or endangered plant species.

6.2.2 Fauna

Due to the condition of the project area, no endemic or indigenous species of cultural or environmental concern are expected to utilize the subject parcel.

6.2.2.1 Terrestrial Fauna

Terrestrial fauna expected to use the urban terrestrial environs of the project area include non-native mammals such as dog (*Canis familiaris*), cat (*Felis catus*), mongoose (*Herpestes javanicus*), rat (*Rattus* spp.), and mouse (*Mus musculus*). All of these introduced species are detrimental to native ecosystems and native faunal species in the area (SWCA, 2016).

The federally threatened Hawaiian hoary bat, or 'ōpe'ape'a (*Lasiurus cinereus semotus*), is the only native terrestrial mammal in Hawai'i. This species is known to occur on O'ahu in native, non-native, agricultural, and developed habitats, and will use developed land for roosting and foraging (USDA, 2009; USFWS, 1998). 'Ōpe'ape'a typically roost in trees greater than 16 feet with dense foliage or in with open access for launching into flight (USDA, 2009). Pups are typically dependent on their mother for the dry season, and are born in May and fledge by the end of September (USDA, 2009). 'Ōpe'ape'a has not been observed in the project area or vicinity; however, several trees in the project area may provide suitable roosting habitat for this species, including coconut, kou, monkey pod, and rainbow shower tree.

Numerous species of bird likely use the project area for nesting, foraging, or movement. Based on the previously collected data, it is likely that the majority of birds using the project area on a regular basis are non-native species typically found in urbanized parts of the island. Two native migrant shorebirds were observed during previous surveys and include the Pacific golden plover (kōlea; *Pluvialis fulva*) and wandering tattler ('ūlili; *Tringa incana*). These and other native migratory shorebird and waterbird species likely only move through the project area and would not be using the urban habitat in the project area for nesting or roosting. Native shorebirds, including the wedge-tailed shearwater ('Ua'u kani; *Puffinus pacificus*) and the federal and state listed as threatened Newell's shearwater ('a'o; *Puffinus auricularis newelli*), may fly over the project area in small numbers (R.M. Towill, 2017). Kōlea is protected under the Migratory Bird Treaty Act (MBTA), which prohibits the taking, possessing, importing, exporting, transporting, selling, purchasing, bartering or any such offers of parts, nests or eggs of any bird listed under the Act.

Suitable habitat for Hawaiian waterbirds listed as threatened or endangered under federal or state law does not occur in the project area. Listed species such as Hawaiian stilt (ae'o; *Himantopus mexicanus knudseni*), Hawaiian coot ('alae ke'oke'o), Hawaiian moorhen ('alae 'ula; *Fulica alai*), and Hawaiian duck (koloa maoli; *Anas wyvilliana*) may be found in the upper reaches of the canal or Husten Ditch, where vegetated banks are present; however, the cement walls and absence of emergent or riparian vegetation likely preclude these species from nesting or resting in the project area.

White tern (manu o Kū; *Gygis alba*) is the only State listed species with the potential to occur in the project area. White tern is a migrant shorebird listed by the State as threatened for O‘ahu. Several tree species in the project area that provide suitable nesting and roosting habitat include coconut, kou, monkey pod, and rainbow shower tree. This species is considered to be highly tolerant of people and noise and commonly nests in urban Honolulu (Vanderwerf and Downs, 2018).

In the unlikely event that the Hawaiian hoary bat or white tern are present, direct impacts could occur in the form of mortality or other forms of take (such as harm or harrassment) to individuals as a result of heavy equipment used during vegetation clearing and construction. The use of heavy equipment would also generate noise, which could disrupt bats and white terns roosting or nesting within the project area. Native shorebird, including Newell’s shearwater and wedge-tailed shearwater, flying over the project area at night could become disoriented by exterior lighting which could result in collisions with man-made structures and potential death. Due to the urbanized setting, the area is already very brightly lit. As a result, project lighting is not expected to significantly increase the nighttime light levels in the area.

To avoid adverse effects on Hawaiian hoary bat, white tern, and other native shorebird species, the following measures should be implemented:

- No woody plants or trees greater than 15 feet in height will be removed or trimmed during the Hawaiian hoary bat breeding season (June 1 through September 15). Removal of any woody vegetation that exceeds 15 feet in height would be conducted between September 16 and May 31, the period of time outside the bat pupping season. In addition, construction and operation of the project’s features would be restricted to daylight hours to avoid potential bat foraging activities.
- Use of barbed wire fencing during project-related activities will be prohibited.
- All woody plants and trees will be inspected for white tern eggs or chicks prior to removal. If eggs or chicks are found, the plant or tree will be avoided until breeding is deemed inactive either from nest failure or fledging¹⁰.
- All project lighting will comply with Hawai‘i County Code, Article 9, Outdoor Lighting (Sections 14-50 through 14-55.1) which requires the shielding of exterior lights to reduce ambient glare.

¹⁰ Seasonal restrictions on tree trimming or removal to coincide with white tern breeding seasons are not recommended as recent findings found white tern breeding phenology is variable and year-round, thus the recommendation is obsolete (Vanderwerf and Downs, 2018).

- Project personnel should be advised of any potential endangered or threatened species within the project area.

With the implementation of these measures, the proposed project would not have a significant, adverse impact on terrestrial faunal resources. No additional federal or state listed terrestrial faunal species have the potential to occur in project area due to the urbanized setting and an absence of suitable habitat. The project area does not contain any designated or proposed critical habitat for threatened or endangered terrestrial fauna.

6.2.2.2 Aquatic Fauna

The Ala Wai Canal is highly polluted, making it a poor habitat for aquatic species. The aquatic fauna of the Ala Wai Canal is largely dominated by introduced vertebrate and invertebrate species. The walls of the canal are covered with barnacles (*Balanus* and *Chthamalus* spp.), large clumps of the introduced bryozoan (*Zoobotryon verticillatum*), and clumps of the introduced sponge *Suberites zeteki*. Blue claw crab (*Thalamita crenata*), mangrove crab (*Scylla serrata*), and moon jellies (*Aurelia aurita*), are also found in the canal (SWCA, 2016).

In the water column, introduced tilapia (*Oreochromis/Sartherodon*) were the most observed and abundant fish in the waters of the project area. Mosquitofish (*Gambusia/Poecilia*), another introduced species, have also been documented in the Ala Wai Canal. Smaller numbers of native marine fishes have been documented in the area, including lai (*Scomberoides lysan*), juvenile giant barracuda (*Sphyraena barracuda*), and a small school of juvenile striped mullets (*Mugil cephalus*) (SWCA, 2016). Other native fish species found within the canal over the past two decades include pāpio (family Carangidae), bonefish or 'o'io (*Abula glossodonta*), and Hawaiian flagtail or āholehole (*Kuhlia sandvicensis*) (R.M. Towill, 2017).

The benthic zone of the canal has relatively few living organisms. Hawaiian Electric Company, Inc. (HECO) reports that recent samples smelled strongly of hydrogen sulfide, indicating anoxic conditions. The few living benthic organisms observed during previous benthic surveys included amphipods (order Amphipoda), fireworms (family Amphinomidae), and one native indigenous speartail mudgoby (*Oxyurichthys lonchotus*) (SWCA, 2016).

Federal and state listed marine species are not expected to be found in this portion of the Ala Wai Canal due to the distance from the marine habitats of the harbor and beyond. No other listed aquatic species are expected to be found in the canal. The project area does not contain any designated or proposed critical habitat for threatened or endangered aquatic species, nor does it contain Essential Fish Habitat (EFH). The proposed project is not expected to have a significant, adverse impact on aquatic resources.

6.2.3 Rain Names

Akana and Gonzalez in *Hānau Ka Ua: Hawaiian Rain Names* explain the significance of the wind and rain in Native Hawaiian culture:

In the mind...of our Hawaiian kūpuna [(ancestors)], every being and everything in the universe was born. Our kūpuna respected nature because we, as kānaka, are related to all that surrounds us – to plants and creatures, to rocks and sea, to sky and earth, and to natural phenomena, including rain and wind. This worldview is evident in a birth chant for Queen Emma, “Hānau ke ali’i, hānau ka ua me ka makani” (The chiefess was born, the rain and wind, too, were born). Our kūpuna had an intimate relationship with the elements. They were keen observers of their environment, with all of its life-giving and life-taking forces. They had a nuanced understanding of the rains of their home. They knew that one place could have several different rains, and that each rain was distinguishable from another. They knew when a particular rain would fall, its color, duration, intensity, the path it would take, the sound it made on the trees, the scent it carried, and the effect it had on people (Akana and Gonzalez, 2015:xv).

To the Native Hawaiians, no two rains are ever the same. Rain can be distinguished based on its intensity, the way it falls, and its duration, among other things.

The following contains a selection of known rains associated with the Waikīkī ahupua‘a.

6.2.3.1 Hōli’o Rain

Hōli’o is a rain associated with Hawai’i, O’ahu, and Kaua’i; this is also the name of a wind.

Rain of Kauoha [in Wailupe], O’ahu

Aia ma Wailupe, he wahi e kapa ‘ia nei ka inoa ‘o Kauoha...ua kūkulu ‘ia kekahi mau hale nui no kekahi mau ali’i no Kapueo a me Kepo’onui, ua makemake loa kēia mau ali’i ia wahi, no ka ‘olu’olu maika’i o ka makani he Mālualua...kūkulu kala’ihi a ka ua Hōli’o i ua mau wahi ‘elemākule nei.

At Wailupe is a place called Kauoha...several large houses were built for chiefs, for Kapueo and Kepo’onui. These chiefs really liked this place because of the perfect coolness of the wind, a Mālualua...these old men were oppressed by the Hōli’o rain.

From an article about the places on O’ahu where chiefs liked to stay in times of old (Akana and Gonzalez, 2015:38-39).

6.2.3.2 Kuahine Rain

This rain is associated with Mānoa, O‘ahu and is found on other parts of O‘ahu.

Rain of Mānoa, O‘ahu

Huli aku ke alo i Mānoa lā	<i>The front turns to Mānoa</i>
I mehana i ka ua Kuahine lā	<i>To be warmed by the Kuahine rain</i>

From a mele inoa (name chant) for Manoanoa (Akana and Gonzalez, 2015:116).

Ho‘oipo i Mānoa ka ua Kuahine, ‘eā	<i>Romancing in Mānoa is the Kuahine rain</i>
He ua lī ‘a‘e lehua no Kaho‘iwai, ‘eā	<i>A rain of Kaho‘iwai that brings a chill over the lehua</i>

From a mele mākā‘ika‘i (travel chant) for ‘Emalani Kaleleonālani by Kuhea (Akana and Gonzalez, 2015:117).

6.2.3.3 Kūkalahale Rain

DRAFT

This a rain and wind name associated with Honolulu and the larger Kona district of O‘ahu. Kū kala hale means “standing under the eaves of the house” or “striking the house gables,” while kūkala hale means “announcing to the homes.”

Rain of Mānoa, O‘ahu

Ua Kūkalahale – Mānoa Valley, Honolulu, O‘ahu; a rain that blows under the eaves of the houses.

From a list of rain names and their descriptions (Akana and Gonzalez, 2015:130).

6.2.3.4 Lehua Rain

The Lehua rain is associated with Hawai‘i, Maui, and O‘ahu, and is also the name of a wind and of the ‘ōhi‘a lehua tree and its blossoms.

Rain of Mānoa, Oahu

Punihei ho‘i au iā ia ala lā	<i>I am entranced by it</i>
I ka leo o ke kai leo nui lā	<i>By the sound of the loud-voiced sea</i>
Ke wā maila i Kālia lā	<i>Roaring at Kālia</i>
Alia kāua e naue lā	<i>Let us wait before moving on</i>
I ka ua Lehua i nā pali lā	<i>As the Lehua rain is over the cliffs</i>
Ke noe maila i Mānoa lā	<i>Misting over Mānoa</i>

From a mele inoa (name chant) for Erisapeka (Akana and Gonzalez, 2015:147).

6.2.3.5 *Lilīlehua Rain*

Lilīlehua rain is associated with Kā'anapali, Maui, and with Pālolo, O'ahu, but is also found in other areas. Lilīlehua is also the name of a wind and may be translated to "lehua blossom chill" or "tiny drops on the lehua blossom."

Rain of Ka'au, Pālolo, O'ahu

Ku'u keiki mai ka hale kanaka nui	<i>My beloved child from the home with many people</i>
Ku'u keiki mai ka ua Lilīlehua o Ka'au	<i>My dear child from the Lilīlehua rain of Ka'au</i>

From a kanikau (lament) for Kapela (Akana and Gonzalez, 2015:158).

Rain of Pālolo, O'ahu

'O kēia Pōhakukikēkē, he mo'o wahine ia. He wahine u'i kēia mo'o. 'A'ole na'e 'o Pōhakukikēkē kona inoa mua, akā, 'o Kaulilīlehuaopālolo kona inoa mai kona mau mākuā mai.

DRAFT

'Oiai ua 'ono loa ko Pāhoa pu'u i ka u'i uwa'uwalī a me ka maika'i 'une'unehe o ka u'i o ka "ua Lilīlehua o Pālolo," no laila, mī'ala mau loa ua Pāhoa nei ma kēlā āhua e ho'omomoni ai i ka 'ae o kona pu'u i kā ha'i mea i hānai ai a nui nepunepu a pu'ipu'i ho'i.

Pōhakukikēkē was a mo'o woman, and she was quite beautiful. Pōhakukikēkē was not her original name, for her parents had named her after the Lilīlehua rain of Pālolo, Kaulilīlehuaopālolo.

Hungering for the soft loveliness and tender beauty of this young girl of Pālolo's Lilīlehua rains, Pāhoa would always hasten out to that hill, where he would salivate over this girl who had been raised to be so plump and succulent.

From the legend of Hi'iakaikapoliopole (Akana and Gonzalez, 2015:159).

6.2.3.6 *Luahine Rain*

This is a rain associated with Mānoa, O'ahu and is also the name of a hill in Mānoa. Luahine translates to "old woman."

Rain of Mānoa, O'ahu

When the girl was finally dead, her mother melted into the rain called Luahineomānoa.

From the story of Kahalaopuna by Mary Kawena Pukui (Akana and Gonzalez, 2015:166-167).

6.2.3.7 *Makahuna Rain*

Makahuna is a rain associated with O‘ahu, primarily in Pālolo and Waikīkī.

Rain of Pālolo, O‘ahu

‘O ‘oe ia, e Pāhoa	<i>It is you, O Pāhoa</i>
Wahine noho ua Makahuna o Pālolo	<i>Woman who dwells in the Makahuna rain of Pālolo</i>
Ho‘olono mai ana ‘o ka leo	<i>Listening to the voice</i>
Leo ualo a kama hele	<i>The beckoning call of the traveler</i>

From a mele by Hi‘iakaikapoliopole calling out to the mo‘o woman Pāhoa (Akana and Gonzalez, 2015:169).

Rain of Waikīkī, O‘ahu

Ku‘u kāne i ka makani Hauālia	<i>My husband of the Hauālia wind</i>
‘O ka Makahuna i Hāwāwā ē	<i>The Makahuna rain at Hāwāwā</i>
Wā ihola, ke wā wale maila nō	<i>Boisterous, making an uproar</i>
Ka ua hilahila moa awakea	<i>The shy rain that settles down at midday</i>

From a mele by Hi‘iakaikapoliopole on hearing the clamor of people in the house she has just left in Waikīkī (Akana and Gonzalez, 2015:170).

6.2.3.8 Nāulu Rain

Nāulu is a sudden shower and is associated with Kawaihae, Hawai‘i, Ni‘ihau, and is found in other areas. Nāulu is also the name of a shower cloud and a wind.

Rain of Mānoa, O‘ahu

Nu‘uanu ē, Nu‘uanu ho‘i	<i>Nu‘uanu, Nu‘uanu indeed</i>
Anu hewa i ka uka a‘o Mānoa	<i>Menacingly cold in the uplands of Mānoa</i>
Ua anu ē, ua anu ho‘i	<i>So cold, so very cold</i>
Pulu ‘elo i ka wai a ka Nāulu	<i>Soaked by the waters of the Nāulu</i>

From the song “Leahi i Daimana Hila” for Lili‘uoklani by Ani Peahi (Akana and Gonzalez, 2015:196).

6.2.3.9 Puanaea/Puanaiea/Puananaiea/Puaneiea Rain

This rain is associated with Pālolo, O‘ahu, but is also found at Waipuhia, O‘ahu. Puanaiea means “feeble, sickly.”

Rain of Pālolo, O‘ahu

E kiu, e holo, e ho'i ka u'i o Mānoa, ua hāli'i ka ua Līlīlehua i nā kahawai, ke ōpū maila ka ua Kuahine i ka pua o ka 'ōhi'a – he lua'ā i lua Kaho'iwai na Kanaloaho'okau. Ho'owaha kamali'i o Pālolo, ua pulu 'elo i ka ua Puanaiea, he mau wāhine noho i ka lā 'o Ku'ialauahi me Huewa.

Look ahead, get going, return home, young beauty of Mānoa. The Līlīlehua rain has spread over the valleys; the Kuahine rain is opening the flowers of the 'ōhi'a trees. Kaho'iwai is a splendid repose for Kanaloaho'okau. The children of Pālolo talk excessively and are drenched by the Puanaiea rains. Ku'ialauahi and Huewa are women who dwell in the sun.

From an article by Kamakau about his publication of “Ka moolelo o Kamehameha I,” the story of Kamehameha I (Akana and Gonzalez, 2015:129).

6.2.3.10 Uhiwai Mist

Uhiwai is a heavy fog or mist heavier than the noe, 'ohu, 'ehu, and 'ehuehu. This mist is associated with Mānā, Hawai'i and Mānoa, O'ahu, but is also found in other areas. Uhi wai translated so “water covering.” Uhiwai is both the name of a specific rain and a generally descriptive term; its various usages are determined by the context.

Mist of Mānoa, O'ahu

Pa'a mai Mānoa i ka uhiwai	<i>Mānoa is steadfast in the uhiwai</i>
Ha'aeo i ka uka lā o Kupanihi	<i>Revered for the uplands of the Kupanihi</i>

From the song “Hawaii i ka ehuehu” by Home Kauwila (Akana and Gonzalez, 2015:255).

6.2.3.11 Wa'ahila Rain

The Wa'ahila rain is associated with Nu'uanu, O'ahu and is also found on other parts of O'ahu. Wa'ahila is also the name of a wind and ridge between Mānoa and Pālolo.

Rain of Mānoa, O'ahu

Pu'ipu'i ka ua Wa'ahila o Mānoa. *Stocky the Wa'ahila rain of Mānoa.*

From a song (Akana and Gonzalez, 2015:274).

Auē ku'u hānai	<i>Oh, my beloved hānai</i>
Ku'u kaikūnane ho'i	<i>My dear brother indeed</i>
Mai ka ua Wa'ahila o Mānoa	<i>From the Wa'ahila rain of Mānoa</i>
Ke hāli'i maila lā i ke pili	<i>Covering the pili grass</i>

From a kanikau (lament) for Kamehameha IV by one of his sisters (Akana and Gonzalez, 2015:275).

Rain of Wa'ahila Ridge, O'ahu

E Ka Nupepa Kuokoa, Honolulu, O'ahu – Ia'u ma Honolulu, ua lohe ihola au i kekahi mo'olelo kupua maika'i e pili ana iā Kaumana, he kupua kēia i lilo i pōhaku, ma ke kualapa ma waena o Pālolo a me Mānoa.

Ua kākau 'ia ka mo'olelo a'u ma ka 'ōlelo 'Enelani, akā he mea pono nō e pa'a ma ka 'ōlelo Hawai'i.

'O ko'u hoa aloha 'o Mr. Stokes kai hele aku e 'ike iā Mr. Solomon Kauai, ka mea nāna i hō'ike mai i kēia mo'olelo, aia kona wahi noho ma ka 'ao'ao ma uka o ke alanui Wai'alae, ma ka hui 'ana o ke alanui 'o Kapahulu, e holo lā i Waikīkī mai kekahi wahi mai, e pili kokoke lā me ka pau 'ana o ke kualapa Kaumana...

Inā paha no ka hiki iā 'oe ke huli aku i ka mo'olelo 'oia'i'o, e lilo ana ia i mea ho'ohau'oli mai i ko'u mana'o, a ke ho'opuka aku 'oe ma loko o ka nūpepa, a laila e ho'ouna mai i kiope na'u. Penei iho ka mo'olelo e like me ia i loa'a mai ai ia'u...

Ua 'oi aku ke aloha o Kaumana i kāna keiki muli loa ma mua o nā mea 'ē a'e a pau, no laila, ho'omaka akula 'o ia e 'au no kēlā kapa o ka loko no ka ho'ākāka 'ana aku i kāna wahine i ka mea āna i hana ai, me ke kūmākena 'ana no kāna keiki.

Ma ka pō 'ana iho, ua pā maila kekahi makani ikaika, kai ko'o maila nō ho'i ka moana, a i ke ao 'ana a'e ma kekahi lā mai, aia ho'i, 'a'ole ka loko ma kona wahi i waiho ai, akā he one ke waiho mai ana, a lilo i alanui maika'i e hele ai.

'A'ole na'e kēia i lilo i mea e ho'ohau'oli 'ia aku ai ko Kaumana mana'o, akā ua 'oi loa a'e kona minamina no kāna keiki, no laila ho'omaka akula 'o ia e pepehi i kona po'e kānaka i hele mai ai mai Lāhaina mai, me ka pepehi pū 'ana i kāna wahine, a me kona mau mākua, a koe kāna mau kauā 'elima, no lā'ou kēia mau inoa: Kauawa'ahila, Kauapalihala, Kauamakaiwi, Kauakuahine, a me Kaulilīlehua, a lawe pū akula iā lākou e noho me ia ma ke kualapa ma waena o Pālolo a me Mānoa.

'O Kākuhihewa ke ali'i o O'ahu nei i ia manawa, e noho ana 'o ia ma Ulukou, ma kahi e kū nei ka Hōkele Moana, a ma uka mai kāna loko i'a, ma kahi o ka loko e 'ike 'ia nei i kēia manawa, he wahi hānai no nā manu kakā. Hā'ule maila he kuāua ko'iko'i a hiki i ka nāhāhā 'ana o kapa o ka loko i'a i ka wai, i ia wā i kama'ilio aku ai nā kāula a me nā kāhuna i ke ali'i, no Kaumana a me kāna po'e kauā, 'o lākou kēlā mau ua ma mua a'e nei.

Ua 'imi koke nā kāhuna i wahi e palekana ai ka loko i'a a ke ali'i, no laila lawe akula lākou he pua'a hiwa, a waiho akula i mua o Kaumana, me ka noke 'ana i ka pule, a, maopopo iā

Kaumana ua kokoke mai kona hopena, ‘o kona lilo a‘ela nō ia i pōhaku, a ma ka ‘ōlelo ‘ia, ke waiho nei ia pōhaku a hiki i kēia lā.

‘O Palihala, ‘o ia kahi ki‘eki‘e ma ka ‘ao‘ao ma kai, mai ke awāwa mai ‘o Awāwaloa; Palikuahine, ‘o ia kēlā wahi e ki‘ei ihola iā Waiakeakua ma Mānoa; Palilililehua, aia ma kekahi ‘ao‘ao, e huli lā i Pālolo; ‘o Makaiwi, ‘o ka ‘āina ia mai Palihala aku a i kahi i waiho ai ‘o Kaumana. Ua hō‘ike ‘ia mai ia‘u, aia ma ka mana ‘ana o ke Alanui ‘Elima e kokoke lā i ka uapo.

Ma ka ho‘ākāka a Mr. Emekona, ma ka mo‘olelo o Pele a me Hi‘iaka, ‘o ka ua Wa‘ahila, he ua kilihune ia mai [Nu‘uanu] mai, a hiki i kahi o Kauka, ma ke alanui Wyle. ‘O ka ua Lililehua, he ua ia mai Ka‘auhelemoa mai a hiki i Makaiwi. ‘O ka ua Kuahine, ‘o ka ua ia mai Kailua a hiki i ‘Ualaka‘a.

Dear Ka Nupepa Kuokoa, Honolulu, O‘ahu – While I was at Honolulu, I heard a good kupua (supernatural being) story about Kaumana, a kupua who turned to stone along the ridge between Pālolo and Mānoa.

DRAFT

I wrote down the story in English, but it should be recorded in Hawaiian.

My friend Mr. Stokes is the one who went to see Mr. Solomon Kauai, the person who shared this story. He lives on the upland side of the Wai‘alae road where it meets with Kapahulu, which heads toward Waikīkī from a certain place very close to the end of the ridge of Kaumana...

If you could search for the actual legend, it would greatly please me, and should you print it in your newspaper, then send me a copy. Here is the story as I received it...

Kaumana’s love for his youngest son surpasses his love for all others, so he began to swim to the other end of the pond to explain to his wife what he had done, and to lament his son.

That night a strong wind blew, and the ocean was rough. The next day, lo and behold, the pond was no longer where it used to be, but instead there was sand, which made a good road to travel.

However, this did not please Kaumana. It made him more regretful over his son, so he began to kill everyone who came with him from Lāhainā, including his wife and parents; all except his five servants, whose names were Kauawa‘ahila, Kauapalihala, Kauamakaiwi, Kauakuahine, and Kaulililehua. He took them with him to live on the ridge between Pālolo and Mānoa.

Kākuhihewa was the ruler of O‘ahu at this time. He was residing at Ulukou, where the Moana Hotel now stands, and his fishpond was inland of that, where we now see the duck-feeding pond. A heavy kuāua shower fell until the water broke the walls of the fishpond. And so the prophets and experts spoke with the ali‘i about Kaumana and his servants, the rains mentioned earlier.

The experts quickly searched for a way to save the ali'i's fishpond, so they brought a black pig and placed it before Kaumana, continuing to pray. Kaumana knew his end was near, so he turned into stone, and it is said that this stone is still there to his day.

Palihala is the high point on the seaward side of the valley of Awāwaloa. Palikuahine is the area overlooking Waiakeakua in Mānoa. Palilīlehua is on the other side facing Pālolo. Makaiwi is the land between Palihala and Kaumana. It was shown to me, where Fifth Avenue splits, close to the bridge.

In the description by Mr. Emerson in the legend of Pele and Hi'iaka, the ua Wa'ahila is a gentle rain from Nu'uaniu to the area of Kauka (Judd) on Wyllie Street. The ua Līlīlehua is a rain from Ka'auhelema to Makaiwi. The ua Kuahine is the rain from Kailua to 'Ualaka'a.

From the legend of Kaumana (Akana and Gonzalez, 2015:277-279).

"Palikuahine" may be the same as "Paliluahine," a place described as "the foothills at the eastern corner of Mānoa Valley" and as the "small green hill" in Mānoa known for a mo'o named Luahine and her two sons, Kūmauna and Palihala, all of whom are stones (Sterling and Summers, 1978:290). Several old maps indicate that Paliluahine is in the area known as Kahaloa, below Kūmauna. "Kaumana," from the rendering above, may be the same as "Kūmauna," which is situated above the Luahine stone (Sterling and Summers, 1978:290) and above the Wa'ahila and Kalaepōhaku Ridges, between Mānoa and Pālolo Valleys (Akana and Gonzalez, 2015:279-280).

Rain of Waikīkī, Oahu

Ku'u kāne i ka ua noe	<i>My husband of the misty rains</i>
Noe hāli'i a ka Wa'ahila	<i>Blanketing fall of the Wa'ahila showers</i>
Ho'ohila ka mana'o, wehi i ka lau	<i>Abashed, yet adorned by the outpour</i>
Lau a ke aloha e pi'i ana i ka liko	<i>An outpouring of love, rising to brightness</i>
Wā ihola, ke wā wale maila nō	<i>Boisterous, an uproar</i>

From a mele by Hi'iakaikapoliopole as she was leaving a house with noisy people playing the game of kilu in Waikīkī (Akana and Gonzalez, 2015:280).

6.2.4 Wind Names

Winds, like rains, can be unique and distinctive to an individual location. The most famed of Hawaiian mo'olelo about winds is "Moolelo Hawaii o Pakaa a me Ku-a-Pakaa, na Kahu Iwikuamoo o Keawenuiaumi, ke Alii o Hawaii, a o na Moopuna hoi a Laamaomao" or "The Hawaiian Story of Paka'a and Kuapaka'a, the Personal Attendants of Keawenuia'umi, the Chief of Hawai'i, and the Descendants of La'amaomao." This mo'olelo was translated into the

English book *The Wind Gourd of La'amaomao* by Moses Kuaea Nakuina and published in 1901 and has been reprinted many times for the last one hundred years. This effort has assisted in keeping this important mo'olelo within the discourse on Hawaiian history and natural resource management. Many have written about the gourd's mythical properties, as it is said to contain all the winds of Hawai'i. More than myth, the gourd itself exists in physical form and was last owned by King David Kalākaua. Today, it is held in the collection of the Bishop Museum (**Figure 12**).

According to this mo'olelo, the descendants of La'amaomao, the wind god, used his wind gourd, Ka Ipu Makani o La'amaomao, to control the winds and cause the demise of their enemies. Pāka'a and his son Kūapāka'a, La'amaomao's descendants, control the winds by chanting the wind name, which recalls that particular wind from the gourd. Each wind name is associated with a specific ahupua'a or place. Pāka'a passed on his knowledge of the wind names and the gourd to Kūapāka'a, who called on all of the winds to destroy the canoe fleet of Pāka'a's enemies in the Kaiwi Channel separating O'ahu and Moloka'i.

The following is an excerpt from the chant naming the winds of O'ahu, focusing particularly on the wind names of Kona:

...Helu aku la o Ku-a-Pakaa i na
makani o Oahu, penei:

...He Puuokona ko Kuli'ou'ou
He Ma-ua ko Niu
He Holouhā ko Kekaha
He Maunuunu ko Wai'alae
He Olauniu ko Kahaloa,
He Waiomao ko Palolo,
He Kuehulepo ko Kahu'a,

He Kukalahale ko Honolulu,
He Ao-a-oa ko Mamala,
He Olauniu ko Kapalama,
He Haupeepee ko Kalihi,
He Komomona ko Kahauiki
He Ho-e-o ko Moanalua...

...Kū-a-Pāka'a called upon/named the
winds of O'ahu, thus:

...Puuokona is at Kuli'ou'ou,
Ma-ua is the wind at Niu,
Holouhā is at Kekaha,
Māunuunu is at Wai'alae,
The 'Ōlauniu is at Kahaloa,
The Wai'ōma'o is at Pālolo,
The Kū'ehulepo is at Kahu'a
[Kulokahu'a],
The Kūkalahale is at Honolulu,
The Ao-a-oa is at Māmala,
He 'Ōlauniu is at Kapālama,
The Haupe'epe'e is at Kalihi,
Komomonoa is at Kahauiki,
The Ho-e-o is at Moanalua...

According to this account, the large ahupua'a of Waikīkī contains the winds Puuokona, Ma-ua, Māunuunu, 'Ōlauniu, and Wai'ōma'o. Māunuunu is a strong, blustering wind typically

associated with Wai‘alae and Pu‘uloa. The ‘Ōlauniu wind is found in Kahaloa, which is located between the Royal Hawaiian and Halekūlani Hotels of Waikīkī.



Figure 12. Ka Ipu Makani o La'amaomao is a historic calabash in the collection at Bishop Museum that was once owned by King David Kalākaua

6.3 Intangible Cultural Resources

It is important to note that Honua Consulting's unique methodology divides cultural resources into two categories: biocultural resources and built environment resources. We define biocultural resources as elements that exist naturally in Hawai'i without human contact. These resources and their significance can be shown, proven, and observed through oral histories and literature. We define built environment resources as elements that exist through human interaction with biocultural resources whose existence and history can be defined, examined, and proven through anthropological and archaeological observation. Utilizing this methodology is critical in the preparation of a CIA as many resources, such as

those related to akua, do not necessarily result in material evidence, but nonetheless are significant to members of the Native Hawaiian community.

Hawaiian culture views natural and cultural resources as being one and the same: without the resources provided by nature, cultural resources could and would not be procured. From a Hawaiian perspective, all natural and cultural resources are interrelated, and all natural and cultural resources are culturally significant. Kepā Maly, ethnographer and Hawaiian language scholar, points out, “In any culturally sensitive discussion on land use in Hawaii, one must understand that Hawaiian culture evolved in close partnership with its natural environment. Thus, Hawaiian culture does not have a clear dividing line of where culture ends and nature begins” (Maly, 2001:1).

6.3.1 ‘Ōlelo No‘eau

‘Ōlelo no‘eau are another source of cultural information about the area. ‘Ōlelo no‘eau literally means “wise saying,” and they encompass a wide variety of literary techniques and multiple layers of meaning common in the Hawaiian language. Considered to be the highest form of cultural expression in old Hawai‘i, ‘ōlelo no‘eau bring us closer to understanding the everyday thoughts, customs, and lives of those that created them.

The ‘ōlelo no‘eau presented here are associated with land divisions near the project area that may give insight to knowledge about Waikīkī, including the ‘ili of Kālia where the project area is located. These ‘ōlelo no‘eau are found in Pukui’s *‘Ōlelo No‘eau: Hawaiian Proverbs & Poetical Sayings* (1983). The number preceding each saying is provided.

- 27 Aia aku la paha i Waikīkī i ka ‘imi ‘ahu‘awa.
 Perhaps gone to Waikīkī to seek the ‘ahu‘awa sedge.
 Gone where disappointment is met. A play on *ahu* (heap) and *‘awa* (sour).
- 110 Alia e ‘oki ka ‘āina o Kahewahewa, he ua.
 Wait to cut the land of Kahewahewa, for it is raining.
 Let us not rush. Said by Kaweloleimakua as he wrestled with an opponent at Waikīkī.
- 269 E ‘Ewa e – e ku‘i na lima!
 O ‘Ewa – join hands!
 This cry was a call of the men of Kona, O‘ahu, when they went with their chief to destroy his brother, the ‘Ewa chief.
- 285 E ho‘i ka u‘i o Mānoa, ua ahiahi.
 Let the youth of Mānoa go home, for it is evening.
 Refers to the youth of Mānoa who used to ride the surf at Kalehuawehe in Waikīkī.
 The surfboards were shared among several people who would take turns using them.

Those who finished first often suggested going home early, even though it might not be evening, to avoid carrying the boards to the *hālau* where they were stored. Later the expression was used for anyone who went off to avoid work.

- 363 E nui ke aho, e ku'u keiki, a moe i ke kai, no ke kai la ho'i ka 'āina.
Take a deep breath, my son, and lay yourself in the sea, for then the land shall belong to the sea.

Uttered by the priest Ka'opulupulu at Wai'anae. Weary with the cruelty and injustice of Kahāhana, chief of O'ahu, Ka'opulupulu walked with his son to Wai'anae, where he told his son to throw himself into the sea. The boy obeyed, and there died. Ka'opulupulu was later slain and taken to Waikīkī where he was laid on the sacrificial altar at Helumoa.

- 1032 Ho'i i Kālia i ka 'ai 'alamihi.
Gone to Kālia to eat 'alamihi crabs.
He is in a repentant mood. A play on '*ala-mihi* (path-of-repentance). Kālia, O'ahu, is a place where '*alamihi* crabs were once plentiful.

- 1378 Ka i'a pīkoi kānaka o Kālia; he kānaka ka pīkoi, he kānaka ka pōhaku.
The fish caught by the men of Kālia; men are the floaters, men are the sinkers.
In ancient days, when a school of mullet appeared at Kālia, O'ahu, a bag net was set and the men swam out in a row and surrounded the fish. Then the men would slap the water together and kick their feet, driving the frightened fish into the opening of their bag net. Thus the fishermen of Kālia became known as human fishnets.

- 1463 Ka makani kā'ili aloha o Kīpahulu.
The love-snatching wind of Kīpahulu.
A woman of Kīpahulu, Maui, listened to the entreaties of a man from O'ahu and left her husband and children to go with him to his home island. Her husband missed her very much and grieved. He mentioned his grief to a *kahuna* skilled in *hana aloha* sorcery, who told the man to find a container with a lid. The man was told to talk into it, telling of his love for his wife. Then the *kahuna* uttered an incantation into the container, closed it, and hurled it into the sea. The wife was fishing one morning at Kālia, O'ahu, when she saw a container floating in on a wave. She picked it up and opened it, whereupon a great longing possessed her to go home. She walked until she found a canoe to take her to Maui.

- 1493 Ka nalu ha'i o Kalehuawehe.
The rolling surf of Kalehuawehe.

Ka-lehua-wehe (Take-off-the-*lehua*) was Waikīkī's most famous surf. It was so named when a legendary hero took off his *lei* of *lehua* blossoms and gave it to the wife of the ruling chief, with whom he was surfing.

1734 Ke kai wawalo leo le'a o Kālia.

The pleasing, echoing sea of Kālia.

Refers to the sea of Kālia, Honolulu, now known as Ala Moana.

1772 Ke one 'ai ali'i o Kakuhihewa.

The chief-destroying sands of Kakuhihewa.

The island of O'ahu. When the priest Ka'opulupulu was put to death by the chief Kahāhana for warning him against cruelty to his subjects, he uttered a prophecy. He predicted that where his own corpse would lie in a *heiau* at Waikīkī, there would lie the chief's corpse as well. Furthermore, he said, the land would someday go to the sea – that is, to a people from across the sea. This was felt to be a curse. When Kamehameha III was persuaded by a missionary friend to move the capital from Lahaina to O'ahu, a *kahuna*, remembering the curse, warned him not to, lest the monarchy perish. The warning was ignored, and before the century had passed, the Kingdom of Hawai'i was no more.

1776 Ke one kuilima laula o 'Ewa.

The sand on which there was a linking of arms on the breadth of 'Ewa.

'Ewa, O'ahu. The chiefs of Waikīkī and Waikele were brothers. The former wished to destroy the latter and laid his plot. He went fishing and caught a large *niuhi*, whose sken he stretched over a framework. Then he sent a messenger to ask his brother if he would keep a fish for him. Having gained his consent, the chief left Waikīkī, hidden with his best warriors in the "fish." Other warriors joined them along the way until there was a large army. They surrounded the residence of the chief of Waikele and linked arms to form a wall, while the Waikīkī warriors poured out of the "fish" and destroyed those of Waikele.

1845 Kona, mai ka pu'u o Kapūkakī a ka pu'u o Kawaihoa.

Kona, from Kapūkakī to Kawaihoa.

The extent of the Kona district on O'ahu is from Kapūkakī (now Red Hill) to Kawaihoa (now Koko Head).

6.3.2 Mele

Honua Consulting completed searches of mele written about Waikīkī ahupua'a. Maui historian Inez Ashdown wrote in 1976 about the importance of mele:

The natives of Hawai‘i Ne‘i saw the Creator in everything and the Haku Mele or Music Masters delighted in presenting the chants and songs, mele and oli, to inspire the people. Such mele tell of God’s assistant spirits which, to the imaginative natives, represented the winds, rains, and so on. Each spirit of creation was depicted as male or female and was given a personality and a name indicative of purpose. Hence the name of the volcanic action creating and cleansing the earth. She is beautiful, alluring, desirable. She also is unpredictable because she is temperamental and usually full of fiery emotions. She is an old woman asking help when she lies to test mortals, and woe betide anyone who is rude or inconsiderate of this form of an older person to whom respect and Aloha must be given (Ashdown, 1976:3).

The index of mele about Waikīkī is extremely vast and extensive, as Waikīkī is one of the many popular “place” songs. Through the search of the catalog of Hawaiian mele, the following were selected for inclusion in this CIA to provide further insight to the importance of this ahupua‘a and excludes the “pseudo-Hawaiian” songs of American composers such as “Down in Waikīkī.”

6.3.2.1 At Waikīkī

This mele was composed by John Noble (music) and Sol Bright (lyrics) at the instruction of Lena Machado, a popular Hawaiian singer known as “Hawaii’s Songbird.” Lena Machado became friends with a frequent tourist, who on her death bed, requested that Lena compose and sing a song for her as a reminder of the happy times she spent in Hawai‘i. Lena was not able to compose the song because she was overcome with emotion, so Sol Bright composed the lyrics to honor their friendship (Huapala, 2019a).

At Waikīkī

Rolling waves on a stary night
 Speak to me of love that’s true
 Flowers of ev’ry hue
 I’ve found someone that’s new
 Love enchants me ‘cause it’s you

In a rendezvous of dreams and tropic love
 With the sweet melody haunting me
 There I met a polynesian hula maid
 At Waikīkī

‘Neath the swaying coco palms I’ve learned to say
 Honia kāua ē wiki ē

And she taught me how to do the hula, too
At Waikīkī

Chorus:
The ancient rhythm of the native guitars
Brought me into dreams of love
The pale Hawaiian moon and tropical stars
Emanating from above

In this rendezvous of dreams and tropic love
We were held in a spell of romance
And this dusky maiden stole my heart away
At Waikīkī

6.3.2.2 *Makee ‘Ailana*

The following mele by James K. I‘i is a traditional song that is still very popular among Native Hawaiians, and tells of an island that was located off of Waikīkī prior to its urbanization (Huapala, 2019b). The island was located west of the current Honolulu Zoo, in the area now occupied by the zoo’s parking lot. “Makee” was named for Captain James Makee (1812-1879). Sources described the island as being off shore from the original location of Kapi‘olani Park, where the fresh water stream (like ‘Āpuakēhau Stream) flowed into the Pacific Ocean. Sources also describe a bridge that went across this stream and beautiful lilies that floated in the water.

Mele like “Makee ‘Ailana” are highly valuable in helping to reconstruct an understanding of Waikīkī’s landscape and resources prior to modernization. While many of the natural heritage features of this area have been lost over time, mele, hula and other traditional practices help to keep the relationships between Native Hawaiians and their wahi pana alive. It has been recorded on at least seven different occasions and is commonly performed by Hawaiian musicians and hālau hula.

Makee ‘Ailana

Makee ‘ailana ke aloha lā	I love Makee island
‘Āina i ka ‘ehu‘ehu o ke kai	Land freshened by the sea spray
‘Elua ‘ekolu nō mākou	There were two or three couples with us
I ka ‘ailana māhiehie	On this charming island
Ka leo o ka wai ka‘u aloha	I love the sound of the water
I ka ‘ī mai he anu kāua	When it speaks, we two are chilled

Inā 'o iū me mī nei
Noho 'oe i ka noho paipai

I wish you were here with me
Sitting in the rocking chair

Ha'ina 'ia mai ana ka puana
Makee 'Ailana hu'e ka mana'o

The story is told of
Makee 'Ailana, with its fond memories

6.3.2.3 O'ahu

The following is a traditional mele that specifically names Mānoa, Waikīkī, Nu'uanu, and Makiki to extol the beauty and love experienced on O'ahu (Huapala, 2019c).

O'ahu

Mānoa he u'i nō i ka'u 'ike
I ka pi'o mai a ke ānuenue

Mānoa is indeed a beauty for my sight
At the arching of the rainbow

Waikīkī i ke kai mālamalama
He wai ho'oheno a ka pu'uwai

DR. Waikīkī in the glimmering sea
Cherished waters of my heart

Nu'uanu i ka makani lawe mālīe
I ke 'ala o nēia pua o ka 'awapuhi

Nu'uanu in the caressing wind
In the fragrance of this blossom of ginger

Makiki ka home o nā manu
He u'i ke ea mai i ka lani

Makiki, the home of the birds
A beauty, a breath in the heavens, when they
soar into the sky

Ha'ina 'ia mai ana ka puana
O'ahu ka 'āina o ke aloha

Tell the refrain
O'ahu, the land of love

6.3.2.4 Waikīkī

The following mele was composed by one of Hawai'i's most respected composer-musicians, Andy Cummings. Cummings composed the song while in Lansing, Michigan on a tour with The Paradise Islands Revue because he was homesick and longed for Waikīkī and its "rolling surf, warm sunshine, [and] palm trees" (Kanahele, 1979:409).

Waikīkī

There's a feeling deep in my heart
Stabbing at me just like a dart
It's a feeling heavenly

I see memories out of the past
Memories that always will last
Of the days that used to be
*(Of a place beside the sea)

Waikīkī
At night when the shadows are falling
I hear the rolling surf calling
Calling and calling to me

Waikīkī
Tis for you that my heart is yearning
My thoughts are always returning
Out there to you across the sea

Chorus: DRAFT
Your tropic nights and your wonderful charms
Are ever in my memory
And I recall when I held in my arms
An angel sweet and heavenly

Waikīkī
My whole life is empty without you
I miss that magic about you
Magic beside the sea
Magic of Waikīkī

*Alternate stanza

6.3.2.5 *Waikīkī Hula*

This traditional mele was composed for Pualeilani, the Waikīkī home of Prince Jonah Kūhiō Kalanianaʻole (Huapala, 2019d).

Waikīkī Hula

He aloha ʻia no aʻo Waikīkī, eā Ka nehe o ke kai hāwanawana	Beloved in Waikīkī The rustling of the whispering sea
Pa iho ka makani lawe mālie, eā Ke ʻala onaona o ka līpoa	The wind blows carrying softly The sweet fragrance of seaweed
Kaulana kou inoa i nā malihini, eā Kaʻapuni kou nani puni ka honua	Your name is famous to visitors, All your beauty known around the world
Hula aku nānā ia Kaimana Hila, eā ʻIke i ka nani aʻo Honolulu	Turn and look at Diamond Head See the beauty of Honolulu
Haʻina ʻia mai ana ka puana, eā He aloha ʻia no aʻo Waikīkī	The story is told Beloved is Waikīkī

6.4 Cultural Practices

6.4.1 Loko Iʻa (Fishponds) and Loko Paʻakai-Kula Ālialia (Salt Making Beds) on the Honolulu Region Shore Lands, Kalihi to Waikīkī Coast

Fishponds and salt making sites have always been highly valued features of the landscape. Writing about loko iʻa, Kamakau (1976) observed:

Fishponds, *loko iʻa*, were things that beautified the land, and a land with many fishponds was called a “fat” land (*ʻaina momona*). They date from very ancient times. Some freshwater ponds, *loko wai*, were made when the earth was made, but most of the *loko iʻa* and the shore ponds, *loko kuapa*, were made by *ka poʻe kahiko*.²⁵ The making of the walls (*kuapa*) of the shore ponds was heavy work, and required the labor of more than ten thousand men. Some of these fishponds covered an area of sixty or seventy acres, more or less. Walls had to be made on the seaward side sometimes in deep water and sometimes in shallow, and many stones were needed.

Many *loko kuapa* were made on Oahu, Molokai, and Kauai, and a few on Hawaii and Maui. This shows how numerous the population must have been in the old days, and how they must have kept the peace, for how could they have worked

together in unity and made these walls if they had been frequently at war and in opposition one against another? If they did not eat the fruit of their efforts how could they have let the *awa* fish grow to a fathom in length; the *'anae* to an *iwilei* (yard); the *ulua* to a meter or a *muku* (four and one half feet); the *aholehole* until its head was hard as coral (*ko'a ka lae*); and the *'o'opu* until their scales were like the *uhu*? Peace in the kingdom was the reason that the walls could be built, the fish could grow big, and there were enough people to do this heavy work... (Kamakau, 1976:47)

David Malo, earliest of the native Hawaiian historians, wrote about the *'āina pa'akai*, *'āliaia pa'akai*, *hāhā pa'akai*, *kāheka pa'akai*, *lo'i pa'akai*, *loko pa'akai* (salt making beds – ponds), and their role in the lives of Hawaiians:

Pa'akai – Salt Making

25. Salt was one of the necessities and was a condiment used with fish and meat, also as a relish with fresh food. Salt was manufactured only in certain places. The women brought sea water in calabashes or conducted it in ditches to natural holes, hollows, and shallow ponds (*kaheka*) on the sea coast, where it soon became strong brine from evaporation. Thence it was transferred to another hollow, or shallow vat, where crystallization into salt was completed (Malo, 1951:123).

Fishponds and salt making areas were once found all along the shores of Kona, O'ahu, but today, all are buried under roads, fill and buildings. At least 51 Māhele claims referencing fishponds and salt making areas in the Waikīkī region of the study area were located. A summary of all claims follows below in **Table 8** with details of features, place names and claimant names:

Table 8. Māhele Claims referencing Fishponds and Salt-Making Areas in the Waikīkī Region

Helu	Claimant, Location, and Resource Claimed
5 FL	Kapilimanu at Kalia, Waikīkī, Oahu. A <u>pond at Kalia</u> .
7 FL	Namaile at Kalia, Waikīkī, Oahu. A <u>pond at Kalia</u> .
8 FL	Kuaiwahia at Kalia, Waikīkī, Oahu. A <u>pond at Kalia</u> .
21 FL	Kahiwalani at Kalia, Waikīkī, Oahu. <u>Ten kio pua</u> (ponds for raising fish fry).
26 FL	Kalalawalu at Kaluahole, Waikīkī, Oahu. A fishery and the <i>aholehole</i> fish.

Helu	Claimant, Location, and Resource Claimed
30 FL	Maa at Kalia, Waikīkī, Oahu. <u>Two kio pua</u> (ponds for raising fish fry).
31 FL	Waihinano, Pawaa, Waikīkī, Oahu. “...a lele in Pawaa close to <u>Kahiualani which is a pond and is now used for raising Kahiwalani’s birds...</u> ”
32 FL	Kunewa at Kalia, Waikīkī, Oahu. In the ili of Haole <u>one kio pua</u> (ponds for raising fish fry); <u>two fish ponds; and two kio pua at Kalia.</u>
35 FL	Mahuka at Waikīkī, Oahu. <u>Thirty-nine puuone (dune banked ponds) at Kalia; and one pond at Kalokohonu, in Honolulu.</u>
75 FL	Waianuhea at Kalia, Waikīkī, Oahu. A <u>pond at Kalia.</u>
97 FL	Kapapa at Kalia, Waikīkī, Oahu. <u>Three kio pua</u> (a holding pond for raising fish fry).
98 FL	Kaehuokalani at Kalia, Waikīkī, Oahu. <u>Two ponds at Kalia.</u>
99 FL	Uma at Kalia, Waikīkī, Oahu. House lot bounded on side by a <u>fish pond.</u>
100 FL	Kekaula at Waikīkī, Oahu. <u>Five kio pua</u> (holding ponds for raising fish fry) <u>at Kalia.</u>
101 FL	Kaluaoku at Waikīkī, Oahu. <u>Two ponds and three small kio pua</u> (holding ponds for raising fish fry).
102 FL	Kaanaana at [location not given – Kalia, Waikīkī, Oahu]. <u>Seven kio pua</u> (holding ponds for raising fish fry).
104 FL	M. Kekuanaoa at Waikīkī, Oahu. <u>Five fish ponds at Kalia; muliwai (estuarine system) of Piinaio; and coconut grove of Makalii.</u>
195	Kamahiai at Honolulu, Oahu. Land at Kawaiahao, bounded on Waikīkī side by a <u>fish pond.</u>
272	Joseph Booth at Waikīkī, Oahu. <u>Three fish ponds.</u>
1268	Nakai at Waikīkī, Oahu. Land bounded on Ewa side by Kekuanaoa’s <u>fish pond.</u>
1275	Mookini at Paakea, Waikīkī, Oahu. A house lot bounded on the Ewa side by Kekuanaoa’s fish pond. Also, <u>seven kio pua</u> (pond for raising fish fry) at Kalia.

Helu	Claimant, Location, and Resource Claimed
1277	Samuela at Kapaakea, Waikīkī, Oahu. A lot bounded on Ewa side by <u>Kekuanaoa's fish pond (Paakea pond)</u> .
1281	Kuluwailehua at Waikīkī, Oahu. <u>The fishery in the ili of Kamoku</u> .
1377	Malo at Wehewehe, Waikīkī, Oahu. A house lot bounded on mauka side by <u>Kekuanaoa's fish pond</u> .
1411	Kuaana at Kamoku, Waikīkī, Oahu. <u>Six loko akaakai (bulrush ponds), five made with my hands, which are finished, and one yet incomplete</u> .
1440	Kekaha at Kaluakau, Waikīkī, Oahu. The <u>pond called Kanekualau</u> .
1441	Paikau at Waikīkī, Oahu. The <u>pond called Milohae</u> .
1512	Nalawewa at Waikīkī, Oahu. <u>A fish pond</u> .
1515	Kaihuolua at Waikīkī, Oahu. <u>A kai (ocean fishery) of Kukaha at Kalia</u> .
1630	Nuuanu at Waikīkī, Oahu. Kenao sworn: "...I have known about Kanewai since the time of Kamehameha I... His claim is a <u>loi named Hanai</u> ... We used to release fish in the pond, going to Maunalua for them. It was that way until 1832 when Kaahumanu I died, and I left the place..."
1758	Kalaeone at Kamoku, Waikīkī, Oahu. Fish ponds at three locations.
1765	Kahikaele at Niukukahi, Waikīkī, Oahu. A house lot bounded on makai side by <u>Kekuanaoa's fish pond</u> .
1776	Pehu at Palolo, Waikīkī, Oahu. <u>An ocean fishery</u> .
1780	Lahilahi at Kuilei, Waikīkī, Oahu. Seven Loko (ponds).
2033	Umi at Waikīkī, Oahu. <u>A kio pua (pond for raising fish fry)</u> .
2077	Kanakaole at Waikīkī, Oahu. <u>Two kio pua (ponds for raising fish fry) at Kalia</u> .
2079	Kauhola (wahine) at Waikīkī, Oahu. <u>A kio pua (pond for raising fish fry)</u> .
2081	Kaoneanea at Waikīkī, Oahu. A house lot and <u>fish pond in the ili of Kamookahi</u> .

Helu	Claimant, Location, and Resource Claimed
2206	Lehuanui at Kukuluaeo, Waikīkī, Oahu. <u>One aina paakai (salt bed) and one loko (fish pond).</u>
3005	Naluai at Kalia, Waikīkī, Oahu. The <u>pond named Kamaikeao.</u>
3721B	Makuaole at Waikīkī, Oahu Four <u>puuone (dune-banked ponds) at Keauhou.</u>
4261B	Kuheleloa at Pawaa, Waikīkī, Oahu. Lot bounded on side by the <u>pond of Opu.</u>
4279B	Ia at Pawaa, Waikīkī, Oahu. Lot bounded on side by <u>pond of Opu.</u>
4282B	Nahuukai at Waikīkī, Oahu. <u>Two ponds.</u>
4286B	Haumea at Waikīkī, Oahu. <u>Five puuone (dune-banked ponds) at Kauhau; and two puuone called Kulekoloa.</u>
8506	Sea & Sumners at Waikīkī, Oahu. An ocean fishing ground at Ele or Diamond Point, called <u>Kuilei.</u>
8517	M. Kekuanaoa at Waikīkī, Oahu. <u>Loi kalo and fish ponds.</u>
8559	C. Kanaina at Kapahulu, Waikīkī, Oahu. <u>The fish pond of Koaka.</u>
9532	Kapapa at Kalia, Waikīkī, Oahu (see 97 FL). <u>Ten kio pua (ponds for raising fry fish).</u>
9534	Kaehuokalani at Puunui, Waikīkī, Oahu (see 41 FL). <u>Two ponds.</u>
9535	Paoa at Waikīkī, Oahu. <u>Three ponds.</u>

6.4.2 Wayfaring – Hawaiian Star Names and Navigation

Hawaiians are deeply connected to their surrounding ocean environment. Navigation was a mastered traditional science that allowed for the settlement of the Hawaiian Islands by Polynesians and allowed Hawaiians to move frequently among the Hawaiian Island chain (Johnson et al., 2015).

The following is an excerpt written by J. Waiamau in the Hawaiian language newspaper *Ka Nupepa Kuokoa* and published on September 16, 1865. In this article, Waiamau discussed the religious rites required before setting sail on long journeys and the different star and wave names that must be known and understood by Native Hawaiian navigators (Waiamau, 1865).

Ka Ho‘omana Kahiko
Helu 20

Ancient Religion
No. 20

Nā ‘oihana ho‘omana a me ke kilokilo ‘ana i ka ho‘omākaukau ‘ana e holo lō‘ihi mai ka moana elike me ka holo ‘ana mai Hawai‘i a ‘o O‘ahu a Kaua‘i paha.

Religion rites and incantation in preparing for a length of sailing at sea as from Hawai‘i and O‘ahu to perhaps Kaua‘i.

He nui wale ke ano o nā ‘oihana hoomana a me ke kilokilo ‘ana a kō Hawaii nei po‘e ho‘oholo waa i ka wā kahiko; he oko‘a no ka kekahi po‘e, a he oko‘a no ho‘i ka nā [a]li‘i; a he oko‘a no ho‘i ka nā maka‘āinana; e like me ka nui lehulehu wale o nā makua o lākau, pēlā no hoi nā ‘oihana ho‘omana e pili ana ilaila.

There were many forms of religious rites and incantations [practices] by Hawai‘i’s seafarers in ancient times. Some belonged to independent people; some belonged wholly to commoners, like the great many of their gods. [It] was that way with the religious rites concerned there.

DRAFT

Akā ho‘i, ‘a‘ole au i kauoha‘ia mai e wehewehe pakahi aku i nā ‘oihana ho‘omana a me ke kilokilo ‘ana o kēlā holo wa‘a kēia holo wa‘a. Me he mea ‘la o ke ano nui o nā ‘oihana ho‘omana, a me ke kilokilo ‘ana o ka po‘e holo wa‘a o Hawai‘i nei, kai koi mai ho‘i ia‘u e hō‘ike aku; A eia iho no ia. “Nā ‘oihana ho‘omana a me ke kilokilo ‘ana i ka ho‘omākaukau ‘ana e holo lō‘ihi ma ka moana, e like me ka holo ‘ana mai Hawai‘i a o O‘ahu a Kaua‘i paha.”

On the other hand, I have not been entrusted to explain every religious rite and incantation of each canoe run. It is as though the great importance of the religious rites and incantations of Hawai‘i’s seafarers was to implore me to explain [them]; Here, below, then, is “The Religious rites and incantations in preparing for a length of sailing at sea from Hawai‘i and O‘ahu to perhaps Kaua‘i.”

Penei ka hana: i ka ho‘omākaukau ‘ana e holo lō‘ihi ma ka moana, i O‘ahu, a i Kaua‘i paha; aia ma ke ahiahi ka hāpai ‘ana i kēia hana. Penai ka hana ‘ana, e mama ka ‘awa, kalua ka pua‘a, a wali ka ‘awa, mo‘a no ho‘i ka pua‘a, a pau i ka ‘oki‘okina a waiho ma nā pā la‘a i ho‘ohinuhinu‘ia a kū no ho‘inā ‘apu ‘awa.

The activity was like this: In preparing for a lengthy sail at sea from, perhaps O‘ahu to Kaua‘i, this activity was encouraged in the evening. This was the activity of chewing the ‘awa [*Piper methysticum*]; [preparing] the pig for an underground oven; mixing the ‘awa; baking the pig; and when the cutting into pieces was complete, [it] was left on wooden dishes to show off until [it] was ready to be drunk with ‘awa.

A mākaukau kēia mau mea, alaila, o ka pule no 'ia o ke kahuna i ke akua o ka po'e holo wa'a, a pau ka pule'ana, 'ai no ho'i a pau ka 'ai 'ana, nana aku ke kahuna i ke aouli, inā i kū ke anuenue a i pi'o mamua o ka wa'a, a o ka pūnohu paha, alaila, 'ī aku ke kahuna, 'a'ole e pono ke holo o make auane'i ma ka moana; a inā ho'i i nana aku 'oiai ka 'opua, 'a'ole he kū maika'i mai, ua lele 'ino ke ao, ua lele 'ino ke ao, ua moku moku li'ili'i nā opu ai ka lewa; 'ōlelo hou no ke kahuna 'a'ole e holo o make no.

Akā ho'i, inā e nānā ke kahuna a i kū ka pūnohu mahope o ka wa'a, ne'e ho'i ka ua koko, pio ke anuenue, a maika'i ho'i ke kū 'ana mai o nā opua, alaila; 'ī aku ke kahuna, ae,ua maika'i, 'a'ole no he mea nāna e keakea mai; akā, ho'okahi mea i koe, inā e moe au a i loa'a ka moe maika'i, alaila, holo le'a loa ka holo'ana. Moe iho la ke kahuna a ala mai la me ka 'ī mai, Ua loa'a iho nei ia'u ka moe maika'i, nolaila, e holo 'oukou 'a'ole 'oukou e pilikia. A ma ia wahi, pau kā ke kahuna 'ōlelo, o kā ka ho'okele ka mea i koe a kākou e 'ōlelo hou ai.

Ka holo 'ana. —He 'elua manawā e holo ai ka po'e holo wa'a, i ka pō kekahi ai [sic; a i] ke ao no ho'i kekahi. Inā i ka pōe holo ai, alaila, o ka manawā holo, 'o ka wā e puka mai ai ka Hōkū-kau'ōpae, 'oia ho'i ka Hōkū-ho'okelewa'a e 'ōlelo'ia nei; a puka mai ia hōkū, alaila, e mākaukau 'ē no ka ho'okele, a me nā mea 'ē a'e ā pau maluna o ka ho'okele, a me nā mea 'ē a'e ā pau maluna o ka wa'a, a 'o ka holo aku la no 'ia. A ma is holo 'ana, he 'elua mea nui a ka

And when all these things were prepared, then [it was time] for the priest to pray to the god of the seafarers. When the prayer was completed, [they] ate until all was consumed. The priest observed the vault of heaven. If there was a rainbow that arched ahead of the canoe, and perhaps [if it was] misty, then, the priest said, "It is not good to sail lest you perish soon at sea." If he observed billowy closed [with] violent winds, [or] small fragmented cloud here and there in the sky, the priest said again, "Don't said lest you perish."

However, if the priest observed that the mist rose aft of the canoe; a rainbow-hued rain moving along [with] an arched rainbow, and clouds rising well, then the priest said, "You, It's good. There is nothing that opposes, but one more thing remains. If I lay down to sleep and I have a good dream, then, the sail will be a happy trip. The priest lay down to sleep and when he woke up he said, " I have just received a good dream; consequently, you [should] sail; you will not have [any] problem[s]". The priest's utterances ended there, and the navigator was the one left of whom we will speak more.

Sailing. – There were two times when people who sail travel, one is at night and the other is during the day. If [they] sail at night, then the sailing is when Hōkū-kau'ōpae appear. This is when the navigators say, "When the canoe-guiding star appears, [we] must prepare everything, everything on board the canoe for sailing." It is the [time of] decision, and the time to decide the two important things the navigator must observe. One is the crest of the waves, and the other is the stars. When the

ho'okele e nānā ai, 'o ka 'ale kekahi, a 'o nā hōkū ho'i ke kahi. I ka nānā 'ana ho'i o ka ho'okele i nā hōkū, he 'elua {ma}u hōkū anā e nānā nui ai, 'oia ho'i ka Hōkū-ho'okelewa'a, 'o ka (hope 'ia o ka) iha 'ia o ka wa'a, a 'o ka Hōkūpa'a 'Ākua, 'oia ka (hope ihu) o ka wa'a. Pēlā no e holo ai ā kāhi e pae aku ai.

Akā ho'i, inā i nānā aku ka ho'okele i nā hōkū ma ka 'Akau, 'ehiku ia po'e hōkū, a ua kapa'ia mai lākou 'o nā hiku, aia malaila kekahi wahi hōkū u'uku. Inā i nānā aku ka ho'okele, a e 'imo'imo pinepine ana is wahi hōkū, alaila, e 'ī aku no 'oia i ka po'e hoe wa'a me ke kena aku. 'O ka pa 'o ka hoe, aia ka pono o ka pae i ka 'āina, no ka mea, he makani ka hope. Ua 'ike 'ē no ka ho'okele i ka 'ino.

K{a} lua, 'oia ho'i ka 'ale. 'O ka 'ale, o kekahi mea nana 'ia ā ka ho'okele. He 'elima no 'ale, a eia ho'i kō lākou mau inoa: 'Ale-kūloko, 'oia ke ale i 'ike ;ole 'ia a ke ho'okele, a ua kapa'ia mai 'oia he 'ōpu'u; 'Ale-'uweke, a 'oia ho'i ka 'ale e nahā ai ka wa'a; 'Ale-panui, 'oia ka 'ale mahope mai; 'Ale-mā'ali no ho'i, a 'oia no ho'i ka 'ale nui ma waho mai o ka wa'a.

A inā ho'i i ke ao e holo ai, alaila, 'a 'ohe ho'i he 'ōlelo ana no ia, akā, inā i pō'ele'ele i ka moana, e nana aku ka ho'okele i ka Hōkūahiahi, o ka ihu 'ia o ka wa'a, a ua kapa'ia mai is hōkū 'o Mānanalo, 'o ka ihu no ia o ka wa'a ā pae wale i ka 'āina. 'Okahi

navigator observes the stars, there are two stars he often observes: the navigation star [Hōkū-ho'okelewa'a] at the bow of the canoe, and the fix north star [Hōkūpa'a 'Ākua] at the after end of the canoe. That was how they sailed to a place where [they] would land.

However, if the navigator observed several stars in a group in the north they called [them] Nā Hiku. There were few stars there. If the navigator observed that place with the stars twinkling often, then he would give a command to the paddlers, "The sails [and] paddlers [will] make landing on land successful because the wind is behind." The navigator already knew of the storm.

The second [thing to observe] is the waves. The wave was something that was observed by the navigator. There are five [kinds of] waves, [and] here are their names: the kūloko [local] is the wave not indicated by the navigator and was called an 'ōpu'a [a large swell]; the 'uweke [opening] is a wave that would smash a canoe in bits; the niau [a moving billow] is a wave that is immediately ahead of the canoe; the panui [large wall [of water]] is the wave that is behind [the canoe]; and the mā'ali [furrowed] is a large wave just beyond the canoe.

If they sailed in daylight, then they would make no statement. But if it were a dark night at sea, the navigator would observe the evening star [Hōkūahiahi], at the nose of the canoe which was called Mānanalo. [It] was kept on the nose until the canoe touched land.

mo'o'ōlelo iho la no ia o nā mea i loa'a mai
ia'u.

It's a star [passed] down from people who
obtained it from me.

J. Waiamau

J. Waiamau

As articulated in this text, the navigators' ability to read the waves and the stars was critical to traditional navigation techniques. Any obstructions to these natural features could impact the perpetuation of this important tradition.

6.4.3 Outrigger Canoe Paddling

Outrigger canoes were an important part of everyday life for Native Hawaiians. Canoes were used as fishing vessels, transportation, war craft and sport. David Malo documents that "the Hawaiian wa'a (canoe) was made of the wood of the koa tree... The building of a canoe was an affair of religion" (Malo, 1951:126-135). When a man found a fine koa tree, he went to the kahuna kalai wa'a (canoe builder) to determine if the tree would make a good canoe.

DRAFT

This practice is illustrated in an 'ōlelo no'eau captured by Mary Kawena Pukui's *'Ōlelo No'eau* which reads:

2777 Ua 'elepaio 'ia ka wa'a.

The 'elepaio has [marked] the canoe [log].

There is an indication of failure. Canoe makers of old watched the movements of the 'elepaio bird whenever a koa tree was hewed down to be made into a canoe. Should the bird peck at the wood, it was useless to work on that log, for it would not prove seaworthy.

Once it was determined the tree was not rotten, preparations were made accordingly to go into the mountains to hew the tree into a canoe. Following the kahuna's instruction, craftsmen would hew the massive trees into a more manageable shape before the people came to haul the canoe to the hālau ("long house" where canoes were stored) by the ocean.

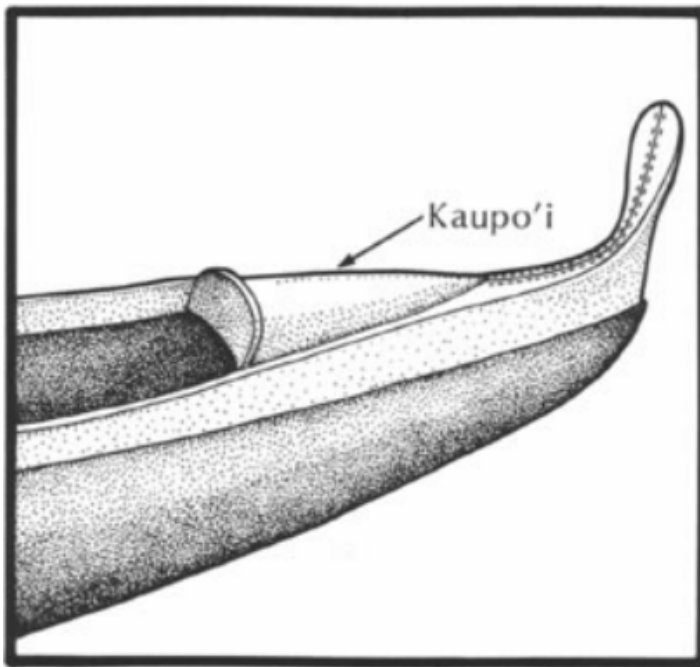
In the hālau, the fashioning of the canoe resumed over the course of many days. One might say that the outrigger canoe is a sum greater than its parts, with many individual pieces designed and crafted for the vessel. In *Hawaiian Canoe-Building Traditions* (Chun, 1988), each piece is described:

Kuamo'o or kino or ka'ele: The hull. This is the main feature of the canoe. It is the foundation of the canoe, and provides storage space and seating for the paddlers. Koa is the primary wood used for the hull. Other woods utilized are kukui, 'ulu, wiliwili, 'ōhi'a hā, and on occasion, niu.

Manu or kupe: Kupe is the proper term for the upright pieces. Today, however, the kupe are more commonly known as manu. The forward upright piece is called the manu ihu. The aft upright piece is called the manu hope. The term ihum refers to the front, or the bow, of the canoe. The term hope refers to the back, or stern, of the canoe.

Lā'au ihu or la'au hope: The forward piece is called the lā'au ihu and the aft piece is called the lā'au hope. The fore and aft pieces help to break, shed, and keep seawater out of the hull. They also provide buoyancy for the canoe. That is, they enable the bow to be lifted up during rough seas. Wood from the 'ahakea and 'ulu trees are used for the fore and aft pieces.

Kaupo'i: The median covers are called kaupo'i. They provide extra protection against incoming waves that may enter from the bow or stern. The kaupo'i are detachable, as well as optional, parts of the canoe. The wood used to make the kaupo'i are koa, kukui, 'ulu, and 'ahakea.

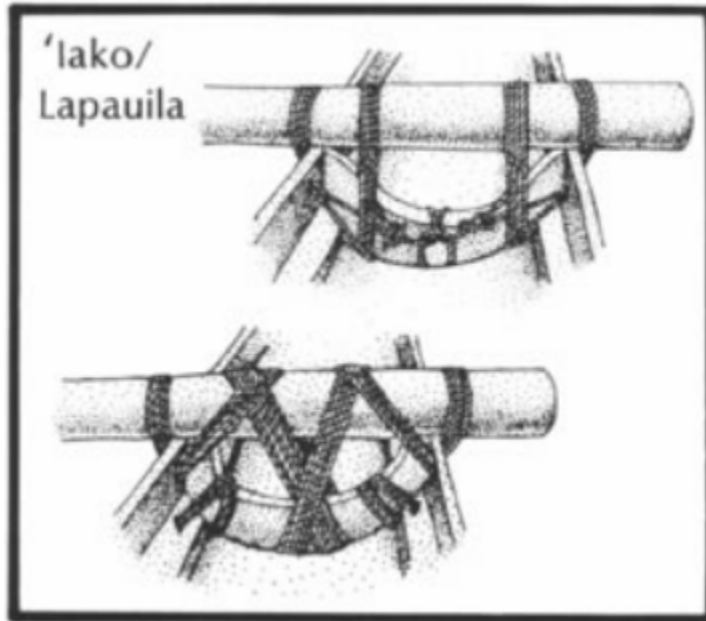


Mo'o: The mo'o (gunnels) are additional, rim-like pieces that add height to the hull. They prevent water from entering the hull, which may lead to the canoe being swamped. Many types of wood can be used for mo'o, namely: 'ahakea, 'ulu, koa, kāwa'u, 'ohi'a hā, manono, naio, kōlea, hōlei, kukui, hō'awa, and 'āla'a.

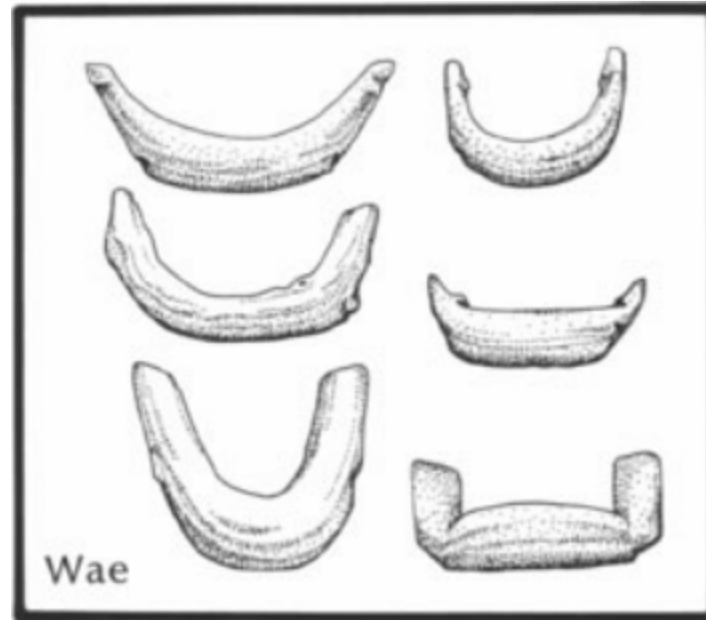
'Iako: The 'iako are cross beams, or cross booms, that join the hulls of the double canoes and join the hull with the ama (float/outrigger) in a single hull canoe. A large double canoe will usually require four to five 'iako. The 'iako also

helps to raise the deck above the water, which eliminates wave resistance. 'Ōhi'a lehu, a strong wood with a natural arch, is the preferred wood for 'iako. Sometimes the 'iako is also made of 'ahakea.

Wae: The wae (spreaders) serve as points of attachment for the 'iako and kino. The wae also act as braces so that the kino does not twist. The wae are essential the canoe because they absorb and distribute heavy weight loads that the mo'o and the hull area cannot withstand. The wae are generally U-shaped or V-shaped. They are usually made with the root of the 'ōhia'a lehua tree because the root is strong and has a natural curve.



Nohona: The general term for the canoe seats is noho 'ana wa'a, or simply nohona. The seats have different names according to where they are located within the kino. For example, pāpaki'i is the name of the steerman's seat. The seat directly in the front of it is called pani. Canoe seats also function as cross braces. They help keep the structure of the kino rigid, thus preventing possible warping damage to the canoe. The nohona are usually made with koa, kukui, or 'ulu wood.



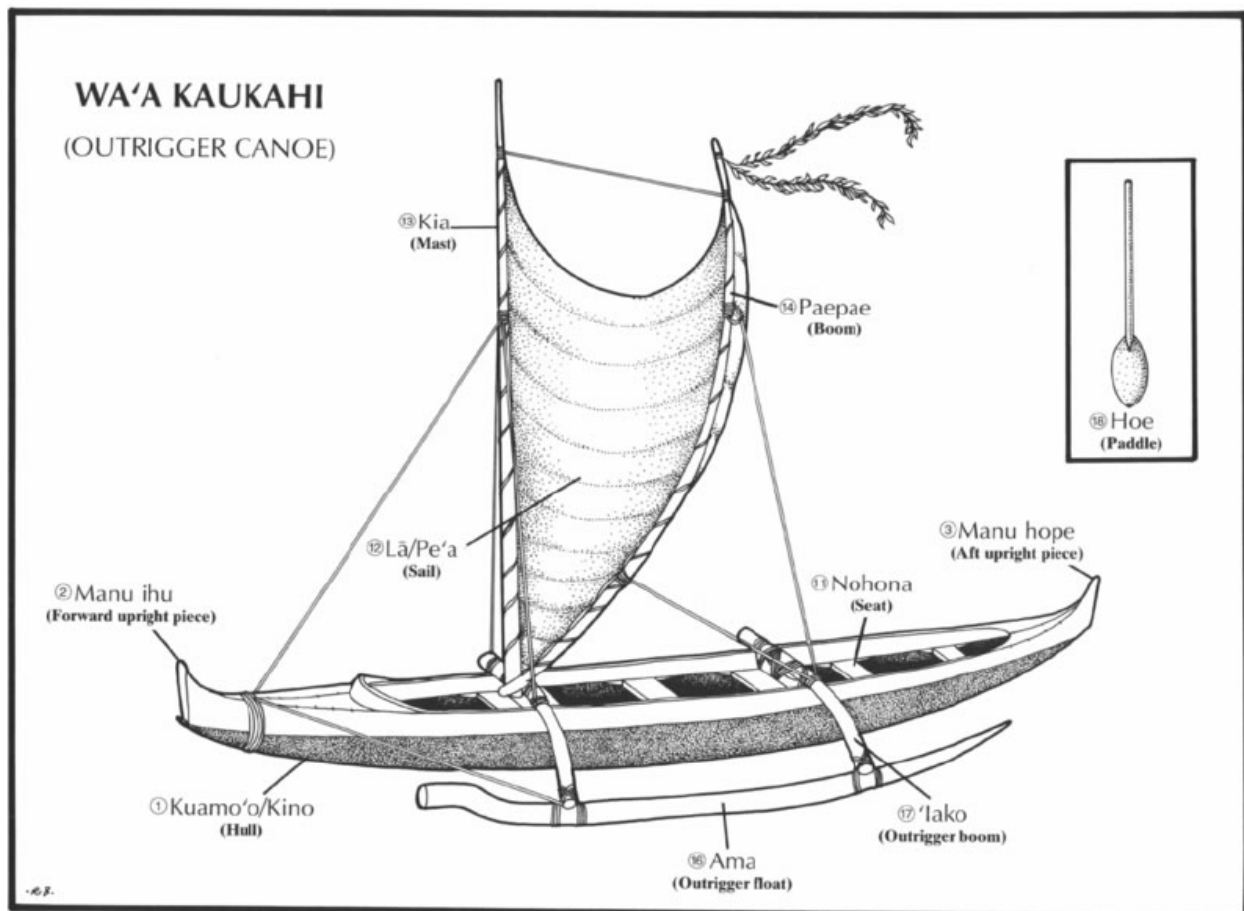
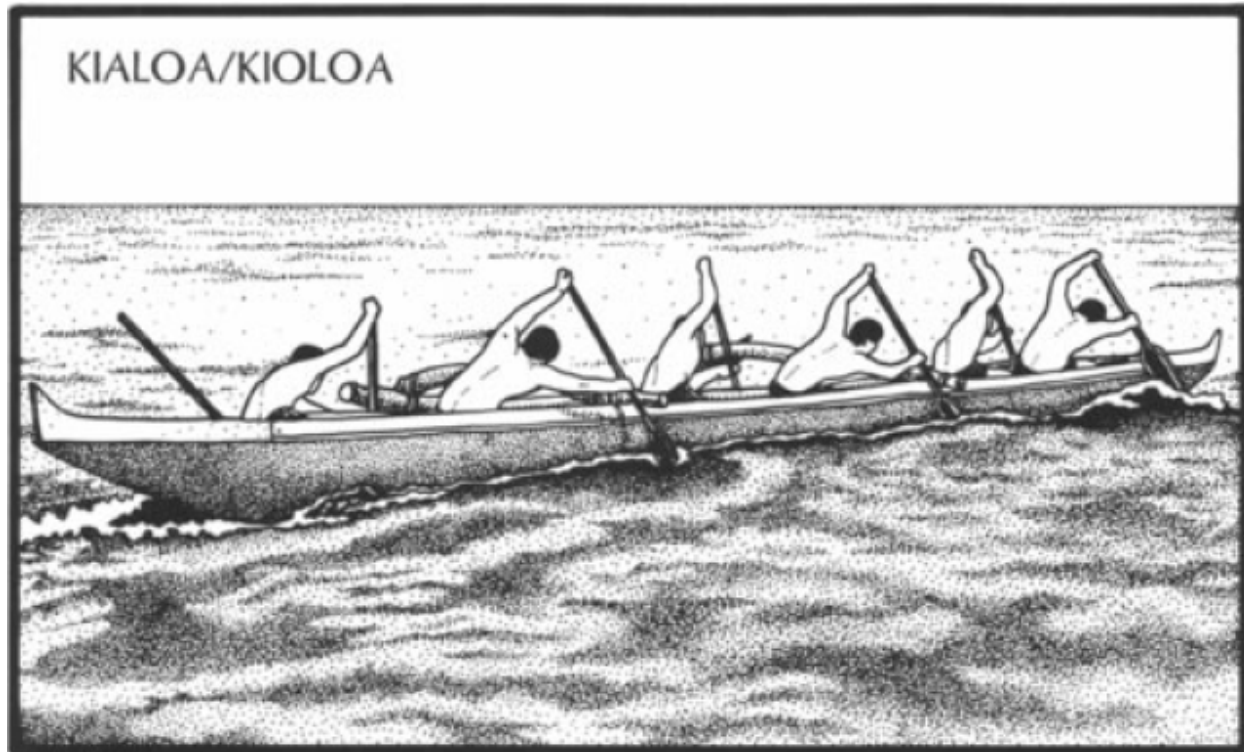
Ama: The ama is the outrigger float that is connected to the kino via 'iako. The ama is needed to provide balance to the kino. It prevents the canoe from continually tipping over. Because the ama should be light in weight, it is usually made from wiliwili, a light wood.

Hoe. The paddle is characterized by its long, thick shaft and short, wide blade. It is designed to propel a light or heavy canoe through water. Hawaiian paddles show distinct, wide variations. The favorite wood for

making a paddle is koa, particularly the yellow-colored koa lā'au mai'a. The curly koa, or koai'e, is also highly valued. Other woods, such as 'ahakea, hau, kāwa'u, naio, and 'ulu are occasionally used for making paddles.

Kialoa/kioloa: A kialoa was a canoe that was long, narrow, light, and swift. It was used for canoe racing, for one or two-man fishing, or for general purposes. Racing and recreational paddlers primarily paddle in these canoes.

Upon completion, the canoe was blessed by the kahuna for safe voyage and the canoe would be furnished with carvings, paddles, seats and a bailer.



There were many varieties of wa'a, and its use was determined by its size. If the canoe was a kialoa (a sharp and narrow canoe), it would be used expressly for racing. "The racing canoes would paddle far out to sea and then they would pull for the land" (Malo, 1951:222). Whichever canoe touched the beach first was the victor. Ancient Hawaiians were very fond of betting on canoe races based on whom they deemed the strongest crew.

Articles in the Hawaiian newspapers document canoe racing as far back as 1860. Ka Nupepa Ka Lahui Hawaii, on November 18, 1875, recounts the celebrations of King Kalākaua's birthday. One of the activities of the day included canoe racing: "Mamua ae o ka hora 2, oia hoi ka wa no ka heihei waapa makai o Ainahou, ua piha aela na kanaka malaila a aneane e haiki ke ala e hele aku ai. Ua hoomaka ia na hana lealea me ka heihei waa, a ua hoomoe ia ka heihei waapa pea no ka makani ole" (1875). Publications in subsequent years verify that canoe racing was a customary element of the King's birthday celebration, outlining participants, winners, and heats including six-man, two-man, and one-man canoes.

DRAFT

Ka Lahui Hawaii, Buke 1, Helu 47 Novemaba 18, 1875	Ka Lahui Hawaii, Buke 1, Helu 47 Novemaba 18, 1875
<p>KA LA HANAU O KA MOI.</p> <p>Ua hoea mai ka la hanau o ko kakou Moi, oia hoi ka Poalua, la 16 i kunewa hope aku la, me na hiohiona o ka malie molale maikai, a ua haawi ia mai ke alo ha kehau o ka wehekaiao e na leo nunulu wawalo o na pu kuniahi o ka papu Puowaina. I ka hiki ana i ka hora 10 ua wehe ia na ipuka o ka Hale Alii Iolani no ka oluolu ana i ka Moi e halawai aloha pu me na Luna Aupuni a pau o ko na Aina e, a me na alii o ka moku kaua Beretania <i>Peterel</i>, a i ka hora 11, ua ae ia ka lehulehu holookoa e hele aku e haawi i ko lakou aloha. Ua hoohanohano ia ka Pa Alii e na puali koa o ke kulanakauhale nei, a ua mahalo nui ia ko lakou nanaina.</p> <p>Mamua o ka halawai aloha ana o ka Moi me na makaainana, ua haawi makana ia mai e ke Alii Liliu Dominis i ka Puali Koa "Prince's Own," he hae Hawaii silika, i hana ia e na wahine o ke kulanakauhale nei. I ka hora</p>	<p>THE BIRTHDAY OF THE KING.</p> <p>The birthday of our king had arrived, Tuesday the 16th that has just passed, with the calm and clear features, we were given a misty greeting of the dawn by the rumbling and roaring voice of the fire kindler of the Puowaina Fort. At the arrival of the 10th hour, the gates of the 'Iolani Palace were opened at the pleasure of the King to meet with aloha with all the Government Officials of the foreign lands, and the chiefs of the British warship <i>Peterel</i>, and at 11 o'clock, the entire public was granted access to come and give their aloha. The Pā Ali'i was honored by the soldiers of this city, and the scene was greatly appreciated.</p> <p>Before the King met with the people, he was gifted by the Ali'i Lili'u Dominis the Soldier "Prince's Own," a silk Hawaiian flag, made by the women of the town. At the</p>

<p>12, ua ki hou ia na pu aloha, a i ke ahiahi ana ua kani hou na pu.</p> <p>Mamua ae o ka hora 2, oia hoi ka wa no ka heihei waapa makai o Ainahou, ua piha ae la na kanaka malaila a aneane e haiki ke ala e hele aku ai. Ua hoomaka ia na hana lealea me ka heihei waa, a ua hoomoe ia ka heihei waapa pea no ka makani ole. Ua maikai no a ua mahalo ia na hana a pau, a ua maopopo ia makou, na hoi aku ka lehulehu me ka hauoli no na mea i ike ia.</p> <p>O ka makou mea i hiki ole ai ke umi i ka aka, oia no ka laau i hamo ia me ka aila. Ua hooikaika na kamalii e like me ka hiki ia lakou, a ua aneane no hoi e holopono ka kekahi hooikaika ana, aka, mamua o ka huli hoi ana'e, ua pakika iho la, a ku-ho ana iloko o ke kai; hu ae la ka aka o na mea a pau i ike. Ua lehulehu na hana lealea e ae, a ua ane ike ole aku kahi poe, i kau a mea o ka piha.</p> <p>Maanei, he mea pono ia makou ke olelo ae, ua kapae loa ia ka makou noi o kela pule aku nei, no ka mea, ma kahi o ka hauoli maluhia a hoohanohano i ka la, ua hauoli ia me ka paumaele. Aole a makou la i ike ai iloko o keia makahiki ka nui ona a me na haunaele hoohilahila e like me ka Poalua i hala iho nei. Ua mahalo nui makou i na makai no ko lakou hooikaika nui ana e malama i ka maluhia, a e hooko hoi i ka hana i waiho ia'ku iloko o ko lakou malama ana.</p>	<p>12 o'clock hour, the beloved rifles were fired, and in the evening they were fired again.</p> <p>Before the 2 o'clock hour, that was the time for the races of Ainahou, it was filled with people there and the pathway became narrow, and the sailing races were laid down because there was no wind. It was great, and all were grateful for everything, and we knew, the multitudes would leave happy for everything that was seen.</p> <p>The thing we could not hold back our laughter for was the pole that was smeared with oil. The children made themselves strong as they could, and they almost succeeded, but because of the turning, slipped and dropped as a stone into the water; everyone laughed to see it. There were so many other fun things, and some almost did not see all of them.</p> <p>Here, it is important for us to say, our request for last week was cancelled, because instead of the safe happiness and celebration of that day, it was happy with defilement. We did not see in this year a lot of drinking and embarrassing commotion like the Tuesday that just passed. We appreciated the police for their strengthening and caring for safety, and fulfilling all needs that were left to their responsibility.</p>
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<p>Ka Lahui Hawaii, Buke 3, Helu 47 Nowemaba 22, 1877</p> <p>KA LA HANAU O KA MOI MA Honolulu nei.</p>	<p>Ka Lahui Hawaii, Vol. 3, Number 47 November 22, 1877</p> <p>THE BIRTHDAY OF THE KING here at Honolulu.</p>
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<p>Ma ka Poalima o ka pule i hala aku nei, Novemaba 16, oia no ka la hanau o ke Alii ka Moi Kauliluaikenuwaialeale, o ka piha pono ana no hoi ia o na makakahiki he 41 o Kona ola ana, a i ka 4 hoi o na makahiki o Kona noho ana ma ke Kalaunu o Hawaii.</p> <p>Ua malamaia keia la ma ke kulana i oi ae i ko na wa i hala, e na lahui ili like ole o ke kulanakauhale alii nei, me na helehelena piha i ka hauoli o kela a me keia.</p> <p>KA PO MAMUA IHO.</p> <p>I ka hiki pono ana'e i ka alikealike o ka po mamua iho o ka la hanau, ua hoomaka ae la no kekahi poe i ka hoomoali ana'ku i na hauoli mai ia manawa aku, no ka hoohalawai ana me na hauoli nui o ke ao ae.</p> <p>NA OULI O KA LA.</p> <p>I ka wehe ana mai o kaiao, a i ka manawa hoi a na kukuna malamalama o ka la i anehe mai ai e kiei ma ke kua o na mauna, e hoolei pau mai hoi i kona nani nui, ua puana leo nui mai la na pu mai ka puu mai o Puowaina, e hoike mai ana, o ka la iho la ia i puka mai he Alii mailoko mai o Haloa, a he Lani hoi nau e Hawaii. Ua puka mai ka la me kona nani nui, a hoauhee aku la i na kikohukohu ao ma ka lewalani, a hohola mai la i na hiohiona o ka molale o kona nani, a ua ike ia'ku la hoi na ouli o ka hauoli maluna o na helehelena a pau. E kaukoe ana hoi kela a me keia ma kahi o na mea kuai me na kiionohi i piha i ka hoihoi, o kekahi poe hoi, me na hoahaaina ana ma ko lakou mau wahi pono, he mau makana hoi ka kekahi poe e ahai la a pahola aku imua o ka Lani nona ka la.</p> <p>NA HANA O KA LA.</p> <p>Mamua ae o ka weheia ana o na hana o ka la, ua piha-kui mua ae la na uapo, na moku a me na waapa maloko o ke awa nei, a palale wale aku i kai o Ainahou, i na kanaka</p>	<p>On the Friday of the week just past, November 16th, it was the birthday of the King Kauliluaikenuwaialeale, marking the beginning of the 41st year of His life, and it was the fourth year of his reign as the Crown of Hawai'i.</p> <p>This day was celebrated in a way that surpassed the years past, by different nations and races of this kingdom, with faces filled with happiness for all things.</p> <p>THE NIGHT BEFORE.</p> <p>When the middle of the night before his birthday arrived, some people began tracing signs of happiness from that time forward, to meet the next day with happiness.</p> <p>THE PORTENTS OF THE DAY.</p> <p>At the breaking of dawn, and the time that the bright rays of the sun crept up to peer upon the backs of the mountains, completely adorning them in their entire beauty, the conch shells began to sound from the tops of Puowaina, announcing it was a day that sprang forth a Chief from Hāloa, a Royal for you e Hawai'i. The sun rose forth in his entire beauty, and set any blemished clouds fleeing from the heavens, and the the clear features of its beauty unfurled, and the portents of happiness were seen on the faces of all. Each and every one of the traders went about with beloved ones full of enjoyment, some of those indeed, with feasting in their own places, some people had gifts they carried to extend before the King on his day.</p> <p>THE EVENTS OF THE DAY.</p> <p>Before the events of the day began, bridges, ships and ferries in the harbor were filled, and spilled out oceanward of Ainahou,* with people of various colors, all with the</p>
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<p>o na waihooluu like ole, me na manao i hele a piha i ka nakui.</p> <p>Mahope iho o ka hora 10, ua hoomaka ia ka wehe ana o na hana, oia hoi na heihei waapa, a eia malalo iho nei:</p> <p>1 Heihei Waapa Pea.—Hoomaka mai ka uwapo ma Alanui Papu, holo pololei iwaho ma ke awa malalo o ka mouo laau a me ka mouo pele, a malalo o ka waapa i heleumaia mawaho ae o Waikīkī, hoopuni ia waapa, alaila malalo o ka waapa ma ka aoao malalo o ke awa, alaila hoopuni ka mouo, alaila huli hoi a i kahi i hoomaka ai, e ku ka mouo laau ma ka akau a holo pololei ma ke awa. Manawa e holo ai, he hapalua minute no ke kuna. Makana mua \$75; makana elua \$30; uku komo \$5.</p> <p>Na waapa i komo ma keia heiehi: No J. Fisher, o Iulia; no W. F. Williams, o Anoano Ipu-pu; no W. L. Wilcox, o Paulino a no Kimo Pelekane opio o Henerietta. Ia Paulino ke eo ana o ka makana mua, he 3 hora a me 12 minute kona manawa i holo ai; a ia Anoano Ipu-pu ka makana elua.</p> <p>I ka aneane ana ae nae e kani ka hora 11, a i na waapa hoi i puka aku ai iwaho o ke awa, a e hoopiiipii ana hoi iluna, ua loohia iho la o Henerietta i ka poino, mamuli o ka haki pu ana o kona kia mua a waiho ana ilalo, a o ke kia hope hoi, hina wale iho la no. O keia haki ana, no ka hookela loa ia ana o na pea, oiai, e pa ikaika ana ka makani, aka, ua ike ia'ku nae na helehelena o ka lanakila ma kona aoao, ke ole i loohia ia e kela poino. Ua koloia mai oia iloko nei e kahi mokuahi Robbie, aole nae he ola i poino.</p> <p>2 Heihei Waapa Kiki 6 Hoe.—(Na ka poe aole i maa i ka hoe waapa.) Mai ka mouo maloko nei o ke awa, holo pololei iwaho malalo o ka mouo laau, a huli hoi maluna a</p>	<p>thought to go until it was filled with a rumble.</p> <p>After 10 o'clock, the events began, such as rowing, as listed below:</p> <p>1 Sailboat Race.—The race began from the bridge at Papu Road, going straight out at the channel west of the wooden buoy and the lava buoy, and west of the boat anchored outside of Waikīkī, around that boat, and then west of the boat on the side west of the harbor, and then around the buoy, and turning again towards where the race began, stopping at the wooden buoy at the north and heading straight towards the harbor. For the racing time, it was half a minute per schooner. First place won \$75; second place won \$30; and the entrance fee was \$5.</p> <p>Here are the boats that entered the race: for J. Fisher, Julia; for W.F. Williams, Anoano Ipu-pu; for W. L. Wilcox, Paulino and for Kimo Pelekane Jr, Henerietta. Paulino won first place at 3 hours and 12 minutes, and Anoano Ipu-pu came in second place.</p> <p>Nearing the hour of 11 o'clock, and for the boats that had emerged from the harbor and were sailing up, disaster befell Henerietta, because of a broken forward mast lying aside, and the aft mast had fallen over completely, but nevertheless the faces of victory were seen on his side, if it weren't for that disaster. The boat was towed in by the steamship Robbie, there was no life in peril.</p> <p>2 Six-Man Canoe Race.—(For those who had not entered the sailboat race.) From the buoy in the harbor, the race went straight out west of the wooden buoy, and</p>
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<p>komo hou mai ma ke awa a hiki i kahi i hoomaka ai. Makana mua \$50; makana elua \$20; uku komo \$2.50.</p> <p>O ka nui o na waapa i komo ma keia heihei, o Liliu, Pa, Minnie Burns, Aliiolani, Waialeale a me Piolani. Ia Piolani ka eo ana o ka makana mua, no ka Moi ia waapa, he 21 minute a me 45 sekona kona manawa holo; a ia Waialeale ka eo ana o ka manaka elua.</p> <p>3 Heihei Waa.—(No na waa aole oia aku mamua o ke 30 kapuai ka loa.) Mai ka mouo maloko nei o ke awa, a holo a hoopuni i ka mouo mua ma ka aoao ma Waikīkī o ke awa, a hiki i kahi i hoomaka mua ai. Makana mua \$20; makana elua \$10; makana ekolu \$5.</p> <p>Ekolu ka nui o na waa iloko o keia heihei, o Kaalalo, Puakauahi, Kakaako. Ua eo ka makana mua ia Kaalalo, he 9 minute a me 55 sekona kaona manawa i holo ai, ia Puakauahi ka makana elua.</p> <p>4 Heihei Waapa Kiki 6 Hoe.—E like no me ko ka heihei elua. Makana mua \$50; makana elua \$20; uku komo \$2.50.</p> <p>O na waapa i komo iloko o keia heihei, o Rainbow, Piolani, Liliu, Aliiolani a me Minnie Burns. Ia Piolani ka oe ana o ka makana mua, he 20 minute a me 33 sekona ka manawa holo.</p> <p>5 Heihei Waapa 2 Hoe.—(Na ka poe aole maa i ka hoe waapa.) E like no me ko ka heihei waa, e holo malalo o ka poe a hoopuni. Makana mua \$20; makana elua \$10; uku komo \$1.50.</p> <p>O Honolulu a me Eureka na waapa i komo ma keia heihei. Eo ka makana mua ie Eureka, he 11 minute ka manawa holo.</p>	<p>turned to return to the harbor to where the race began. First place prize was \$50; second place prize was \$20; the entry fee was \$2.50.</p> <p>The boats that entered this race were Lili‘u, Pa, Minnie Burns, Ali‘iolani, Wai‘ale‘ale and Pi‘olani. Pi‘olani won the first place, the boat that belonged to the King, at 21 minutes and 45 seconds; and Wai‘ale‘ale won second place.</p> <p>3 Canoe Racing.—(For canoes no longer than 30 feet long.) From the buoy in the harbor straight and around the first buoy on the Waikīkī side of the harbor, until the place where the race first began. First place prize was \$20; second place prize was \$10; the third place prize was \$5.</p> <p>There were three canoes in this race, Ka‘alalo, Puakauahi, Kaka‘ako. The first place went to Kaalalo at 9 minutes and 55 seconds, and Puakauahi took second place.</p> <p>4 Six-Man Canoe Race.—Like the second race. First place took \$50; second place took \$20; and the entry fee was \$2.50.</p> <p>The boats that entered this race were Rainbow, Pi‘olani, Liliu, Aliiolani and Minnie Burns. Pi‘olani took first place at 20 minutes and 33 seconds.</p> <p>5 Two-Man Canoe Race.—(For those who had not entered the sailing heat.) Like the canoe races, the course ran east of the people and around. The first place prize was \$20; the second place prize was \$10; the entry fee was \$1.50.</p> <p>Honolulu and Eureka were the boats that entered this heat. First place went to Eureka at 11 minutes.</p> <p>6 Swimming Race.—A \$10 prize went to</p>
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<p>6 Heihei Au.—He \$10 makana mua; he \$5 makana elua.</p> <p>Ua eo ka ka makana mua ia Hoinoino; a ia Hokae ka makana elua.</p> <p>7 Heihei Waapa 1 Hoe Une.—Mai ka hale kukui a hiki i ka mouo maloko o ke awa. Makana mua \$10; makana elua \$5; uku komo \$1.</p> <p>Eha waapa maloko o keia heihei, o Eureka, Reindeer, Aeto Amerika a me Tuscarora. Ka makana mua eo ia Aeto Amerika, he 13 minute ka manawa holo; a ia Eureka ka makana elua.</p> <p>8 Heihei Waapa 4 Hoe.—E like me ka heihei 6 hoe. Makana mua \$25; makana elua \$15; uku komo \$2.</p> <p>O Honolulu, Liliu, Aliiolani, Minnie Burns a me Rainbow na waapa iloko o keia heihei. Ka makana mua eo ia Honolulu; ka makana elua ia Minnie Burns.</p> <p>9 Heihei Kapu.—Mai ke alapii makai o ka uwapo mokuahi a hiki a hoopa i ka mouo maloko o ke awa. Makana mua \$5; makana elua \$2.</p> <p>Ua eo ka makana mua ia L. A. Thurston; ka lua ia Kaloio, ke kolu o ke kapu, he pokakaa wale iho no, a o ka ha hoi, huli ka waha ilalo.</p> <p>10 Heihei Waapa 2 Hoe.—E like me ka heihei 5. Makana mua \$20; makana elua \$10; uku komo \$1.50.</p> <p>Ma keia heihei, 2 wale no waapa. Eo ka makana mua ia Honolulu; ia Aeto Amerika ka makana elua.</p> <p>11 Heihei Waapa Huelopoki.—E like me ka</p>	<p>the first place winner; \$5 to the second place.</p> <p>Second place went to Hō'ino'ino; and Hokae took second place.</p> <p>7 Sailing Race with 1 Lever.—From the lighthouse until the buoy west of the harbor. First place took \$10; second place took \$5; the entry fee was \$1.</p> <p>Four sailboats entered this race, Eureka, Reindeer, Aeto Amerika and Tuscarora. The first place went to Aeto Amerika at 13 minutes; and Eureka took second place.</p> <p>8 Four-Man Canoe Race.—Like the six-man race. The first place took a \$25 prize; the second place prize was \$15; and the entry fee was \$2.</p> <p>Honolulu, Lili'u, Ali'iolani, Minnie Burns and Rainbow were the boats that raced in this heat. The first place prize went to Honolulu, second place was won by Minnie Burns.</p> <p>9 Kapu Race.—From the stairs oceanward of the steamship pier to touching the buoy in the harbor. First place prize was \$5; second place took \$2.</p> <p>First place went to L.A. Thurston; the second went to Kaloio, the third of them was spinning, and the fourth, the top of the boat flipped over.</p> <p>10 Two-Man Race.—Like the 5th race. First place took \$20; second received \$10; the entry fee was \$1.50.</p> <p>In this race, there were only two boats. The first place went to Honolulu; and Aeto Amerika took second place.</p>
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<p>heihei 4. Makana mua \$50; makana elua \$20; uku komo \$2.50.</p> <p>He 5 waapa ma keia heihei. Ka makana mua eo ia Uliuli Oiaio; o ka lua ia Helemua.</p> <p>12 Heihei Waapa Nunui.—E like me ka heihei waapa 6 hoe. Makana mua \$50; makana elua \$25.</p> <p>O Kauaheahe a me Keliialoha wale no na waapa i komo iloko o keia heihei. O Kauaheahe no ka Moi, o Keliialoha no ka Hui Waapa. Makana mua eo ia Kauaheahe; makana elua ia Keliialoha.</p> <p>O ka hope loa iho la ia, a hoopauia na hana heihei makai o Ainahou iloko o ka uiha ole o na kanaka, aka, maluna o kela a me keia helehelena, ua kahakaha ia na waihooluu o ka hauoli piha. Ma ka po ana iho, ua weheia he anaina hoonanea ma ka Hotele Hawaii, a oia ka panina loa o na hana no ka la o ka Mea Nona ke kuakoko.</p>	<p>11 Huelopoki Boat Race.—Like the fourth race. First place took \$50; second place won \$20; the entry fee was \$2.50.</p> <p>There were five boats entered into this race. The first place was won by Uliuli 'Oia'i'o; the second was Helemua.</p> <p>12 Large Sailboat Race.—Like the six-man canoe race. The first place won \$50; second won \$25.</p> <p>Kauaheahe and Keli'ialoha were the only entrants of this race. Kauaheahe belonged to the King, and Keli'ialoha belonged to Hui Wa'apā. Kauaheahe took first place and Keli'ialoha took second place.</p> <p>This race was the very last, and the races ended oceanward of 'Āinahou without any weariness of the people, but upon each and every face, was marked with the colors of complete happiness. When night fell, a fascinated audience removed themselves to the Hawai'i Hotel, and that was the conclusion of the day of the One to Whom the Kingdom Belongs.</p> <p>*As the events took place at Waikīkī, it is likely Ainahou is meant to be 'Āinahau, the residence of Princess Ka'iulani located in Waikīkī.</p>
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The following articles are examples of races documented in nūpepa kahiko over the years, many of them in the Waikīkī area.

<p>Ka Hae Hawaii, Buke 5, Helu 8 Mei 23, 1860</p> <p>I ka poakahi iho nei, oia ka la 21, ua waihoia iho ka hoo hauoli ana o ka la hanau o ko</p>	<p>Ka Hae Hawaii, Buke 5, Helu 8 Mei 23, 1860</p> <p>This past Monday, the 21st, happiness was presented for the birthday of our young</p>
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<p>kakou Alii opiopio, a hiki ia la.</p> <p>A he nui no hoi na mea lealea i hana ia ai ia la, oia no hoi na heihei moku, heihei waapa, a me ka heihei waa maoli, a me na hana lealea e ae he nui.</p> <p>I kinohi, ua hoomaka aa moku i ka holo, oia ka hapalua o ka hora 9. I ka holo ana aku o Emma Rooke, ua nani ka nana ia ana O kona oiwi, aohe wahi hemahema o ka maka, e hiki ai ke hooalahala aku nona. He mau minole i hala ma ia hope iho, ua holo aku o KINAU, (Nettie Merrill,) a ua maikai ka holo ana o laua a elua. Aole nae i maopopo ka mea i oi i ka holo, a ke hoopaapaa ia nei ia mea e na haole a me na kanaka, aia a heihei hou, alaila e ike kakou.</p> <p>No na heihei waapa, ua make i ka waapa keokeo o Foster, a no na waa maoli, ua moke i kekahi waa o ka Moi, o Keau ma ka poe nana i hoe. Pokeokeo lakou, no lakou i ke kanalima dala oia la. Nui ka holo lio, a me na lealea e ae, aka, ua aneane hele aku i ka haunaele loa.</p>	<p>Ali'i, until this day.</p> <p>There was much frivolity had that day, including boat racing, sailboat racing, and canoe racing, and many other such amusements.</p> <p>At the start, the boats began racing at half past the hour of 9:00. When Emma Rooke sailed, it was a beautiful sight to behold her appearance, no such imperfections of her face that could be criticized of her. Some minutes that passed later, the Kīna'u (Nettie Merrill) sailed past and their sailing was fine. However, it was not known which of the two was best at sailing, and that topic was disputed amongst the foreigners and the natives, until they race again and we might know.</p> <p>For the sailboat race, all were beaten by the white sailboat of Foster, and for the canoes, a canoe of the King won, Keau to he who paddled. They were prosperous, they won \$50 that day. There were also horse races, and other entertaining events, and it almost escalated to a riot.</p>
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<p>Ke Aloha Aina, Buke XII, Helu 11 Malaki 1907</p> <p>Na Le'ale'a Heihei ma Waikīkī.</p> <p>I ka hora 2 o keia auinala Poaono e malamaia ai na lealea heihei waa a me waapa ma Waikīkī Mawaho pono ae o o na Hotele Seaside a me Moana e ulele ia ai keia mau hana le'le'a, ke manaoia nei e piha ana ke kahaone mamua iho o keia mau hotele i na poe makaikai.</p> <p>O ka heihei mua he heihei moku kiakahi. 2 heihei au 3 heihei waa no na wahioeopio 4</p>	<p>Ke Aloha Aina, Vol. XII, Number 11, March 1907</p> <p>Amusing Races in Waikīkī</p> <p>At 2o'clock in the afternoon this Saturday, amusing canoe and rowboat races will be held in Waikīkī. Just outside of the Seaside Hotel and the Moana is where these races will get into action, hoping that the beach fronting these hotels will be full of spectators.</p> <p>The first race will be for one-man canoes. The 2nd will be a swimming race, the 3rd</p>
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<p>heihei waapa pe'a. 5 heihei waa eoao hoe. 6 heihei waa elua hoe. 7 heihei waa hou eono hoe. 8 heihei waa hou no elua hoe, 9 heihei waa eha hoe. 10 heihei waa hoe pakahi, 11 heihei waa papa. 12 heihei waapa Canada elua hoe, 13 heihei waa pe'a. 14 heihei pe'a waa papa. O ka panina o na hana oia la, oia ka paka nalu o na waa a me ka heenalua ana.</p>	<p>will be a canoe race for young ladies, the 4th will be a sailboat race. The 5th will be a six-man canoe race. The 6th will be a two-man canoe race. The 7th is another six-man canoe race. The 8th will be another two-man canoe race, the 9th is a four-man canoe race. The tenth is a one-man race, the 11th is a wa'a papa race. The 12th will be a two-man Canadian rowing race, the 13th is a sailing race. The 14th will be a sailing wa'a papa race. And the close of these events will be with surfing canoes and surfing.</p>
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<p>Ka Nupepa Kuokoa, Buke XLII, Helu 43 23 'Okakopa 1908</p> <p>OHOHIAIA NA LEALEA HEIHEI WAA MAWAHO O WAIKĪKĪ</p> <p>Mamuli o ka hookauluaia ana iho o na mokukaua o ka Pakikpika no keia kulanakauhale a hala okoa ka pule i hala, pela i holopoho ai kekahi mau hana lealea i hoolalaia e ke komite hookipa e like me ka heihei waa mawaho o Waikīkī ma ka auwina la o ka la Sabati nei.</p> <p>He heluna nui o ka poe makaikai mai na kanaka o ke aumokukaua a hiki aku i ka poe ouka nei o ka aina ka i momoku aku no waho o Waikīkī no ka makaikai ana i na heihei waa, a ua hoohauoliia ka poe apau i hele aku e ike kumaka i na lealea i malamaia ma ia la.</p> <p>He mau heihei waa kekahi i komo mai ai na kanaka o ua mau mokukaua nei, a pela no hoi me ko lakou hele pu ana i ka pakaka waa,</p>	<p>Ka Nupepa Kuokoa, Vol. XLII, Number 43, October 23 1908</p> <p>Such Pleasure at the Amusing Canoe Races Outside of Waikīkī</p> <p>Because the battleships of the Pacific have been yoked together for this town last week, that is how some amusing races were successfully arranged by the welcoming committee, like the races outside of Waikīkī in the afternoon of the Sunday that just passed.</p> <p>Many were in attendance, those from the warship fleets to those of the uplands of the 'āina (who surged forth from outside of Waikīkī to take in the sights of the canoe race, and everyone who went to witness the fun that was scheduled that day was made happy.</p> <p>Some of these races were entered by the sailors of the battleships, and in that way they also traveled in the low broad canoes, and according to those seafarers, this was one of the most fun activities that they had</p>
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<p>a wahi a ua poe keiki aukai la, o keia kekahi o na hana lealea loa a lakou i ike ai.</p> <p>He mau heihei waa o na wahine ame na kamaliwahine kekahi i malamaia ae, a o ia mau heihei kekahi i ohohiaia i ke kula'i pau o na hoe waa i ka lakou mau hoe.</p> <p>Ma ka hapanui nae o na heihei i malamaia ma ia la, ua alia'i ae ka hui Outrigger i ke. eo o ia mau heihei, a ua hiki aku ma kahi o ke kanawalukumamalima dala loa aku ia lakou ma ke dala maoli.</p> <p>Me he mea la aole paha he la i oi aku o ke kupono no na hana heihei waa e like me kela la, no ka mea ua ikaika maoli ka pa ana a ka makani i kupono no na heihei pe'a a he nunui hoi ka nalu no ka poe heenalua e hoikeike mai ai i leo lakou laeula maluna o na papa heenalua.</p> <p>O ka heihei mua loa i malamaia, oia no ka heihei waa o na keikikane, a ua kaa ke eo o keia heihei i na keiki O ka hui Outrigger, mahope nae o ka noke ana i ke kupapa no ka aha 'i ana 1 ka lanakila mai ko lakou mau hoa mai.</p> <p>O ka heihei elua, he waa o eono hoe, a ua aha'i ae o Liokeokeo i ka lanakila ma keia heihei, o Hanakeoki aku ka helu elua, a o Kalei ka helu ekolu.</p> <p>He heihei waa aku o eha hoe, he heihei keia no na wahine, a ua lilo ia Manukeokeo ka helu ekahi ma ia hei'hei. a o Lanakila aku ka holu elua.</p> <p>Ma ka heihei ehiku i komo mai ai na kanaka o na mokukaua e hookuku ko lakou ikaika</p>	<p>seen.</p> <p>There were also canoe races for the women and girls, and those races were some that were delighting at the fervent thrusting of the paddlers of their paddles.</p> <p>However, most of the races that were held that day, the Outrigger club was in pursuit of the victory of those races, and they received about \$85 in cash prizes.</p> <p>It was as if there was no other preferable day for such canoe racing events like that day, because the wind blew with such strength that is appropriate for sailing, and the waves were large enough for surfers to show their expertise on the surfboard.</p> <p>The first race held was the boys' race, and the winner of this race was the boys team from the Outrigger club, although after persevering in a deadlock struggle in pursuit of a victory over their peers.</p> <p>The second race was a six-man canoe, and Liokeokeo secured victory in this race, Hanakeoki took second, and Kalei took third.</p> <p>The next race was a four-man heat, a race for the women, and Manukeokeo won first place for that race, and Lanakila took second place.</p> <p>The seventh race is the one in which the sailors from the battleship entered to match their strength and skill in the canoe races, and this was one of the races which was prophesied that the boats would flip,</p>
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<p>ame ke akamai ma na heihei waa, a o keia kekahl o na heihei i maka'uia aku ai o kahuli na waa, a pela- i hookauia aku ai he poe kanaka Hawai' akamai i ka hookele ana i ka waa naluna o kela ame keia waa.</p> <p>Ua lilo i na kanaka o ka mokukaua Colorado ka helu ekahi, Dakota Hema akli ka helu elua, a i ka Penikelevenia ka helu ekolu.</p> <p>Ma na heihei pakaka naiu o na auwaa o na kanaka no o na mokukaua kekahi i komo ma ia heihei, a ua kaa i ka waa o na kanaka o ka Mokukaua Dakota Hema ka helu ekahi a i ka Penikelevenia aku ka helu elua.</p> <p>He mau heihei waa pe'a i malamaia, a pela no hoi me ke heenalua, a o keia kekahi o na lealea i ohohia nuiia e na kanaka o na makukaua, no ka mea he mau lealea keia i maa ole i ka ikeia e lakou.</p>	<p>and that is how some Hawaiians expert in steering were placed aboard each canoe.</p> <p>The sailors from the battleship Colorado won first place, South Dakota took second place and Pennsylvania took third.</p> <p>In the low-boat races, the sailors from the battleships entered, and the canoe belonging to the Battleship South Dakota took first place and Pennsylvania took second.</p> <p>Sailing races were also held, along with surfing, and these are some of the festivities that were greatly delighted in by the people of the warships, because these are festivities they are unused to seeing.</p>
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<p>Ka Nupepa Kuokoa, Puke XLVI, Helu 39 30 Kepakemapa 1910</p> <p>AHA'I HOU I KE EO O KA HEIHEI WAA</p> <p>Kaa no i na Keiki Hoewaa o Kona ka Lanakila ma ka Poaono Aku Nei i Hala.</p> <p>HAULE HOU NA HAOLE HOEWAA</p> <p>Lihi Launa Ole Mai na Haole Mahope o ka Waa o na Kanaka Hawaii.</p> <p>He keu no hoi i ka aa hou ana aku nei o na haole i na keiki hoewaa o Kona e heihei hou me lakou ma ka auwina la o ka Poaono aku</p>	<p>Ka Nupepa Kuokoa, Vol. XLVI, No. 39 30 September 1910</p> <p>PURSUIT OF VICTORY AT THE CANOE RACES</p> <p>Victory Goes to the Paddlers of Lanakila This Past Saturday.</p> <p>The Foreign Paddlers Lose Again</p> <p>The Foreigners Are So Close Behind the Hawaiian Canoes.</p> <p>The foreigners bravely accepted another challenge from the Kona paddlers to race again with them on the afternoon of the</p>
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<p>la i hala, e aha'i ana la lakou i ka lanakila o kela heihei, eia ka e hoonohea aku ana no lakou e ua mau keiki la o Kona ma kuono, a lawe haaheo no ua mau keiki la o ke Kai Malino i ka lei o ka hanohano.</p> <p>Ua manao kuhikewa na haole o ke komo ana ma ka heihei waa ma ka la heihei waapa, o ke kumu o ko lakou haule ana i na keiki o Kona, mamuli o ke kaumaha o ko lakou waa, a mama ko na keiki o Kona, a ina e kuapo waa ana lakou, alaila aole lihi launa mai na kanaka Hawaii me lakou, a ma ia ano i aa mai ai lakou i na keiki o Kona, e heihei hou me lakou ma ka Poaono aku la i hala, me ke kuapo ana i ko lakou mau waa.</p> <p>Aole no i hopo iho ua mau keiki la o ke Kai Malino, no ka mea ua haawi aku lakou i ko lakou ae me ke kanalua ole, no ka mea he hana ia na lakou i punahele, e hookahaha houia aku ai ka manao o na haole.</p> <p>Ma hope iho {illegible} o keia hoihoi ana. I ka Poaono nei, i hooia maoli ae ai na haole hoewaa i ka ikaika o na keiki o Kona, a ua olelo ae no hoi lakou, he waa holo io no ka waa a na keiki Hawaii i hoe ai, a kaa ai ke eo ia lakou ma kela heihei mua ana, a o ko lakou kumu no o ka haule ma kela heihei hou ana, mamuli mai no ia o ka pakela ikaika maoli no o kela mau keiki hoewaa o Kona i hiki ole ia lakou haole ke alualu aku.</p> <p>Ua hele na uwapo a piha i ka poe makaikai no ka ike kumaka ana i kela heihei, a ua nui no hoi ka poe pili, he elua aku ma ka aoao o na keiki o Kona, a he hookahi mai ma ka aoao o na haole, a me kekahi mau ano pili e ae e hooholoia ana e ka poe i lawe ae i ko lakou mau aoao.</p> <p>Ua hoomaka ka heihei ana mai a na waa mai ka hoe mai mawaho aku o kuanalu, a hiki mamua pono aku o ka halewaapa o ka</p>	<p>Saturday that just passed, they were striving to win this race, however they were provided by those Kona paddlers a substitute, and those children of Ke Kai Malino proudly took the garland of victory.</p> <p>The foreigners mistakenly thought to enter the race on the rowing day, that the reason for their loss to the children of Kona, it was because of the heavy weight of their canoe, and that the canoe of the Kona paddlers was light, and if they switched out their canoe, then the Hawaiian paddlers would not come close to them, and that is how they accepted the challenge of the children of Kona, to race with them again this past Saturday, if they switched out their canoes.</p> <p>AFT The children of Ke Kai Malino did not worry, because they gave their consent without hesitation, because it was a favorite thing of theirs, that the thoughts of the foreigners be surprised again.</p> <p>After that return on Saturday, the foreign paddlers confirmed the strength of the children of Kona, and they said, the canoe that the Hawaiian children paddled is certainly a fast canoe, and the victory went to them at their first race, and their reason for losing at that rematch race, it was because of the true surpassing strength of those paddlers of Kona that the foreign paddlers could not pursue.</p> <p>The bridges were full of spectators to witness that race, and there were many relatives, at least two on the side of the Kona children for every one on the side of the foreigners, and some other relations, it was decided by the people to take their sides.</p> <p>The canoes began racing just outside the crest of the wave until just before the</p>
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<p>Healani, ma kahi i mokuia ai o Hawaii.</p> <p>Mamuli o ka hailona ana, ua kaa ka aoao Waikīkī i na haole, a haule na kanaka Hawaii ma ka aoao ma Ewa, oiai nae o ka aoao ma Waikīkī kahi i makemake nuiia, no ka mea he wahi auini nalu ia, e kokua nui ai i ka holo o ka waa.</p> <p>I ka hoomaka ana o ua mau waa nei e holo, ua oili mua ka waa o na haole, aka me ka hooikaika like no nae o na hoewaa apau i ke kula'i ana i ka lakou mau hope. Eia hoi ka poe ouka nei o ka aina ke noke aku nei i ke kīeei i ko lakou mau poo, me ka ninau ana iawai mai la ke alakai ana mamua, no ka mea aole e hiki ke ikeia aku ke kulana maopopo o na waa.</p> <p>I ke kaalo pono ana ae mawaho o ka halewaapa o ka Makala, aia na waa a elua ke kau like la i kahi hookahi, aka aia nae na kanaka Hawaii ke a maamau la i ka lakou mapuna hoe, a o ka oni liili aku la no ia o ko lakou waa imua.</p> <p>Mai kela wahi mai i hoomaka aku ai na keiki o Kona e kaawale mai ko lakou hoa heihei aku a hiki wale i ka pahuhopu, ua like me ekolu waa ka mamao o na haole mai ia lakou aku, he pilipili iki mai nae hoi keia ma mua o ka heihei mua ana.</p> <p>He hookahi minuke a oi ka haule o ka manawa o na keiki o Kona mai ko lakou manawa mai o ka la heihei waapa, no ka mea ma ia heihei ana, aia kela pahu hookahi, he eono o lakou minuke me iwakaluakumamalua a me eha hapalima sekona, oiai hoi o ka manawa a lakou i holo ai ma keia heihei elua ana, he ehiku minuke me kanalimakumamakahi sekona.</p> <p>Ma keia emi ana mai o ka manawa i loaia ia lakou ma kela heihei elua ana, i hooiaio loaia ai na oi aku no ka holo o ka waa o ke</p>	<p>rowing canoe house of the Healani club, where the islet is of Hawai'i.</p> <p>Because of the casting of lots, the Waikīkī side went to the foreigners, and the Hawaiians fell to the side of 'Ewa, despite that the Waikīkī side is usually preferred, because it is the side with rolling waves, helping the motion of the canoe.</p> <p>When those canoes began to race, the canoe of the foreigners appeared first, but with the continued strengthening of all the paddlers did they fall behind. Here indeed are the people shoreward of the land persevering to protrude their head forward, asking who was leading in the beginning, because the position of the canoes could not be seen.</p> <p>When they passed the canoe house of the Makala, the two canoes were tied in the same position, however, the Hawaiians were rapidly dipping their paddles, and their canoe immediately moved forward.</p> <p>From there, the children of Kona began to separate themselves from their racing competitors and the goal was realized, equal to three canoe lengths the distance of the foreigners from them, slightly similar to the first race.</p> <p>The children of Kona dropped at least one minute from their last time racing, because at this recent race, there was one push, they had six minutes and 22 ⁴/₅ seconds, since the time that they raced the first race was 7 minutes and 51 seconds.</p> <p>With this decrease in time they achieved at the second race, the canoe of Prince Kalaniana'ole confirmed the prowess of their paddling over the canoe of the</p>
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Keikialii Kalanianaʻole ma mua o ka waa o na haole.	foreigners.
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<p>Ka Nupepa Kuokoa, Buke LIV, Helu 7 18 Feberuari 1916</p> <p>HE MAU HEIHEI WAA KO WAIKĪKĪ</p> <p>No ka hoomanao hikimua e pili ana i ka la hanau o Wakinekona, a no ka pomaikai hoi o na malihini makaikai, e noho nei ma keia kulanakauhale, a e malamaia ae ana he mau lealea heihei waa ame heenalua, a pakakawaa, mawaho ae nei o Waikīkī, ma ka auwina la o keia Sabati iho.</p> <p>No kekahi mau la ae nei i hala, ua hoomakaukauia na hokele mawaho ae nei o Waikīkī no ka hookipa ana aku i na malihini, a ua hanaia hoi na wahi maikai a kupono no ka lehulehu e makaikai ai i na lealea e lilo ai i mau mea ano nui i ka manao o na malihini, ame na kamaaina pu.</p> <p>I kulike ai me ka papa hoonohonoho o na hana heihei ma kela la, o ka niua loa o na heihei, e hoomakaia ana ia ma ka hapalua o ka hora ekahi; me ka heihei waa o eha hoe, no na kane. O na waa papa keia.</p> <p>O ka lua aku o ka heihei, he heihei waa koa o eha hoe, He heihei keia no na wahine, e nele ole ai ke ohohia nui ia, me ka hu pu o ka aka.</p> <p>O ka heihei e ukali aku ana mahopo mai, he heihei hou no na wahine, o na waa papa o eha hoe.</p>	<p>Ka Nupepa Kuokoa, Volume LIV, No. 7 18 February 1916</p> <p>CANOE RACES IN WAIKĪKĪ</p> <p>For the remembrance of the birthday of Washington, and for the blessings of the visiting spectators, staying in this city, and there will be held some entertaining canoe races and surfing competitions, and low broad canoes outside of Waikīkī in the afternoon of this coming Sunday.</p> <p>For some of these past days, the hotels have been prepared outside of Waikīkī for the welcoming of the guests, and the best spaces have been used for the multitudes that will take in the sights of the entertainment that will become important things in the opinion of the visitors and the residents alike.</p> <p>So that the arrangement of the order of the races might be precise that day in the dizziness of the races, they will begin at half past the hour of 1 o'clock; with the four-man canoe races for the men. This is the wa'a papa race.</p> <p>The second of the races is of the koa canoes with four paddlers. This is a race for the women, that does not go without much excitement, with the rising of laughter.</p> <p>The race that will follow after is another race for the women, the wa'a papa with four paddlers.</p>
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<p>Mahope aku o kela heihei e hoomaka ai ka heihei nukulupe'a o na waa o na ano like ole.</p> <p>He heihei aku maluna o ka papa heenalua, no ka mamao o hookahi hanen me kanalima i-a. O ka mua loa keia o kela ano heihei.</p> <p>He heihei aku o ka poe Kenalu, malijna o ko lakou. map papa, a o ka hope 'oa o na heihei, he pakaka nalu o na waa.</p> <p>He nui na makana e haawiia ana i ka poe apau e aha'i ana i ka lanakila ma kela mau heihei, he mau makana tlala, me na kiahia dala.</p>	<p>Following that race, the nukulupea race will begin of all styles.</p> <p>Another race will be on the surfboards for a distance of 150 yards. This is the first of that kind of race.</p> <p>There will be another race for the surfers aboard their boards, and that will be the last of the races, a short wave of the canoes.</p> <p>There will be many prizes awarded to all of the participants striving for victory in each race, they will be cash prizes and cups of money.</p>
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<p>Ka Nupepa Kuokoa, Buke LXIV, Helu 29 16 Iulai 1925</p> <p>NA HEIHEI WAAPA MALOKO O KE ALAWAI O WAIKĪKĪ.</p> <p>O na heihei waapa i hoolalaia ma* waena o na kanaka makua o ka hui Makala ame ka Healani maluna o ke alawai Waikīkī ma ke ano he hapa o na hana kulaia mua no ka wehe ana i ka Fea Teritore ua manaoia he mea ano nui ia i na kanaka heihei waapa o na hui a elua.</p> <p>I ka poe kamaaina ole i na ano o ka hoe ana me he mea la i ka nana āku o keia ka heihei e ikeia ai ka hopena i hoopaapaa loihi ia mawaena o na hui elua i heihei ai ma Hilo.</p> <p>O ka like ole o kela heihei ana ma Hilo ame ka heihei e hookukuia ana maluna o ke alawai he ooloku ke kai ma Hilo a he malino hoi maluna o ke alawai me ka ololi loa o kahi e heihei ai.</p> <p>O ka mea i oi aku me he mea la e nele ana</p>	<p>Ka Nupepa Kuokoa, Vol. LXIV, No. 29 16 July 1925</p> <p>SAILING RACES IN THE ALAWAI OF WAIKĪKĪ.</p> <p>The sailing races arranged between the makua paddlers of the Makala Club and Healani on the Ala Wai of Waikīkī in the style of half of the festivities for the opening of the Territory Fair and it is thought that it is an important for the sailing racers of the two clubs.</p> <p>For those who are unfamiliar with the style of racing, it's as if you are watching races that are seen at the end of a long competition between the two crews that raced in Hilo.</p> <p>The difference between that race at Hilo and the race that will be conducted on the Ala Wai, the ocean at Hilo is blustery, and it will be calm on the AlaWai with a very narrow racing space.</p>
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<p>ka hui Makala ia Bob Swan, kekahi o kona mau kanaka i ikeia ka ikaika ame ke akamai i ka hoe ana mamuli o ko Bob Swan haalele koke mai ia Honolulu nei ma na la mua o ka mahina o Augate oiai e hoi aku ana oia no ke kula nui ma Amcrika ma ia manawa. Ke nele o Swan maltfna o na waapa Waula ame Keokeo elike ole ana ia me ko na Polu ma ke Kaikuono ma Hilo.</p> <p>Ina no ka heihei nei mawaena o ka Makala ame ka Healani maluna o ke alawai he heihei wale ana no ia ma ke ano hookuku aole ma ke ano pili, o ka hanohano wale no no ka lanakila ana o kekahi a haule kekahi ka mea e heiheiia ana.</p> <p>He mau la aku keia no ka hoomaamaa ana o ka poe i heihei ana o na hui a elua mai na opio a na kanaka makua a no ka hoomakaukau ana hoi i kekahi papahana no ka la 31 O Aukage, he mau pule ekolu wal< no i koe mamua o ka hiki ana aku 1 ka la heihei waapa.</p>	<p>Another thing is that the Makala club will be missing Bob Swan, one of their racers whose strength and skill at paddling has been recognized because of Bob Swan's quick departure from Honolulu in the first few days of the month of August since he will return to the university at America at that time. When Swan will be missing from the sailboat 'Ula'ula and Ke'oke'o unlike those of the Polū and Kaiku'ono in Hilo.</p> <p>If for the race between Makala and Healani on the AlaWai, it will only be a race of competition not a bet, and they will only be racing for the honor of the winning team and the loss of the other.</p> <p>These days are for practicing for the paddlers of the teams and two of the youth and the adults, and for the preparation for a project on August 31st, there are only three weeks remaining before the arrival of that sailing race.</p>
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Six-man Outrigger canoe racing continues to be a popular sport throughout Hawai'i to this day. Paddling tests the limits of physical strength, endurance, determination and team work, which is epitomized in the iconic Moloka'i Hoe Race from Moloka'i to O'ahu. This prestigious race began on October 12, 1952, when three Koa outrigger canoes launched through the surf at Kawakiu Bay on Moloka'i's west side (OHRCA, 2015). Powered by six paddlers, each of the canoes was bound for O'ahu across 38+ miles of open ocean in the Ka'iwi Channel. Eight hours and 55 minutes later, the Moloka'i canoe, Kukui O Lanikaula, landed on the beach at Waikiki in front of the Moana Hotel (OHRCA, 2015).

Since this first race, the Moloka'i Hoe has become one of the longest running annual team sporting events in Hawai'i, second only to football. With recent GIS tracking technology, we can now see the exact path of the wa'a across the Ka'iwi Channel and into the Bay of Waikiki (Figure 13).

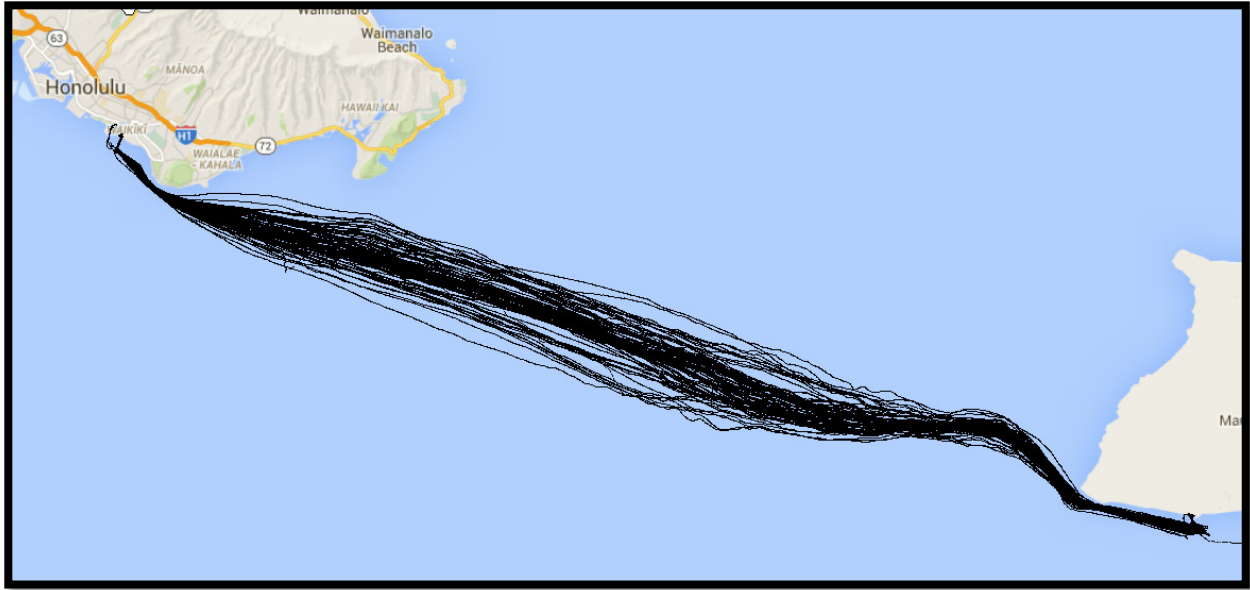


Figure 13. Moloka'i Hoe Raw GIS Data Mapping (O'ahu Hawaiian Canoe Racing Association, 2015)

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Many of the competitive racing teams call the Waikīkī area, including the Ala Wai Canal, home. Others have their roots in Waikīkī (Table 9).

Table 9. Select List of Waikīkī Canoe Clubs and the Founding Years

Canoe Club	Founding Year
Ānuenue Canoe Club	1983
Healani Canoe Club	1950
Hui Lanakila	1977
Koa Kai Canoe Club	2014
Outrigger Canoe Club	1908
Waikīkī Surf Club	1948

The ability for canoe clubs to access the Ala Wai is not only significant to their practice, but to the continuity of racing genealogy.

Kēhau Meyer, currently the head coach for the Women's paddling team at Kamehameha Schools Kapālama Campus, began her paddling journey as a high school sophomore at Kamehameha Schools and continued her competitive training for Waikīkī Surf Club. In her

interview for this CIA, she recounts “paddling a canoe that [her] grandfather’s first coach built.” (6:02-6:07). She also shares that her grandfather also raced in the *Malia*, the treasured koa canoe owned by the Waikīkī Surf Club. Kēhau attributes her years with the Waikīkī Surf Club and learning to care for those koa canoes for the “discipline and cultural reverence” she teaches as a coach today, and considers the hālau at the Ala Wai to be “sacred space[s] because [they] house a sacred” piece of history that carries with it the genealogy of a Native Hawaiian practice.

Throughout the days of oral history, the years of palapala in both ‘ōlelo Hawai‘i and English, and to the current times, hoe wa‘a has been a celebrated traditional Native Hawaiian practice. It is one of the elements illustrating that Hawai‘i is home to a living, breathing culture.

6.4.3.1 The *Malia*

The *Mālia* is a Hawaiian-style wooden racing canoe crafted by James Takeo Yamasaki. The canoe was hewn out of blonde koa wood in Kailua-Kona, Hawaii, in 1933. Its wooden hull was the culmination of a design evolution in wooden racing canoes, and provided the founding model for all subsequent outrigger canoeing hulls, including those later molded from fiberglass. Hawaiian racing canoeist Tommy Holmes observed that *Malia* “remains a prototype for contemporary racing canoes [and] was among the first canoes built exclusively for the sport.” The canoe was listed on the State and National Register of Historic Places in 1993. It is approximately 40 feet long and weighs over 400 pounds.

The original Hawaiian name *Mālia* refers to the relatively calm waters of the Kona Coast on the leeward side of the Big Island, the site where the canoe was made. The Outrigger Canoe Club bought the original *Mālia* in 1940, and the Waikīkī Surf Club acquired it in 1948, keeping it in use until 1988. From 1950-1951, the design of *Malia* was modified by Froiseth, Downing, and Choy. In 1959, the original *Mālia* won the first outrigger canoe race to Catalina Island in California. After the race, the *Malia* had a significant impact on the historical development of the racing canoe.

In 1960, a California-made fiberglass model of the *Mālia* competed in the annual paddling race across the Moloka‘i Channel (the Moloka‘i Hoe) to O‘ahu, leading to a separate division for *Malia*-style fiberglass canoes in 1960–78. By 1981, models of the *Mālia* had begun spreading to Australia, Britain, Canada, Japan, Samoa, and to the shores of the Atlantic Ocean, Gulf Coast, and Great Lakes across the United States.

6.4.4 Farming

Since poi was the staple food for Native Hawaiians, it was of the utmost priority for the first settlers to establish lo'i. Kalo's prominence in the Hawaiian diet derived from its nutritional value, but even more so from its mythological significance. According to Hawaiian mythology, man was born out of the taro plant:

The first born son of Wakea and Papa was of premature birth and was given the name Haloa-naka. The little thing died, however, and its body was buried in the ground at one end of the house. After a while, a taro plant shot up from the child's body, the leaf of which was named lau-kapa-lili, quivering leaf; but the steam was given the name Haloa.

After that another child was born to them, whom they called Haloa, from the stalk of the taro. He is the progenitor of all the peoples of the earth (Malo, 1951:244).

The ahupua'a of Waikīkī, dominated by marshlands, was an ideal location for lo'i:

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The first step may well have been planting taro cuttings, brought from their home settlements, along streams which they eventually named the Mānoa, 'Āpuakēhau, Kuekaunahi and Pi'inaio. Other cuttings may have been planted around the many springs in the area, all of which provided the constantly flowing fresh water required for proper cultivation.

In the deeper sections of the marsh, the ancient farmers most likely practiced kuawehi (literally "muddy back" or "marsh-land planting"). They gathered wild 'ilima shrubs, pōhuehue (morning glory) leaves, grasses and other plants that were lashed into bundles, tying them with the pōhuehue vines that grew abundantly on the beach, and then deposited them at the edge of the marsh. Wrapping bulrushes around their heads as protection against the sun and mud, and naked except for their malo, or loin covering, they then waded into the marsh and set the 'ilima bushes upright in circles, binding them together with four or five lengths of the pōhuehue vines. Within these circles they piled their bundles of detritus to form a foundation, heaping mud on top of them, which they threw in over the side... The result was a firm mound basketed in a circle of 'ilima bushes upon which they could plant new cuttings...

Of the 2,000 acres in Waikīkī, the farmers probably worked no more than 20 or so acres. If each member ate on average 4.5 pounds of poi a day (some say the old Hawaiians might have eaten 10 to 15 pounds a day depending on the type of work they were doing and the abundance of the supply), and if one acre of taro produced 8,000 pounds of poi a year (an acre of taro today produces

up to 40,000 pounds of poi), to feed 100 people an average of 4.5 pounds of poi per day would require about 20 acres...

Waikīkī was the ideal place for taro cultivation, providing an abundance of water and sun. The latter element is a key one, for taro grown under sunny conditions matures noticeably faster... Waikīkī, with an average annual rainfall of less than 30 inches, enjoys more than 350 days of sunshine a year and, in this respect, is an even better place for growing taro than Kāneʻohe, which much of the time lies in the shadow of the Koʻolau Range... (Kanahele, 1995:19-22)

With over 250 days of sun and constant water flow from the perennial streams of Mānoa and Pālolo, Waikīkī was an ideal place for farming.

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7. INTERVIEWS AND CONSULTATIONS

Based on expertise and recommendations from members of the community, information from numerous interviews are included in this study. In preparation for project plans Honua Consulting is tasked with interviewing individuals with lineal and cultural ties to the area of Waikīkī and its surrounding area with regard to regional biocultural resources, potential impacts to these biocultural resources, and mitigation measures to minimize and/or avoid these impacts.

Based on input from the interviews, archival documents from John Lind were identified. His son, journalist Ian Lind, has an electronic collection with his father's papers and photos.

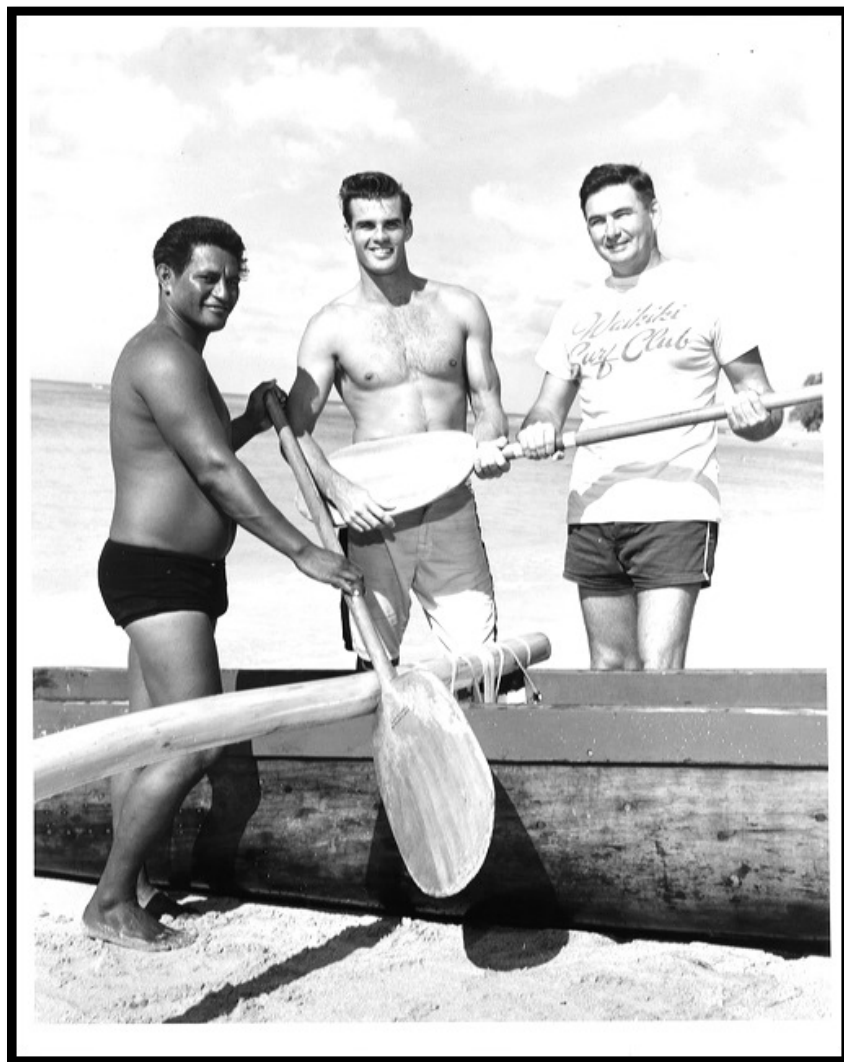


Figure 14. Waikīkī Surf Club Co-Founder John Lind with two men. n.d. Photo by Clarence Mac Maki, courtesy of Ian Lind.

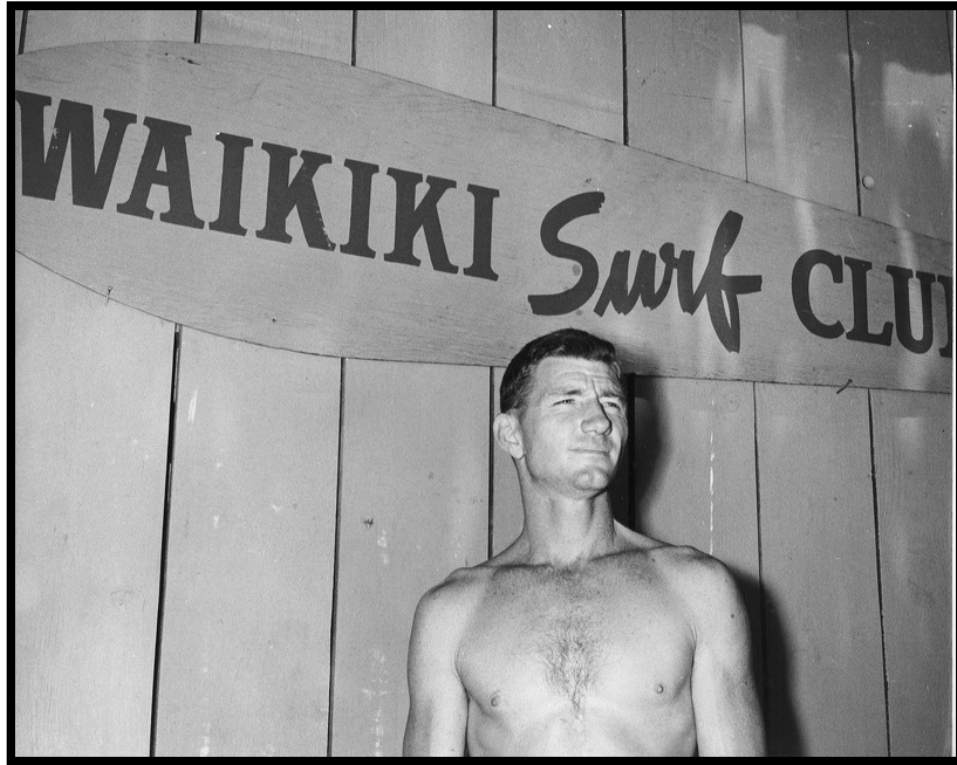


Figure 15. Waikīkī Surf Club Co-Founder Wally Froiseth, 1955, Waikīkī. Courtesy of Ian Lind.



Figure 16. Waikīkī Surf Club on Waikīkī Beach, Christmas Day, December 25, 1948. Courtesy of Ian Lind.

The John Lind collection includes early copies of *The Surfer*, the newsletter of the Waikīkī Canoe Club. Select copies are included as Appendix A. A written history of the origins of the Moloka'i Hoe written by John Lind is also included as Appendix B.

Names for these interviews were gathered from consultation with the Waikīkī Surf Club. Club members provided names of individuals they believed would have historical knowledge and valuable cultural insight into the area and proposed project. This list of individuals suggested by the Waikīkī Canoe Club is provided below:

Luana Froiseth

Glenell Choy

Kuumea Gora

Niulii Heine

Lapule Schultz

Lilikala Kameeleihiwa

Manu Boyd

Rose Lum

Nappy Napoleon

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Kawika Kawaa Napoleon

Walter Guild

Kea Pai'āina

Pua Pai'āina

Representatives from the following clubs: Hui Lanakila, Waikīkī Beach Boys, Keala Canoe Club

Sam Ahai

Kamoa Kalama

Nainoa Thomas

Bruce Blankenfield

Scott Wagner

Tracy Pagud

Blane Gaison

All the individuals named were contacted by Honua Consulting. Those who consented to interviews were interviewed and a summary of each interview was completed and sent first to the individual interviewed for review. These interviews have been reviewed and approved by the interviewees before inclusion in this report.

Additionally, all the board members from the Waikīkī Surf Club were offered opportunity to be interviewed or provide information. The result of these efforts were eleven (11) interviews with knowledgeable area users and practitioners.

7.1 Interview with Ian Birnie

Interviewee: Ian Birnie

Interviewer: Cami Kanoa-Wong

Biography

Ian Birnie was born and raised in Honolulu. He now lives in Kailua. He had a career in the military (21 years) and later worked for the Hawaii State Department of Transportation for nearly 29 years. Mr. Birnie has a robust historical connection with the project area. He previously served as the Harbors Manager, which included the Ala Wai Boat Harbor.

Overview

Mr. Birnie possesses intimate knowledge of the project area, including the history and changes of Waikīkī and the Ala Wai. Further, he has recreated on the Ala Wai for many years. Across his interview, he detailed the increased development that has occurred in the area over the last several decades.

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General Discussion

Mr. Birnie is most familiar with Ala Wai Canal closer to the Diamond Head end of the canal. He detailed that the Ala Wai Canal has been a favorite for canoe paddlers for as long as he can remember. He noted that many clubs house their canoes on the mauka side of the Canal (by McCully street) and many clubs use the canal for practicing.

Mr. Birnie detailed the history of the area. To his recollection the area was a swamp and duck pond when his father first arrived there. He further believes that the Army Corp of Engineers built the canal in 1923. They cleared the swamp in order to develop Waikīkī. Mr. Birnie was young enough to remember that the tallest building on the island was the Aloha Tower, and further that the Moana was only two stories and the original Royal Hawaiian was three to four stories.

Biocultural Resources

Today, Mr. Birnie is aware that the canal is used by canoe paddlers. Any development in the project area should consider if there is enough room for the canoe paddlers to make turns and effectively maneuver.

In past years, Mr. Birnie canoed and rode in small boats in the Ala Wai Canal. He explained that there was once a concession at one end, by the McCully Bridge, where they rented battery-powered boats.

Impacts

Mr. Birnie iterated that he had trouble visualizing many people walking from Waikīkī to Kapahulu via the foot bridge. He explained that the impacts depend on the activities happening on the mauka side of the bridge.

Mitigation Measures

He believes that the canal is a great asset but explained that it needs further work to keep clean. Mr. Birnie detailed that the garbage trap on the makai side of the McCully bridge should be cleaned regularly, since there is a large amount of refuse that flows downstream. Further, Mr. Birnie raised concerns regarding the bureaucracy and permitting/planning processes of the County. He is of the opinion that the County is often not transparent in the permitting and planning of various developmental projects across the island.

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7.2 Interview with Glenell Choy

Interviewer: Kēhau Watson

Interviewee: Glenell Choy

Location: Zoom

Biography

Ms. Choy was born in Laie, O‘ahu. She moved to Paoa later, and currently lives in Kaneohe. Ms. Choy previously worked as a teacher at Kupono Learning Center, and also worked for Hokulani Elementary for 3 years. Ms. Choy began paddling when she was 11 years old and remained a life-long paddler. She has coached for many years and ended up as a head coach at Waikīkī Surf Club.

Overview

Ms. Choy possesses an intimate and robust personal history with paddling. She began paddling when she was 11 years old and has been with Waikīkī Surf Club for decades. She is currently a head coach. Ms. Choy explained that the club serves as an ‘ohana and community foundation for the members of the club. Moreover, the club also acts as a cultural touchstone for its members, and instills in its kids the values of dedication, work ethic, and respect. She is concerned that the bridge will impact the ability of the canoe club to serve these roles for its members and community.

General Discussion

Ms. Choy has paddled since she was 11 and is intimately familiar with the project area and all of the major canoe clubs, including Waikīkī Surf Club (where she is a head coach). Ms. Choy began paddling because her older brother was a paddler. At the time, Waikīkī Surf Club was behind the YMCA. The club moved to its current location when she joined, moved later to Ala Moana, and eventually moved to current its spot on the Ala Wai.

Ms. Choy’s favorite memories revolve around the community and ‘ohana that the canoe club created for its members. She has fond memories of parties at member’s homes for races and traveling to neighboring islands. It gave many paddlers the opportunity to travel abroad as well, to Samoa, Australia, Tahiti, etc. These became cultural exchanges.

Ms. Choy appreciates that the club is a safe space for its members, and particularly that it is a safe space for the members’ children. The kids start as young as 9; Ms. Choy explained it is an important cultural touchstone for the young kids. Moreover, she explained that the club also taught many of the kids the value of work ethic, respect, and commitment.

Biocultural Resources

Ms. Choy detailed several Koa canoes that are incredibly important in the paddling world. They include (but are not limited to) the Lanakila, Malama, and *Malia*.

Impact

Ms. Choy is primarily concerned about the impact of additional traffic. She remembers in the 80s there was a hearing for a similar bridge that was not constructed. The problem voiced at the time was, again, the amount of traffic. The club fought for it to stop at the hearing. At the time, they were concerned that while the bridge may initially be designed for pedestrians only, it would later be used for vehicles. Ms. Choy said they share the same concerns with the current project.

Mitigation Measures

None presented.

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7.3 Interview with Ian Custino

Interviewee: Ian Custino

Interviewer: Kēhau Watson

Location: Zoom

Biography

Ian Custino is a Project Manager for Kamehameha Schools. He was born in Palolo, Honolulu. He was raised on Kauaʻi where he started paddling as a young man. He attended University of Hawaiʻi, Mānoa. Mr. Custino currently lives in Honolulu and has extensive personal history in the area, paddling on the Ala Wai regularly since 2006. He has paddled for the Kamehameha Canoe Club and also coached the Waikīkī Canoe Club, ages 12 - 16.

Overview

Being intimately knowledgeable of the area, complemented by a fluency in the cultural significance of paddling in Native Hawaiian culture, Mr. Custino possesses expert knowledge regarding the potential impacts to the project area. Mr. Custino discussed the threat to resources - the ʻāina and kai - and the importance of the area through moʻolelo. Further, Mr. Custino regards the action of paddling and mālama for the canoe ritualistically, pursuant to the kuleana that the space commands as detailed in the respective moʻolelo. In this way, Mr. Custino views paddling in the Ala Wai as beyond mere cultural significance, but a kuleana that kānaka must fulfill.

General Discussion

Mr. Custino discussed his personal biography and ties to the area. He detailed his experience in paddling on teams and as a coach. The area is associated with several moʻolelo concerning figures such as Pele, Hiʻiaka, Kamapuaʻa - specifically Pele's battle with a moʻo. Each of these figures has kuleana to the area, thus informing the performance, protocol, and kuleana that people today must also afford the area.

Logistically, the parking lot in the area is solely to be used by park visitors. However, it is often used, unrightly, by residents in nearby housing structures, along with the nearby schools such as Iolani. The parking lot is often pushed beyond its capacity when there is an event such as Iolani Carnival or baseball games, making access to the hālau and docks difficult. The hālau in the area houses several canoes and serves as a meeting place for canoe club members. Several schools also house their canoes at the hālau.

Biocultural Resources

Mr. Custino detailed that the two primary biocultural resources in the area are the kai and ʻāina. As detailed and informed by the moʻolelo associated with the area, the action and

practice of paddling fulfills kuleana to the space. Geographically, the area is key to the regional ahupua'a with three streams culminating into the Ala Wai, fulfilling the connection of mauka to makai. Thus, the space carries with it an important liminal connection of being the joint between 'āina and kai. Kānaka are joined to this space through their kuleana - through acknowledgement, honor, and performance with the space.

Further, the hālau houses several invaluable koa canoes. Koa, as a uniquely endemic species to Hawai'i, is culturally significant. Koa trees large enough to construct a canoe are rare, making the canoes both materially and culturally significant. The security of these canoes may be put at risk by the increased foot traffic that will undoubtedly arise from the project.

Impacts

Mr. Custino detailed many impacts to the area from the project. First is the height of the bridge and its impact on the water. Further, clearance on the McCully bridge is informed by changes to tide and sea-level rise, but also silt. It is Mr. Custino's suspicion that the variable of silt was not factored into the project's plans. Regarding the 'āina, should the dock need to be moved, grading will need to be done due to the geography of variable land height. In this case, the retaining wall will likely have to be addressed due to its age.

It is Mr. Custino's opinion that the project will certainly increase the demand for parking in the park's parking lot. As mentioned previously, the parking lot is often at capacity from the vehicles of nearby residents and schools. By creating a pedestrian bridge, Waikīkī traffic will be incentivized to use the parking lot. Currently this isn't possible - the closest nearby bridge is many blocks away. This could potentially inhibit access, not only for those seeking to park, but also for canoe trailers which are extremely long (over 40 feet). Moving canoe trailers is already difficult and involves careful maneuvering. Moreover, Mr. Custino raised concerns over the possible construction of a round-about at the park entrance on University Avenue. While perhaps efficient for traffic, it would make it difficult for canoe trailers to navigate the space.

Mitigation Measures

If the project is complete, at a minimum, Mr. Custino believes the hālau will need to be retrofitted. With the increased foot traffic, there will be legitimate security concerns for the hālau, specifically the invaluable koa canoes housed within. Further, the showers may need to be relocated.

7.4 Interview with Antoinette Konia Freitas, PhD

Interviewee: Antoinette Konia Freitas, PhD

Interviewer: Kēhau Watson

Location: Zoom

Biography

Dr. Freitas works at the University of Hawaii as a specialist faculty in Hawaiian Studies. She was previously Director of the program, but her term finished in July 2020. Dr. Freitas was born in Honolulu and raised in Halawa. She later lived in Makiki for 10 years.

Dr. Freitas is associated with the project area through canoe paddling. She started paddling up the Ala Wai when she was 16 years old. In high school, she paddled for Sacred Heart Academy and St Louis canoe club. Their site was next to the McCully bridge. After high school, she paddled for Hui Lanakila canoe club for at least 10 years. For the past 15 years, Dr. Freitas has paddled for Waikīkī Surf Club.

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Overview

Dr. Freitas brings an immense amount of knowledge regarding the usage of the project area for paddling. Her decades of experience paddling on the Ala Wai has resulted in an intimacy with the area having seen it undergo many changes. This is coupled with her cultural knowledge of paddling. Dr. Freitas explains the numerous impacts that the proposed project will have on the area - physically and culturally. Namely, it is Dr. Freitas' concern that the project will increase usage of the space, creating problems related to movement, access, and security to the hālau and canoes.

General Discussion

The Ala Wai has been used by canoe clubs for decades. They are intimately tied to the space and place, even acting as stewards of the area privately. For example, Dr. Freitas explained that the canoe clubs conduct private maintenance and care for the park, including weed-whacking and powerwashing. According to Dr. Freitas, the clubs also serve as their own security, doing a lot to ensure that the transient and houseless people don't harm their canoes or hālau.

Dr. Freitas detailed that the club secures their practice boats to the docks during the season. The racing boats and koa boats remain in the hālau. The club has had repeated problems with the security of their canoes. In the past, people have tagged them with graffiti and dragged them into the water. As a result, the clubs now lock up their boats.

There are two main areas for showering and washing. There is an area near the hālau for paddlers to shower. There is another spigot several yards from the hālau to wash their canoes. Maneuvering the canoes in this area requires abundant space, since during the season they will likely wash several canoes at a time. As detailed later, the project raises some concerns for Dr. Freitas regarding spatial requirements.

Bringing canoes into the area requires a long trailer, which is often difficult to navigate. People have to be trained to drive the long trailer. Dr. Freitas described situations where the park was so congested that they couldn't bring the trailers all the way into the unloading area near the hālau. Instead, in these instances they have to carry the canoes in.

Biocultural Resources

Dr. Freitas explained that the cultural significance of the Ala Wai rests in its space between mauka and makai. The water quality of the Ala Wai is a direct function of upland land use. The Ala Wai can thus be used as a way for people to engage in this upstream to downstream relationship and dynamic - an extremely important relationship in Native Hawaiian culture. To highlight the importance of this relationship, Dr. Freitas explained that the club performs an oli, or chant, before paddling as an act of protocol and deference.

Dr. Freitas spoke at length about Native Hawaiian canoe culture. She specified the important difference between canoe racing and canoe culture and practice. The culture and practice of paddling requires robust traditional knowledge passed down generationally. She detailed that even learning to rig the boat (assemble its parts before paddling) requires years of practice before achieving proficiency. Moreover, learning each component of the canoe and the role it plays requires the development of an ongoing and intimate relationship. The oldest canoes are approximately 80 years old.

Dr. Freitas explained that each piece of the canoe requires specialized skill and knowledge to craft and maintain. A traditional canoe craftsman must also intimately know the condition and state of the wood they're using: its quality, how it will bend, the stress it can support. In this way, each boat is a unique individual. To maintain a canoe therefore requires possessing an intimate knowledge of the individual canoe, informing a special intimacy between the paddler and boat.

This traditional knowledge is dying. Dr. Freitas explained that one must have an immense amount of training and apprenticeship to craft and maintain canoes, historically requiring the dedication of entire families. Many of the clubs are several decades old and require these experts. As the practice of crafting, maintaining, and rigging canoes proceeded for years, a real and tangible canoe culture emerged, rooted firmly within the values of Native Hawaiian community.

Impacts

The first impact Dr. Freitas detailed was the relocation of the docks further from the hālau, which the project will require. Dr. Freitas explained that the canoes are approximately 400 pounds, and moving them several yards away will pose serious access and movement issues. Due to their invaluable nature, they cannot be left on the docks. The docks themselves are an absolute necessity for the survival of the canoe clubs.

Moving the docks will also necessitate grading the berm, which would be highly problematic in the view of Dr. Freitas. It serves an important role in flood mitigation during king tides and storm events, particularly regarding the anticipation of climate change. During king tides, for example, the water will rise six feet in, submerging the docks. Without a berm, the walking path will certainly become submerged. The park is already designated as a retention area for large flood events.

The second impact Dr. Freitas detailed was anthropogenic. The project will increase the amount of foot traffic and parking in the area. Given the previous issues, Dr. Freitas is concerned that an increase in people will result in higher incidences of vandalism. She raised concerns with the security of the hālau, which is old, dilapidated, and in need of modifications and repairs in order to adequately secure the canoes and equipment. Already, some of the canoe club's equipment has to remain outside due to the spatial limitations of the building and have hence been previously vandalized.

Moreover, the nearby park is used for a variety of outdoor activities including soccer, baseball, and individual recreation. Sometimes, these various uses occur simultaneously. Dr. Freitas detailed instances of conflict over space and mobility, simply from trying to move the canoes from the hālau to the waterfront. Since congestion is already an ongoing problem, Dr. Freitas raised serious concerns that the project will increase the amount of people within the park, exacerbating existing problem.

This personal security becomes more important regarding the club's keiki paddling program and high school programs, where the clubs and schools respectively have responsibility over the keikis' wellbeing during paddling practice.

Finally, Dr. Freitas raised concerns regarding storm events and sediment. She voiced skepticism that the planners fully know how much debris is brought downstream in a storm event; for example, Dr. Freitas claimed she has seen large logs and shopping carts. She detailed that 12 feet of clearance might not be enough during a large storm event coupled with a high tide. Additionally, Dr. Freitas is concerned with sediment accumulation, and

questions to what extent the bridge will affect sediment movement and accumulation, which could inhibit paddling.

Mitigation Measures

Dr. Freitas explained that the bike path could be relocated so it wasn't between the halau and the docks, making access with canoes easier. Regarding security, a fence around an area to safely store outdoor canoes and equipment would be logistically difficult due to the spatial limitations of the area and several clubs using the same area.

Dr. Freitas detailed a conceptual idea that the club previously had of building custom saddles. This would allow some canoes to remain safely locked and secured outside during the season. During the offseason, the saddles could be removed for storage with the canoes. Finally, should the project proceed, the hālau needs several modifications and repairs (including its roof) in order for it to operate efficiently and securely.

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7.5 Interview with Luana Froiseth

Interviewee: Luana Froiseth

Interviewer: Kehau Watson

Location: In person at the Froiseth family home in Kaimukī, with additional information from a site visit with the Waikīkī Surf Club at the proposed project site

Biography

Luana Froiseth is President of Waikīkī Surf Club. She is the daughter of Wallace “Uncle Wally” and Alice “Aunty Moku” Kealiipuaaimoku Froiseth. Wally was a famed surfer when he met his future wife on Waikīkī Beach. Those who knew them recount that they were inseparable from the day they met. They become an extraordinary force for the culture and in the community. They married and started a family, having four daughters and one son, all while starting the Waikīkī Surf Club, which they led for decades. They also helped to create ocean events like the Moloka‘i Hoe and International Surfing Championships at Makaha Beach. Uncle Wally was also a master woodworker, and with his daughter, Luana, they handcrafted a koa canoe that he would lovingly name “Tutu” after his beloved wife. Upon their deaths, they were both cremated and their ashes ceremonially paddled out into the ocean in the *Malia*, as is tradition with the club. Two canoes are named for the Froiseths: “Tutu,” a koa canoe carved by Luana and her father, “Aunty Moku”, a fiberglass canoe, and “Uncle Wally,” another fiberglass canoe.

Luana speaks fondly of her father’s many years with the Polynesian Voyaging Society and the support her mother provided to him in these activities over their lifetime. Since their passing, Luana has lovingly carried on the lifework of her parents, continuing to led the Waikīkī Surf Club and serving as an instrumental member of the paddling community. She works part-time for a waste water management company. She was born on O‘ahu, in Waikīkī. Later, she moved to Kaimukī with her family. She’s been in Waikīkī Surf Club since she was born. The club has moved around throughout its history, but is now on the Ala Wai operating out of a hālau built with funds advocated for by her mother.

Overview

Ms. Froiseth has intimate knowledge of the project area and Native Hawaiian paddling culture, informed by an entire lifetime in Waikīkī Surf Club and in the ocean. She is a native practitioner and resident of the Waikīkī ahupua‘a. She herself is one of a few individuals who has built a koa canoe, having learned the craft from her father. She opposes the current location of the bridge, advocating for the cancellation of the project or relocating the project east away from the current proposed location. She has detailed numerous concerns and potential impacts if the project is to proceed.

General Discussion

Ms. Froiseth provided a thorough overview of the history of the club, including how the club has been repeatedly moved throughout its history since being founded in 1948. Originally located on Waikīkī Beach, the club was moved to Ala Moana Beach by the City, where conflict with recreational swimmers resulting in the City moving the club again. The club has been located at its current site since its hālau was built in 1988 as part of a project using federal funds to build numerous hālau for canoe clubs. Ms. Froiseth's mother was part of the lobbying effort to secure these funds. There were originally supposed to be thirteen (13) of these hālau built. The Waikīkī Surf Club's hālau was the first built in this project. Ultimately, only ten (10) of the 13 were built. Despite being a City facility, the club has assumed responsibility for maintaining and repairing the hālau. The club has had to recently make repairs to keep pigeons from infesting the hālau. The club also maintains the landscaping between the canal and the hālau.

Ms. Froiseth explained how increased in pedestrian and bike usage will impact access for the paddlers. She identified multiple situations in which bicyclists using the existing path rode at excessive speeds and stuck young paddlers. Also, it is becoming increasingly difficult to get pedestrians and bicyclists to yield for the large, lengthy canoes to cross the path.

She also explained how traffic and parking are ongoing challenges. There is limited parking, and the paddlers already have to share the space with other park users, including baseball players and other recreational users. Drivers also speed through the parking lot, and there have been numerous accidents, including one driver hitting the canoe trailer, which would have been devastating had a canoe been in the trailer.

Biocultural Resources

Waikīkī Surf Club is the owner and caretaker of the koa canoe, the *Malia*. The *Malia*, and its sister the Leilani, were both crafted from the same koa log. This is exceedingly rare, since koa logs are hardly ever large enough to supply the materials for two canoes. The Leilani was refurbished and is currently owned by the Outrigger Canoe Club. The *Malia* is not refurbished, and remains in its original state since 1948. It holds the most wins for koa boat races from Moloka'i to O'ahu. It was also used as a mold in California, which has served as the model from which modern fiberglass canoes are fashioned. The *Malia* therefore has had a significant and lasting impact on the modern craftsmanship of outrigger canoes.

The Ala Wai itself is an important resource, because it is a safe place for young paddlers to paddle on flat water. There are no other locations like it on O'ahu where so many different clubs are able to use a single property at the same time. It is critical to the perpetuation of the culture and in passing on knowledge about paddling to future generations.

The length of the canal is approximately one (1) mile, into which it is broken up four one quarter (1/4) mile segments, which allow the younger paddlers to practice this ¼ mile distance. This is the length of their race. Adults race a half (1/2) mile race. The Waikīkī Canoe Club's practice space is between the ½ mile marker (a marker is located on the makai side of the Ala Wai, approximately across the location of the current fourth dock in the vicinity of 'Olohana Street) and the ¼ mile marker, which is east of the ½ mile marker (a marker is located on the makai side of the Ala Wai, approximately across the Ala Wai Community Garden in the vicinity of Launiu Street). The proposed pedestrian bridge would cross through this designated practice area.

There are several clubs that use the Ala Wai for regular paddling. Therefore, any activity that impedes upon space in the canal or impacts one area's usage may impact all the users. Each club has a designated space in which to practice, this allows for all users to share the space effectively and safely. In addition to the canoe clubs, there are also kayakers and high school canoe clubs that use the space.

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Paddling events take place all year. Paddling activities also take place throughout the day, as different users have mindfully scheduled usage to allow for many different users to access the canal. The high school season runs from October to February. The club and kayakers use the canal all year. There are different competition seasons (i.e., short distance and long distance). These run throughout the year and the surf club has long been a participant in these traditional events.

Ms. Froiseth also talked about the importance of being able to teach the next generation about the practice. The Ala Wai is a safe space for young paddlers to learn how to handle themselves on the open ocean. Typically, young paddlers do not go past McCully Bridge. In addition to the water dangers, it was mentioned that people have thrown things from the bridge or over the bridge, which poses a real danger to the paddlers.

There has also been increased flooding as sea level rise and King tides have become an issue. Ms. Froiseth noted that the Ala Wai does not have weeping holes, which would allow for better drainage. The water undermines the wall where the City is proposing to place the new dock to replace the dock nearest the location of the proposed bridge.

Impacts

Ms. Froiseth believes that the project as proposed will have significant adverse impacts to the club and their practices.

She is concerned that the bridge will draw more people to the area. This will create crime issues, possibly resulting in additional vandalism or harm to the canoes. They have already

had situations where people have vandalized their canoes. They also had a situation where people launched the canoes into the canal. The canoes are expensive and require a great deal of money and energy to maintain. She is also concerned that more bicyclists or pedestrians would result in more accidents on the current pathway.

Traffic would also be an issue, as she believes residents who work in Waikīkī and/or visitors would use the Ala Wai Park parking lot to park their cars for free and walk over the bridge into Waikīkī. The result would be that paddlers would not have parking and not be able to get to the hālau for practices. This would be an impact to access for the paddlers.

As more water runs into the Ala Wai, the water quality gets worse. Sediment has built up higher and higher over the years. The channel is supposed to be dredged every 10 years, but in the area where the proposed bridge accumulates a lot of sediment, especially where the Palolo Stream empties into the canal near 'Iolani School. This area is known to the paddlers as "Big River." Ms. Froiseth is unsure how they will dredge should the project proceed; the new company doesn't have the same method of dredging. Yet, as sediment comes out of Big River, a river delta forms and the paddlers have seen how large that delta has gotten. This also impacts their ability to paddle in the area. Ms. Froiseth is concerned that this problem will be exacerbated by the project.

Mitigation Measures

Ms. Froiseth expressed serious concerns about the potential impacts of the project, especially to the activities of the surf club and its ongoing paddling activities. She does not want the project to go forward, as she believes it would have a devastating impact on the club.

Alternatively, she believes the bridge should be moved further east, closer to 'Iolani School (potentially crossing near the Ala Wai Dog Park and into Lewers Street). This would allow for the bridge to best serve its purpose for pedestrians without creating undue impacts to the park users. This would also discourage users from parking their cars in the Ala Wai Park parking lot and using the bridge to enter Waikīkī on foot.

Should the project proceed, the new proposed dock is a greater distance from the hālau than the current dock. This will be a challenge for getting the canoes to the water. The area should be regraded and the landscape should be significantly improved to make it easier for the club members to get the canoes to the water safely. The docks that are current in place have not been well-maintained by the City. Therefore, there should be a better maintenance plan or agreement put in place to help ensure that all the docks are safe, functioning, and available for use.

Also, the spigot and showers, if removed, need to be relocated to ensure that the paddlers have the ability to wash off and wash off the canoes. Washing off the canoes regularly is critical to their ongoing maintenance. Fresh water sources on site are therefore a necessity for the sustainability of the canoes, including the *Malia*.

The project should eliminate the proposed turnabout. The canoes are regularly taken out of the hālau for races, and the truck and trailer are too long to make the turning radius of the turnabout.

The City will also need to address the parking issue. Designated parking or some other sort of parking regulation should be implemented to ensure that parking is reserved for paddlers and other park users. The canoe club currently has a key for the parking lot, so they can get in when the park is closed to access their canoes. Some other system should be explored to make sure the paddlers can always maintain access.

The security of the canoes is also critical. Ms. Froiseth firmly believes that the project will attract additional people to the area, which poses a threat to the canoes. Measures should be instituted to provide security to the canoes.

7.6 Interview with Blane Gaison

Interviewee: Blane Gaison

Interviewer: Cami Kanoa-Wong

Biography

Mr. Gaison was born and raised on the island of O‘ahu in the district of Kalihi. Currently, he resides in Kaneohe on the Windward side of O‘ahu. He serves as the executive director for the Interscholastic League of Honolulu, which is an Independent School league in the State of Hawai‘i, on the Island of O‘ahu

Overview

Mr. Gaison has a robust understanding of the project area as it relates to its utility pursuant to his role with the Interscholastic League of Honolulu. This includes student athlete training, coaching, and competition across sports including baseball, softball, paddling, and kayaking. Mr. Gaison notes that he does not have much expertise in the cultural practices and resources of paddling, but nonetheless knows that the area is very important cultural and traditionally. Finally, Mr. Gaison detailed clearly that the area was vital for the continuation of the programs he oversees; and that the programs provide vital growth and development for their student athletes.

General Discussion

Mr. Gaison’s affiliation with the area is through his role as the Executive Director for the Interscholastic League of Honolulu. They utilize the facilities in the area for athletics. Primarily, they utilize the Ala Wai fields for their baseball and softball programs. At a former time, they utilized the Ala Wai fields for their soccer program. However, their soccer program is now held at the Waipio Soccer Complex.

The canal itself is utilized for their kayaking practices and races, usually held in the Fall season (August to October). Mr. Gaison said that they use the same area for their canoe paddling, including practices. Races occur outside of Magic Island. For practice purposes, they utilize the hālau for the storage of canoes. The teams utilize the area to start practices and for physical conditioning before they have to go out to the open ocean and start racing.

The majority of the school programs use the area to teach canoe paddling to kids before they go onto the open ocean. It is a safe and secure place in order to safely instruct the kids. In this way, the area is an incredibly valuable resource for the programs and student athletes. The area is utilized nearly every day from the beginning of August when the sports programs under HHSAA begin. It is Mr. Gaison’s view that their programs would not be able to exist without the area.

Mr. Gaison heavily recommended that Waikīkī Surf Club, particularly Luana Forseith, be interviewed. Their family is iconic in the area; Mr. Forseith was instrumental in the club's inception years ago. They played a vital role in building the halau and servicing the canoes that were housed on the Ala Wai. They still possess a tremendous impact and influence on the overall cultural experience of paddling. Further, Mr. Gaison recommended interviewing Dr. Blane Chong, who was instrumental as a coach of canoeing and kayaking.

Biocultural Resources

Mr. Gaison is not aware of any traditions or customs that take place near the project area. Nevertheless, he was adamant that the area was crucial and vital for the overall growth and development of their student athletes. Their program, grounded in interscholastic sports and competition, aims to enhance the overall growth and development of kids, while providing participatory opportunities. In this way, the area is important for community development. The facilities enable these activities and programs to continue.

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It is Mr. Gaison's hope that with time, the league could come to understand some of the cultural stories related to the area. He would like to incorporate the cultural values and stories of the area into their coaching and teaching to provide the kids an avenue into the traditions associated with the area.

Impacts

Mr. Gaison was not aware of any physical resources that could be impacted by the project. However, the project would certainly have a major impact, not just on their interscholastic programs from the ILH, but also for the canoe clubs and the kayakers that also use the canal on a daily basis. Mr. Gaison further explained that the area is also used by the public, recreationally, both on the fields and canal.

Mitigation Measures

Mr. Gaison did not propose any specific mitigation measures. However, he did recommend that the project be particularly cautious to safety, given the amount of kids that use the project area. They traverse back and forth from the Ala Wai to Magic Island via the project area. This was his main concern.

7.7 Interview with Margaret Niuli'i Heine

Interviewee: Kumu Hula Margaret Niulii Heine

Interviewer: Cami Kanoa-Wong

Biography

Kumu Heine is an Assistant Vice President for Branch Support Officer for First Hawaiian Bank. She was born on O'ahu, raised in the Kapahulu area, and later received a homestead in Waimānalo. She currently lives in Waimānalo. Kumu Heine is also the current Vice President of Waikīkī Surf Club. She has paddled with Waikīkī Surf Club for over thirty years and has also been a coach at the club.

Overview

Kumu Heine possesses intimate knowledge of the area and its multiple uses for canoe clubs, recreational paddling, sports, kayaking, and other recreational activities. She has robust knowledge regarding the history of the clubs. Further, she is deeply conscious of the cultural foundations of paddling and makes it clear that the canoe clubs serve as an important cultural touchstone for their members. Kumu Heine has concerns over the impact of the project on the functionality, sustainability, and existence of the various canoe clubs that have used the area for many decades.

General Discussion

Kumu Heine detailed how important the Ala Wai is for various canoe clubs. They have various sites where they have held practices. The site they're at now, however, is at the end of University Avenue to the end of the Ala Wai Canal. They have been here for over 15 years. Their canoe hālau was built for several clubs that practice in the area. There are three separate sites on the canal that house about ten clubs.

Kumu Heine provided the traditional place name for the area near the bridge of McCully street: Ke Ala O Ke Kai. This area has been associated with the following canoe clubs: Healani, Hui Lanakila, Waikīkī Beach Boys, and Kamehameha Canoe Club. Waikīkī Surf Club later moved further up the canal along with Anuenue Canoe Club. Anuenue held their canoes in the area, but would practice by the Hilton near the helicopter landing pad. The area was shared further with the Hawai'i Canoe and Kayak Team (HCKT). Schools also use the same area for practicing, including Kanalui (St. Louis and Sacred Heart). Punahou and Kamehameha Schools also used the area at one time. Formerly, clubs also used the Ala Wai for rowing. Hui Nalu and Healani had rowing clubs and held rowing regattas on the canal.

At the end of the Ala Wai Canal by the library is the Lokahi Canoe Club and Outrigger Canoe Club. These clubs would paddle in the Ala Wai frequently and used the area to house their

canoes. The Ala Wai was a crucial place for kids to paddle if the ocean were too rough; they would hold their practices at the far end of the canal.

Kumu Heine informed that the stream that comes through the Ala Wai is the Palolo stream. Kumu Heine has memories of swimming in the Ala Wai as a kid; they would jump off the bridge. As time went on, the water got dirtier and she wouldn't get in the water. She detailed that anything that the stream accumulates mauka inevitably makes its way down to the ocean.

As detailed above, Kumu Heine explained that paddling has been historically associated with the area for decades. She explained that paddling went simply beyond the sport, club, and competition and acted as a touchstone for and engagement with Hawaiian culture and identity. She raised concerns that ongoing building and development in the area threatened the area's paddling culture.

Biocultural Resources

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Kumu Heine discussed the cultural connections of paddling that are practiced at Waikīkī Surf Club. Konia Freitas serves as the cultural expert for the club. A gentleman, Kamakapili (a coach at one time) wrote an oli for the youth crews to recite. The oli was performed daily on the wall at the docks. In this way, paddling as a sport was also a cultural practice, and the club takes seriously the incorporation of other cultural practices (such as oli) into paddling.

Further, the members of the club also learn the Hawaiian names of the parts of the canoe. Members also learn how to respect and mālama the canoe. Waikīkī Surf Club is fortunate to have two koa canoes, which possess rich histories.

The Club also serves as a way to engage further with Hawaiian culture and traditions. Over the last five or six years, Kumu Heine explained that the club has done huaka'i (trips) when the club travels to neighbor islands. These include meeting with cultural experts. They have toured the salt ponds at Hanapepe, toured areas of the Bishop Museum that weren't open to the public, etc. The club tries to incorporate at least two of these trips per year.

Impacts

Kumu Heine raised concerns over the potential project. She believes that should the project proceed, none of the clubs will be able to practice there. She believes that during high tide, canoes will not be able to pass under the bridge. Kumu Heine is further of the opinion that the project will only serve tourism, and not the people who live in the area or recreate in the area. She is further concerned that the bridge may cause pollution and other detritus to get stuck under the bridge.

Kumu Heine is also concerned that the bridge will attract bicycle traffic, which isn't supposed to be on sidewalks. She is concerned that this bridge will increase the amount of bicycles on the Ala Wai Canal sidewalk which is reserved for pedestrians who are walking or running. This increase in traffic will undoubtedly impact the canoe community and the nearby hālau, along with the sports community that uses the nearby fields.

Mitigation Measures

Kumu Heine believes the only mitigation measure is to not proceed with the project entirely. She believes that the Ala Wai Canal should be dredged and cleaned up. She believes that, despite the plans for the bridge to only serve pedestrians and bicyclists, it will inevitably be modified for vehicles as well

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7.8 Interview with Auli'i Lezly Heine Hirahara

Interviewee: Auli'i Lezly Heine Hirahara

Interviewer: Cami Kanoa-Wong

Biography

Ms. Hirahara was born and raised in Kapahulu, Olomana, Kuliouou, and Papakolea. She currently lives on the Kalawahine Homestead and is a teacher at Kamehameha Schools.

Overview

Ms. Hirahara comes from a family of paddlers. She possesses a deep cultural connection to paddling and the community that canoe clubs create. Further, she speaks at length regarding the cultural and traditional values, 'ike ku'una, that paddling instills. She believes that these values need to be passed down to the next generation. A respect for the 'āina and kai, foundations of paddling culture, are necessary to live in a sustainable community and culture.

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Ms. Hirahara is deeply concerned that the project will affect the ability of the canoe clubs and community to continue their missions and practices, which have been ongoing in the project area for decades. She is also concerned regarding the further development of the area, and the lack of consultation with the existing thriving community.

Ms. Hirahara has been paddling her entire life, particularly on the Ala Wai Canal. She was raised in the canoe community, and her family (mother, father, sister, brother, uncle) were all paddlers. Her brother paddled and now practices sailing canoes. Her sisters also paddle in canoe clubs since they were children. She has paddled for the following canoe clubs: Anuenue, Hui Lanakila, and Waikīkī Surf Club. Her children also paddle in Waikīkī Surf Club, located at the project area.

General Discussion

Ms. Hirahara makes special mention that the canoe clubs serve as an 'ohana unit and as a community and cultural building institution. She mentioned that the kids learn how to take care of and respect the canoes, involving various protocols. Further, the clubs perpetuate their skills and 'ike ku'una, which involves mālama of the 'āina and kai. The canoe club has esteemed mentors and coaches who are vessels of generations of cultural knowledge. She details how the cultural resources are very tangible within the canoe community and that these resources are passed down to new generations. The Ala Wai serves as a crucial avenue of access from the surf club's hālau and docks to the ocean. The canal is also a safe place to practice and paddle when the ocean is rough.

The area is also used by Kamehameha School kayak program, which Ms. Hirahara's son is involved in. The canal is used for races. Ms. Hirahara also informed that other canoe clubs are located further down the canal near the library (including Lokahi and Outrigger), and that the project may affect their clubs as well.

Finally, Ms. Hirahara mentioned the myriad of health benefits that the project area provides for those in canoe clubs and for those who recreate in the area. She spoke strongly of these benefits that she and her family have received over the years.

Biocultural Resources

Ms. Hirahara views the Ala Wai Canal, project area, and its association with paddling, holistically. She believes that the cultural associations with paddling are an invaluable cultural touchstone for club members and their families. She makes special mention of the Ala Wai's role in the mauka to makai relationship, and that the Ala Wai needs to be respected and taken care of. She believes that the various activities that happen on and around the canal, including paddling, canoe clubs, and kayaking, help instill values of respect for the 'āina and kai.

Impacts

Ms. Hirahara is acutely concerned about the impacts of the project on the canoe clubs and canoe culture associated with the project area. She is also concerned about the impact the project will have on the free-flowing water of the Ala Wai.

Most importantly, though, Ms. Hirahara is concerned that the impact of the project will largely be cultural. She believes that that project will block the continuation of decades' worth of knowledge and customs, while also jeopardizing the development of the youth in the canoe clubs. Ms. Hirahara detailed in what ways the canoe clubs serve as a means to community development by teaching kids about camaraderie, culture, respect, and kuleana. She believes the project will negatively affect the ability for the clubs to propagate these values.

Further, Ms. Hirahara raises concerns regarding the further development of the area and what that means symbolically. Waikīkī is nearly unrecognizable compared to decades ago, and she believes that the land needs to breathe. She believes that the losses that will result from the bridge in the form of negative externalities to canoe culture will greatly outweigh the potential benefits to pedestrians.

Mitigation Measures

Ms. Hirahara doesn't believe that the project should be built given the myriad impacts she predicts it will cause, and the negative impacts it will have on the canoe community. She

raised concerns that the community and paddlers were not consulted at the onset, particularly given that the place is thriving with community and culture.

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7.9 Interview with Kēhau Meyer

Date of interview: September 16, 2020

Interviewee: Kēhau Meyer

Interviewer: Pono Fernandez

Location: Via Zoom

Biography

Kehau Meyer is currently a program officer at the Hawai'i Community Foundation and also serves as the head paddling coach for the women's team at Kamehameha Schools Kapālama Campus. Born in Honolulu and raised between Kailua and Honolulu, Kēhau has paddled for over 15 years. Following in the footsteps of her grandfather, she began her paddling career in her sophomore year of high school in 2002 and continued on to call the Ala Wai her home as a paddler in the Waikīkī Surf Club. Over the years, she has paddled for many clubs and in many spaces, but makes particular note of the impact her years with the Waikīkī Surf Club on the Ala Wai have had on her paddling practice.

Overview

Kēhau Meyer provided personal mo'olelo drawing from her experiences as a paddler on the Ala Wai Canal. As a practitioner growing up on the Ala Wai and now a coach, she advocates for continued water access and notes the genealogical connectivity and learning that takes place on the Ala Wai through the practice of paddling.

General Discussion

Kēhau Meyer's first recreational summer season took place on the Ala Wai with the Waikīkī Surf Club, the space adjacent to the project area. For her, paddling on the Ala Wai was more than just a sport. She and other practitioners have learned not only the tradition of paddling and steering the canoes, but also the rigging and preparation of the canoe to be out on the water--tying the canoe, securing an 'ama to the wa'a, securing an iako to the 'ama, all are practices important to the tradition of hoe wa'a.

In one personal mo'olelo, Kēhau shared about the treasures of canoe clubs, the legendary koa canoes. One of those canoes is the *Malia*, owned by the Waikīkī Surf Club which made the trek to California for a particular race. For Kēhau, being near or on this canoe is significant, because her grandfather once paddled the *Malia*. But for the tradition of racing, the *Malia* could also be considered the creatress of the fiberglass canoes of today. Kēhau shares that before returning home from that race in California, a mold was made of the *Malia*, which was subsequently used to manufacture the fiberglass canoes that are used for racing today.

The reverence with which these koa canoes are treated has created a standard of discipline for Kēhau, which she has taken to other canoe clubs which have not had the experience of caring for a koa. She spoke of wrist checks and pocket checks, during which all young paddlers made sure they were carrying nothing that would damage the wa'a, and the thorough post-practice rinse that was required for the koa canoes. Kēhau said that this discipline and cultural reverence for the koa canoes themselves, and by extension the practice, were standards that were built on the Ala Wai. And within that cultural reverence exists a sacred space--Kēhau believes that the hālau which hold the wa'a koa should be considered sacred space. Not only are those wa'a made of valuable material, the genealogical ties and practices associated with them are priceless.

Biocultural Resources

Kēhau Meyer did not indicate the location of biocultural resources in the area.

She did however indicate that storage access, water access, fresh water spout on the other side of the hālau should be considered resources that are essential to the operation of canoe clubs on the Ala Wai.

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Impacts

Kēhau stated that access is important for people in canoe culture. There are not many entry and access points for canoes, especially for those without trailer equipment. She noted that canoe clubs require a space that has access to fresh water, a ramp, a hālau to secure items, and ample parking, and wanted to make it known that all are vital to continuing traditions and practices of hoe wa'a. For the project area in particular, the fresh water spout on the other side of the Waikīkī Surf Club hālau appears to be within the impacted area of construction.

The removal of such resources engages a problem, and equity issues would arise if those resources and access points are removed from the project space. Kēhau shared in a personal story, that during her high school recreational seasons over the summer, she would catch the bus from summer school at Kamehameha to the Ala Wai for Waikīkī Surf Club practice. Because the canoe club was located near a bus stop, she was able to participate in paddling. For many of her high schoolers who paddle during the HHSAA season, however, there is no bus stop within a mile from their practice site at Sand Island, making access and participation in paddling problematic for many of the students.

To this point, if the project area poses impacts on parking, fresh water access, storage space, entry and exit, it could potentially take away the opportunity for all to participate in the traditional practice of paddling.

Mitigation Measures

Kēhau noted that there is ample space in a field area near the project area that, in her opinion, does not see heavy traffic. She suggested being creative about those spaces and leaving access for fresh water. Should construction start pushing people to a secondary boat launch, congestion and traffic occur in the other parking areas. She also suggested considering access points that might be further up the Ala Wai, near the library perhaps. And she also stated that if there is a resource taken away, that it should be replaced in a reasonable space.

Kēhau also stated that it would be important to work with canoe clubs to show them exactly where areas will be coned off or where spaces will be closed. She asked that ample planning time be provided if parking is going to be affected, and that every consideration be taken to not block, damage, interfere with the storage units because they do house very important cultural pieces. There is not a lot of storage space on the island for canoes, and in the past, people have vandalized wa'a. For these reasons, it would be important that construction not force clubs to move the canoes off site.

Kēhau also recommended that considerations be made for the high school seasons, not just the recreational seasons in the summer. Many schools utilize the Ala Wai as practice space and don't have other places to go. She suggested that the project be in close communication with all the HHSAA schools that are participating in paddling, providing them ample time to plan for adjustments. For example, equipment on a barge could pose a risk to high school paddlers and their season.

7.10 Interview with David Nawa'a Napoleon

Interviewer: Cami Kanoa-Wong

Interviewee: David Nawa'a Napoleon

Biography

Mr. Napoleon is the Dean of Arts and Sciences at UH, Kapi'olani Community College. He was born and raised in Palolo on the island of O'ahu. He currently lives in Kaimuki. Mr. Napoleon grew up paddling and his father was a coach for Waikīkī Surf Club.

Overview

Mr. Napoleon grew up in the area and has a personal history with paddling. He believes in the broader cultural value of Waikīkī, particularly regarding its history of providing resources (lo'i, fishponds, and coconut groves) as well as being a residence to many ali'i. Mr. Napoleon is concerned with the potential impacts that the bridge would have on canoe paddlers.

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General Discussion

Mr. Napoleon grew up paddling with Waikīkī Surf Club. His father eventually started a separate canoe club in 1983, and his father's canoe is in the current hālau in the project area.

Mr. Napoleon explained that canoe clubs have a historical narrative of moving locations due to development. He indicated that many clubs had beach-front locations in years past, but that over time many have been pushed away, often onto the Ala Wai. He raised the concern that there seems to be fewer and fewer places for the canoe clubs to relocate to. Mr. Napoleon detailed that paddling has been an ongoing cultural practice that has occurred in the area for years.

Mr. Napoleon recounted a story that there are blind mullet (fish) living in an underwater cave system in the area of Moili'ili that used to stretch up to the area near UH Mānoa's parking structure. Allegedly, fish would swim there through the system of caves and waterways from Waikīkī. Mr. Napoleon wonders if development in the area would further destroy the caves and their ecosystems.

Finally, Mr. Napoleon believes that the historical narrative of Waikīkī is filled with coercion and deception towards Native Hawaiians pursuant to the objectives of the commercial development of Waikīkī.

For future reference, Mr. Napoleon recommended a book by George Kanahale which surveys and details the lands of Waikīkī through photos, maps, and interviews.

Biocultural Resources:

Mr. Napoleon believes that the project area was at one time called Kalamanamana and Keokea, referencing old maps. The area contained some of the biggest lo'i used by Kamehameha to feed his people.

Mr. Napoleon also detailed the location of a stream on the far side of the Ala Wai near the library, where a stream goes underneath the road. He believes the stream is called Kukaunahi (older name of Kukaekaunahiokapueo). The name is tied to the story of Kapoi. Further, near Iolani School is Apuakehau stream, which empties in front of Duke's. Mr. Napoleon explained that when it rains hard, folks believe the area floods; but his mother said that it is simply the stream filling with water, over which has been development. He believes that ali'i used the stream for bathing. There is also Pi'inaio stream in the area. All of these streams converge in the area, originally used to provide water for lo'i and fishponds.

Through a gentleman named Mahuka, Mr. Napoleon claims that the area consisted of many ko'ele, fishponds, and lo'i. Mahuka (a former konohiki) received a Land Commission Award in the area and may know more about the project area's history, geography, and land use. It is anecdotal knowledge that the area was popular among ali'i and further that Waikīkī was used largely for lo'i and fish ponds. Mr. Napoleon believes that the history of Waikīkī serving as an important food resource for the area's former people, and for being the residence of many ali'i, is culturally significant.

Impacts

Mr. Napoleon recounted a story from his mother that the high tide used to bring the ocean up the Ala Wai. He believes that a high tide might pose an impact not just for the project area, but for the larger Waikīkī area.

In addition, Mr. Napoleon also said that he believes many canoes have been damaged from trying to navigate the waterway in its current state of development with the existing bridges. Adding another bridge for them to navigate may complicate the ability to paddle on the canal.

Mr. Napoleon doesn't believe the bridge or project should proceed. He cited concerns for what it will do for the paddling community, primarily regarding the potential that canoe clubs will have to relocate.

Mitigation Measures

None presented.

7.11 Interview with Scott Wagner

Date of Interview: 8/28/20

Interviewee: Scott Wagner

Interviewer: Cami Kanoa-Wong

Biography

Mr. Wagner was born and raised in Appleton, Wisconsin. He currently lives in Mānoa, O‘ahu. He is the Athletic Director at Mid Pacific Institute and also the Sports Coordinator of Canoe Paddling for the ILH.

Overview

Mr. Wagner knows the area through his role as the Sports Coordinator of Canoe Paddling for the ILH. He possesses insights regarding how the project could impact their student athlete activities on the Ala Wai Canal.

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General Discussion

Mr. Wagner is connected to the area through canoe paddling with ILH. Some of the associated schools use the Ala Wai as an access point to the ocean. In addition, they use the area to house the canoes while not practicing at the Ala Wai park. Mr. Wagner is not familiar with the cultural or traditional associations of the project area.

Biocultural Resources

Mr. Wagner is not aware of any specific biocultural resources associated with the project area. He is aware of the primary halau used to store the canoes (which Mr. Wagner details is used by many parties, including ILH). The Ala Wai is used for the ILH kayaking season and canoe practices directly in the project area.

Impacts

Mr. Wagner explained that the project area is approximately located near the ‘finish line’ they use for kayaking. In this way, the project could impact the kayaking season. He noted that since he lacks the specific variables of the project, he couldn’t be certain that the project would negatively impact their activities.

Mitigation Measures

Mr. Wagner noted that as long as their activities are able to occur in the water (including access to the ocean), especially their ‘finish line’ on the canal, that negative impacts would be greatly mitigated. He noted that previously they had attempted to move the ‘finish line’ closer to the ‘Iolani side, but that the waters are too shallow. Therefore, their current location is ideal.

8. IMPACT ASSESSMENT

8.1 Impacts to Flora

Due to the extensive development of the project area and its vicinity, native plant species no longer flourish within the Waikīkī district. The project area is overrun with invasive and non-native landscaped plant species. The project is not expected to impact any native, indigenous, or endangered flora. The impacts are further discussed in the draft Environmental Assessment.

8.2 Impacts to Fauna

Potential impacts to fauna are negligible, although the project should take steps to not adversely impact or remove the trees on either side of the hālau, as these areas are regularly used by the canoe club for events, including blessings.

8.3 Impacts to Historic Sites

The LRFI did not uncover anything of archaeological note during the pedestrian survey, which assessed the entirety of APE. There is a previously identified wetland within the project area, where construction is to take place. Human skeletal remains and pre-contact and historic era artifacts have been encountered within fill materials in Waikīkī, which necessitates the need for archaeological monitoring over the course of any ground disturbance activities.

The architectural reconnaissance level survey (RLS) completed by MASON completed a full inventory assessment of all historic buildings and structures within the identified APE. There is an anticipated adverse effect to the Ala Wai Canal.

There are also potentially indirect and/or cumulative impacts to the *Malia* Canoe and the Ala Wai Comfort Station. Those potential impacts are discussed in MASON's evaluation, which found that there will be an adverse effect to the *Malia*. In addition to the effects identified by MASON, it should be noted that Native Hawaiian practitioners, especially the paddlers, attach cultural significance to both of these properties. Both of these properties may also be eligible as traditional cultural properties, which is explained in the National Park Service's National Register Bulletin Number 38:

"Traditional" in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice. The traditional cultural significance of a historic property, then, is significance derived from the role the property plays in a community's historically rooted beliefs, customs, and practices.

The any potential impact to the Ala Wai Canal and potential impacts to the *Malia* and Comfort Station will be addressed through the NHPA Section 106 process and HRS Chapter 6E process, which will include consultation with the consulting parties, including practitioners.

8.4 Impacts to Intangible Cultural Resources

Intangible cultural resources refer to those resources without physical form, such as hula or mele, or in this case, paddling. The project would have an adverse effect on the extensive paddling activities that take place in the area.

The construction activities would take place in the immediately proximity of the paddling activities. Therefore, paddlers, as well as kayakers, would be directly impacted by construction activities, including noise, dust, vehicular impacts, and impacts from staging.

Paddling activities would also be directly impacted by the development. These impacts include the relocation of one of the four docks utilized by paddlers and relocation of the current showers and hose bib used for washing down equipment, which is a necessity of their maintainence.

Recommendations to reduce, avoid, mitigate, and minimize these impacts have been discussed with the practitioners, and should be codified through the Section 106, HRS 6E, and/or HRS Chapter 343 processes.

8.5 Impacts to Cultural Practices

The paddlers interviewed for this assessment identified extensive impacts to the cultural practice of paddling. The construction will temporarily displace parking and reduce access to the canoe hālau and Ala Wai. This will have a significant impact¹¹ on the numerous clubs and individuals who access the Ala Wai for paddling.

The construction will also impact the paddlers' ability to utilize the current practice lanes. The canal is divided into quarter mile segments for younger paddlers. Waikīkī Surf Club utilizes an area in front of their hālau. Construction will disrupt the current practice areas.

¹¹ Hawaii Administrative Rules 11-200.1-13 sets forth significance criteria under HRS Chapter 343. It states: "In most instances, an action shall be determined to have a significant effect on the environment if it may: (4) Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and State." (Emphasis added.) It should be noted that a significance effect is also weighed against any proposed mitigation measure(s).

8.6 Cumulative and Indirect Impacts

There are potential cumulative and indirect impacts from the project. This includes the potential loss of parking or an increased demand in parking due to the pedestrian bridge. The paddlers are deeply concerned that increased use of the parking area will reduce access or create dangerous conditions for the paddlers or their equipment (i.e., canoes).

Traffic already poses a risk to the paddlers. Paddlers recounted an incident where a driver crashed into a canoe trailer. Such accidents could potentially have a devastating impact to the canoes and club. There is concern that the increased use of the area will lead to additional traffic incidents.

There is extensive concern about the potential for increased crime in the area once the pedestrian bridge is built. The paddlers detailed the deteriorating condition of the hālau and the failure of the City to properly maintain the landscaping around the hālau. They noted ongoing issues with homeless persons using the area. They also noted incidents of vandalism on the hālau building or canoes themselves. There have also been incidents where people have removed canoes from where they were secured on site and launched them into the canal or caused damage to the canoes by climbing on them. There is concern that these activities will increase and worsen as a result of the project and location of the bridge.

Current pedestrians and bikers who utilize the existing path can sometimes make it difficult for paddlers to transport the canoes from the hālau to the water. The paddlers are concerned that increased pedestrian or bike use will make it increasingly difficult for the paddlers to carry the canoes across the pedestrian path to the water. There may also be increased conflict between these user groups, as it was noted that bikers have already stuck young paddlers with their bikes on multiple occasions.

8.7 Mitigation and Best Management Practices

The paddlers have made their opposition to the project clear. The consensus from the paddling community is that the best mitigation is to not proceed with the project or to move the project location to an area that would not impact paddling activities. Should the City and County of Honolulu proceed with the project as currently proposed in the preferred alternative, the City should work with the community to codify and commit to mitigation actions.

Best management practices should include scheduling construction to minimize impact to paddling activities. The City should include construction outreach in the construction contract to ensure that there are dedicated resources to communicating with the paddlers to

properly coordinate construction activities. Additionally, the City should require the construction team to minimizing impacts from staging, construction parking, and other construction activities.

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9. KA PA'AIKAI ANALYSIS, RECOMMENDATIONS, AND CONCLUSION

Based on the guidelines set forth in *Ka Pa'akai*, the Hawai'i Supreme Court provided government agencies an analytical framework to ensure the protection and preservation of traditional and customary Native Hawaiian rights while reasonably accommodating competing private development interests. This is accomplished through:

- 1) The identification of valued cultural, historical, or natural resources in the project area, including the extent to which traditional and customary Native Hawaiian rights are exercised in the project area.
- 2) Identification of the extent to which those resources—including traditional and customary Native Hawaiian rights—will be affected or impaired by the proposed action; and
- 3) Identification of feasible action, if any, to be taken to reasonably protect Native Hawaiian rights if they are found to exist.

In order to complete a thorough CIA that complies with statutory and case law, it is necessary to consult with Native Hawaiian cultural practitioners and lineal and cultural descendants from the project area and have meaningful dialogues with them that result in data that speaks to the intent of building a strong cultural impact analysis. From thorough interviews and research, data was extrapolated that provides an unprecedented comprehensive look at the previous cultural resources on this 'āina.

9.1 Identification of Cultural Resources and Customary Practices

This assessment thoroughly researched the cultural history of the project area and the Waikīkī ahupua'a as a whole. This effort identified extensive paddling activities in the project area. As documented in this assessment, canoe paddling is a traditional and customary practice. It has long existed in the Hawaiian Islands and has taken place in the Waikīkī area for centuries. Paddling on the Ala Wai has taken place since the first building of the canal nearly a century ago.

Associated with these paddling practices are ceremonial activities, specifically the blessing of wa'a (canoes) and using the historic *Malia* canoe for ceremonial purposes. The *Malia* has been used to scatter the ashes of beloved kūpuna in the waters off Waikīkī. This death ritual is not exclusive to Hawaiians, as customary practices associated with canoes can be identified in indigenous communities around the world, particularly in seafaring groups.

There is also traditional pedagogy that occurs in the area. The practice of building and caring for canoes is regularly passed on to younger members of the community. Through these

activities, many of which primarily occur at the project area, the craft of caring for canoes is passed on through generations, allowing for the custom to perpetuate.

9.2 Impacts to Cultural Resources and Customary Practices

There are a range of potential impacts to the resources and practices. There will be the relocation of the eastern most dock.¹² The shower / hose bib will be relocated.¹³ There is also substantial concern by the paddlers, as expressed through their interviews, that the project will create an increased security risk to the paddlers and their canoes.

By fundamentally altering the setting in which these practices occur, whether by increasing pedestrian and/or bicycle traffic, or by making the space inaccessible through construction activities, the project will have an adverse effect on padding activities.

9.3 Mitigation Actions

The paddling community has made their opposition to the project clear. The most desired mitigation action would be avoidance, which could occur if the project were not to move forward or if the project were relocated to another site that had less or no impact on the paddlers. If the project proceeds, mitigation should be developed under HRS 343, NHPA Section 106, and HRS 6E. These steps would constitute feasible action as called for under *Ka Pa'akai*.

Feasible actions offered by the paddlers include, but are not limited to, grading and relandscaping the area between the hālau and the canal to ease access; relocation of the dock (which has been committed to by the City); relocation of the showers / bib (which has also been committed to by the City); and improvements to the existing hālau. The paddlers have also sought some form of mitigation measures from the City regarding parking to ensure that paddlers have sufficient parking to access the area. Mitigation measures satisfying the *Ka Pa'akai* analysis are outlined and set forth in the Draft Environmental Assessment.

¹² The City has agreed to relocate this dock. A new dock will be placed on the western end of where the current docks are located. This placement will occur prior to the removal of the eastern most dock. There will be a note in the construction plans to ensure this potential mitigation measures occurs in a manner that mitigates any adverse effect from the loss of the eastern dock.

¹³ The City has also agreed to relocate this resource. Like the dock, the new shower / hose bib should be installed prior to the removal of the existing shower / bib as to avoid any period in which the paddlers would be without a way to wash down their canoes and themselves after practice. There will a note in the construction plans to ensure installation of the new shower / bib prior to the removal of the existing one.

9.3.1 HRS 343 (Act 50)

The City has a range of options to mitigate the potential impacts to canoe paddlers. To address concerns about security, the City may elect to pursue security measures to protect the hālau and its contents. The City should also consider relocation of the current pathway that bisects the canal and hālau to allow for unobstructed access for paddlers. Regarding the area and proper landscaping are also appropriate feasible actions to take to ensure the protection of traditional and customary practices. Mitigation measures proposed under HRS 343 are discussed in the Draft Environmental Assessment.

9.3.2 NHPA Section 106

Should FHWA determine that the project will have an adverse effect on a historic property, potentially the Ala Wai Canal or the *Malia*, Section 106 offers a mechanism to mitigate adverse impacts to historic properties that are on or eligible for the National Register. The project, with the lead federal agency (Federal Highway Administration), may choose to develop a memorandum of agreement (MOA) with the Waikīkī Surf Club and other consulting parties to identify mitigation measures to address the adverse impacts to the Ala Wai and the *Malia*. This could include some of the mitigation measures recommended by the practitioners to help protect and preserve the *Malia*.

Considering that the practitioners have attached cultural significance to these through properties through this ethnographic study, it would be appropriate to update the National Register to include this element. This could be done by completing a traditional cultural property study on both properties.

9.3.3 HRS 6E

Under HRS 6E, archaeological monitoring is appropriate for identification purposes in the area where a historic wetland was previously identified. The project is not anticipated to have any effect on other archaeological or subsurface properties..

The City may also determine that the project will have an effect on the historic properties the Ala Wai and/or the *Malia*, both of which are listed on the Hawaii Register of Historic Places. These properties should also be considered significant under criterion “e” per HAR 13-275-6(b)(5). It has already been determined that these properties possess integrity, and criterion “e” includes properties that “[h]ave an important value to the native Hawaiian people or to another ethnic group of the state due to associations with cultural practices once carried out, or still carried out, at the properties or due to associations with traditional beliefs, events, or oral accounts – these associations being important to the group’s history

and cultural identity.” Updates to the State Historic Register should be completed as appropriate and submitted for acceptance to the Hawaii State Register Review Board.

Based on the information complied, an appropriate effect determination under HAR 13-275-7 would be “effect, with proposed mitigation commitments.” Mitigation commitments, as permitted under HAR 13-275-8(1) should include:

- Preservation, which should include avoidance and protection to the extent feasible and appropriate cultural use.
- Historical data recovery.
- Ethnographic documentation.

Mitigation measures should be provided to the surf club and other Hawaiian organizations as appropriate for review and consultation as called for under HAR 13-275-8(2). The City will also need to consult with the Office of Hawaiian Affairs per this HAR.¹⁴

9.4 Conclusion

Paddling is a significant cultural practice with origins that extend back into Polynesian wayfinding traditions. As one of the Hawaiian culture’s oldest and most significant cultural traditions, the City has an obligation to ensure that the proposed project activities do not adversely impact this practice or the cultural resources associated with this practice.

Based on the information gathered and the assessment of the resources conducted, the project may have an adverse impact on canoe paddling activities that take place within or near the project area and on the Ala Wai Canal and outrigger canoe *Malia*. Extensive interviews were conducted with Native Hawaiian practitioners and individuals knowledgeable about the cultural resources and traditional practices. These practitioners expressed their opposition to the project and significant concerns about the potential impacts the project will have to their ongoing activities.

Mitigation measures, conditions, and best management practices (BMPs) have been recommended herein as feasible actions to be taken by the City to reasonably protect Native Hawaiian rights, traditions, customs, and practices associated with canoe paddling on the Ala Wai.

¹⁴ In December 2020, OHA joined the Section 106 consultation process as a consulting party. Consultation for HRS 6E-8 should be completed concurrently to the Section 106 process in order to streamline that consultation.

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APPENDIX A: Select Copies of *The Surfer*

DRAFT

PRESIDENT'S MESSAGE

Summer is over, it has been a very busy one for the club, with Canoe Races and our Annual Luau.

Our Canoe Crews came thru with flying colors, winning five out of six Regattas, thanks Wally and Jimmy. We all know how hard both of you have worked to produce a winning team. Thanks also to the crews who made it possible.

Our annual Luau was a great success. Thanks to all of the people who worked so hard.

Sue, the entertainment was terrific. I know everyone who attended really enjoyed it.

As of October 1, individuals will pay direct to the Waikiki Tavern for surfboard and clothes lockers.

We no longer pay rent or utilities due to a new arrangement your Directors have made with the Tavern. Our club members will be given first preference in the renting of surfboard and clothes lockers. There will be a special section set aside on the "old Hale AuAu" side for men and women clothes lockers. Price will remain \$1.50 per month and believe it or not!!! HOT WATER!!

Surfboard lockers will remain on the same location and at the same price, \$1.50, per month. Club canoes and beach will be available as usual.

We have finally realized a chance to save some money for a building fund or to rent a location in the future.

Our dues will be cut as of November 1, 1954 to fifty(.50) cents per month instead of the prevailing \$1.00. Dues will be paid to the Club by sending in a monthly or yearly check. All back payments on surfboard, clothes lockers and dues must be paid by November 1, 1954. Anyone not complying with our rules will be suspended.

Payment must be made by mailing direct to the club. Our mailing address is P. O. Box 2299.

Anyone having anything in our basement or office must remove it by November 1, 1954. Those with surfboard lockers by the stairway must make arrangements with the Tavern for a new location, see Miss Izumi at the old Hale AuAu office by Kuhio Beach.

I am urging all members to help out in all our coming activities.

Don't forget, "A member of the Waikiki Surf Club has something to be proud of as it is now a world famous organization thru the efforts of its membership--YOU!!!!!!".

Your help is needed, don't let the Board of Directors and your Officers down.

Mahalo nui loa

/s/ George Downing

COMING EVENTS:

1. First on the events coming up is the Aloha Week Luau. The event is to be next Wednesday, 10-20-54, with kau kau at 6:30 p.m. All members who would like to get in on the fun of helping at a bang up luau come down Wednesday and give us a hand as the Club won on the bidding to cater for this event and the Club will benefit in a large way from it. For more information, call H. Warren at 69220.
2. The Molokai to Oahu Paddle will be held on Saturday, 10-23-54 starting from Molokai at about dawn and ending at Waikiki in front of the Moana at around 2:00 p.m. About eight crews are entered. Our boys are training hard under Coach Froisath and we are all pulling hard for them to win this event a second time. We hear Blue, Blackie, Moke, Dutchie, Allen, McCarthy are getting in shape to push the Maliea across the channel.
3. Plans are being started for the Club's annual Xmas Diamond Head Buoy Race to be held on December 25, 1954.
4. The Makaha International Surfing Championships will be held the 2nd. and 3rd. Sundays of January with the Waianae Lions and the Surf Club sponsoring. Entries from Peru and the Mainland are assured. A luau will probably be held closing the second day. More of this later.

GOSSIP:

Congratulations to our Sue Mahoney who was appointed Aloha Week Entertainment Chairman and who is doing her usual terrific job of making things go!

Heard Jerry and Moe and Keiki are leaving for the "big island" this week where Moe will be detached from the "gravey train" he's been on for the last few years. They will be back in about three months as Moe has a swell job "peddlin' pills" for a big mainland outfit.

Seen Pat Peace's new hairdo yet???? Nizzzze!

Saw Sister and Roy Folk the other day at their new Aliimanu home. Both looked mighty healthy---they say it's the country air!!!!

Heard on the "opu grapevine" that lately weds John APO and Joe ALVES are going to be "daddies" several months from now. They are betting on boys, any takers??? Georgie and Gildia seem to be on the same subject.

Blake's gone again--Tom Blake folded his tent packed his board and silently slipped away to the mainland a week or so ago--he's been back and forth more times than a ping pong ball...

See where John and Lita Apo, Joe and Jinny Medeiros and even Mongo and Joan Kalahiki are getting set to move out to the Niu and Aina Haina area. Heard Gabby OPUNUI has moved to Kaneohe--looks like everybody's trying to get the sand off their feet--even Ma and Woody are on the slopes of Diamond Head.

WAIKIKI SURF CLUB

May 1955

THE SURFER

VOL. 11

PRESIDENT'S MESSAGE

Things are beginning to get into full swing in your organization as the summer season approaches and as a result many new faces are asking for the opportunity to assist on various projects. Most gratifying of all is the list of new members that has just been processed by your very active Board of Directors. The membership cards will be given to all new members at our next regular meeting to be held Friday night, May 6th at the Elms Club. Mr. Paul Strauch and H. B. J. Perry are doing a fine job on the membership committee.

Have you been to the beach lately? If not, you will find quite a change in the scenery. As our neighbors, we have the guests of the new Waikiki Biltmore Hotel and as a result the whole picture has changed. The Biltmore Hotel management has turned all beach services to Earl Akana who is doing a terrific job in that capacity. It's our job to keep our department in good condition from all angles.

We have the assurance of the management of the Waikiki Tavern that the area from the edge of the dining room (beach side) to the center of the green tavern building at the yellow wall is for the Waikiki Surf Clubs' use. It is our plan to have back rests and a few umbrellas available for your use just as soon as possible. The various outriggers (that belong to you) will soon all be in condition and will be on the beach so, come down and take advantage of your membership. Clothing lockers are now on the old Hale Au Au side close to Kuhio Beach. The fee for locker room privileges as a Surf Club member is \$1.50 per month with hot water. Sign up and take advantage of this very popular rate as there are very few lockers still available. Space is available for both men and women.

Our outrigger canoe crews are under the guidance this year of Blue Makua and Buddy Young who are doing a dandy job in getting the paddlers lined up. At the moment close to eighty paddlers are working out with the hope of gaining a seat on one of the twelve crews that are scheduled this summer. It is very important that paddlers now working out complete their membership blanks as soon as possible as all must be official registered members in order to participate under Hawaiian Canoe Racing Association Rules. Don't forget that this year calls for the CHAMPIONSHIP events to be held in Kailua, Kona again. That trip is one nobody will want to miss so join the fun - start now to get into the act by getting on one of the many committees that make any good project go. If your paddling days are over, don't step aside - keep right on going by helping on the promotional end. If you don't know how to go about that, see me and I'll sure do all I can to help you.

WAIKIKI TAVERN

SALAD BAR

DINING & ENTERTAINMENT

The 1956 trip to Australia looks like a reality now. Tom Moore and Tom Zahn are heading up the clubs team who are training now in the Australian ways getting ready for the Surf Life Saving competition due in early summer. If you are interested in this activity, contact Tom Moore at the Surfrider Hotel and he will be happy to advise you further.

May 3 to May 7 Surfboard lockers will be renovated. If you have a locker make arrangements to safeguard your board during this period.

Do you know your Directors? Here they are -

John Lind, President
Paul Strauch, Vice President
Dave Warner, " "
Larry Downing, " "
Harris Warren, Secretary
Richard DeWitt, Treasurer
Clarence Maki, Photography
T. C. Goo, Legal

Sue Mahone, Entertainment
Rachael Brown, Public Relations
Sarah Park, Publicity
Wallace Froiseth, Property
Buddy Young, Canoes
H. B. J. Perry, Membership
George Downing, Immediate Past President

All are known for their ability to get things done, however, its been agreed that if anyone finds his time such that he cannot attend meetings and handle the committee work assigned that a letter to that effect will clear the way for another to step in and take over the job.

COMING EVENTS

1. General Membership Meeting - Friday May 6th 7:30 P.M. Elks Club. Sound Movie taken by Bud Brown and George Tahara "Surfing in Hawaii". Awards for the Lanikai Association events will be presented.
2. Waikiki Surf Club Steak Fry. Saturday 6:30 P.M. May 7, Surf Club Beach
3. Moonlight Surfing (Full Moon) Saturday night May 7, 9:00 P.M. This event will go on after the Steak Fry. Search lights will be set up in three locations in the Waikiki district and will play out over the water illuminating the surfing lanes. All participants will gather on the beach in front of the Tavern before taking to the water. Get your friends to get in on this project and make it one of the biggest yet.
4. May 22nd is the first race of the 1955 Outrigger Canoe Racing season. Events will be held in Honolulu Harbor and will be under the auspices of the Propeller Club of Hawaii. Get your Surf Club shirt and be there. Your crews need your support. Lots of help will be needed too in running the events. Speak up if you would like to assist.
5. Watch for announcement of our annual LUAU. Always recognized as one of the better luaus held in the Islands. Start talking this up as it is not too far off.

EVERY BODY'S SUPER MARKET

635 PUMEHANA ST.

EVERY DAY IS BARGAIN DAY

6. Progress is in the making now for a real big money making project. This we need if we expect to carry out our objectives of the year. Watch for further announcements on this as action must be approved by the Mayor and the Board of Supervisors of the city on the project.
7. Save the first Friday night of every month for Waikiki Surf Club night. All future meetings will be held at the Waikiki Branch of the Library of Hawaii at Kapahulu Ave. and Ala Wai Blvd.

Get your tickets for the Canoe Racing Association Dance - June 11th Kamehameha Day to be held at the Waikiki Biltmore Hotel.

CHEM TOX

PHONE, 66874

FUMISEAL

TERMITE TREATMENT

THE SURFER
publication of
The Waikiki Surf Club
August 1955

THE JULIAN YATES REGATTA this month August 6th, at Kona, climaxes the 1955 outrigger canoe racing season, with the Waikiki Surf Club in every event, thanks to the terrific ability of our paddlers. To finish off the season, though, there'll be the Labor Day races at Kailua, Oahu and the September 3 Labor Day races, in Hilo, both of which the Surf Club will be in, with possibly two crews in the Hilo races. If you can be there, don't forget the paddlers can use your moral support.

BEACHCOMBERS DANCE, held July 24, under the chairmanship of no less than H. B. J. Perry, brought us a good profit of at least \$211, with a possible \$40 more to come in. Just as important as the dance was the occasion to pat our paddlers on the backs for the job they did in the Oahu group races.

LUAU PROFIT wasn't all we'd hoped it would be, but a good time was had by all.

LAST MEETING NOTES: President John Lind brought up the matter of the increased traffic in the surfing area, and recommended the club spearhead a community study of surfboard and outrigger canoe riding at Waikiki. The study would make recommendations to try and unsnarl some of the confusion that jams the waves, particularly on weekends.

Dave Heiser, back from the Mainland for the Summer, brought greetings from Pete Peterson, and told how the bunch around Santa Monica hungrily eats up all the news they get about the Islands. Dave also issued a blanket invitation for Isle friends to visit him when in California, and he guarantees a place to sleep!

Other returnees: Dave and Keanue Rochlan, Chubby Mitchell, Ardath Pope, Buzzy Trent. Dave and Buzzy came back on the catamaran Waikiki Surf, and, says Dave, it was 2,000 miles riding on something worse than a roller coaster!

NOTES FOR THE SURFER BULLETIN are needed from club members with better ears for news than your editor, so please drop news items in the Surfer suggestion box on the beach. Please Feed It Regularly.

NEW DELIVERIES: Mongo and Joan Kalahiki have added to the Kalahiki clan with a six pound eight ounce baby boy born July 23. A paddler for our senior six crew in 1975!

ALOHA, JUST FOR A LITTLE WHILE to Ethel Gately who left early August for a Mainland trip. Ethel's beautiful smile and the rest of her will be back, however.

MILESTONES noted include the birthdays of Millie Osborne August 12, Diana Hind July 29, Greg Hind August 6 and Jerome Kalama July 20.

NEW MEMBERS that we're real glad to have: Diane Bostick, Thomas Allyn, Victor S. K. Houston, Joe Maunakea, Nat Norfleet and Milton Mau. Hope they'll be around a LONG time!

THE LAMONTS have added their energy to the workings of the club. Ann, who is a paddler, has been named secretary, and George is a director. He replaces Harris Warren, who is unable to attend the directors meetings. Harris will remain as a director at large.

EMBLEMS for the Waikiki Surf Club have come into the limelight again, with a beautiful emblem designed by Joe Maunakea and friends, which they have turned over to the club for its consideration. It is shaped like the Hawaiian coat of arms, with the club's colors, red and yellow, on the outside, and a surfboard, two crossed canoe paddles, a canoe and Diamond Head inside. It has to be seen to be fully appreciated.

SECRETARY ANN Lamont gently reminds club members that dues are still due and it might be a good idea for paddlers to make sure they are bona fide members, to assure that they can paddle for the club. All paddlers have to be members in good standing of the clubs they're paddling for.

Dues may be paid at any time to Ann or George, "at any time, at any time," avers Ann. "We are from now on armed with our receipt books and change. I am on the beach every afternoon there is paddling."

Dues also paya [redacted] club meetings and by mail.

PRESIDENT'S MESSAGE: With the appointment of Ann Lamont as your new club secretary and George Lamont as a new director, activity (businesswise) in your organization is humming. The enthusiasm they hold for the future success of your club is bound to be contagious - so please, all - get the bug - and you too join in the club activity with the same spirit the Lamonts are showing.

Congratulations to the canoe crews for the wonderful job in the Oahu Championships. Let's hope all paddlers will be able to get to Kona and come home with the Territorial Championships. The Kona events will start at 10 a.m. August 6. One word of warning: We expect all club members representing the Waikiki Surf Club to conduct themselves properly in Kona. Be good Sports. Win or lose, help to make the club stronger through your actions - and remember, "You can do whatever you think you can but you'll never accomplish more...."

NEXT GENERAL MEETING OF THE CLUB will be at 7:30 p.m. sharp August 12 at Waikiki-Kapahulu Library. Let's make it the club you want it to be, That Surfing Club called "WAIKIKI".

WILL ANYONE KNOWING ANYTHING ABOUT THE CLUB TYPEWRITER OR ADDRESSING MACHINE - please write the secretary, Anne Lamont or phone her at 729421.

THE SURFER

JULY 1956

The WAIKIKI SURF CLUB----- Ph. 999094 --- P.O. Box 2299 --- ON THE BEACH AT WAIKIKI

YOUR PRESIDENT'S MESSAGE: Are you participating in and enjoying all of the Club activities, Canoe Racing, Surfing and the part you are playing in the Club's many projects? If not, stop and analyze the subject. A former Senior canoe crew member commented recently: "If any-one is paddling on a crew and not thoroly enjoying it, he should be putting his efforts into something else." Working on Club PROJECTS, whether paddling a canoe, working in a food booth, setting markers for the races, whatever your choice may be, it should be one you enjoy doing. If we all enter into the activity with a pleasant outlook, it really is fun. Let's try and keep our spirit high, enjoy whatever you do ----- do it with a SMILE and watch the pleasant results. Congratulations to all those who took part in the Maritime Day and Kamehameha Day projects. The Gold, Silver and Bronze Medals sure came the way of our canoe crews; a result of many hours of hard training, good instruction, good equipment and lots of enthusiasm. It was really good to hear the cheering and watch the friendly association at both events.

A careful study has been made to get the club committees set up for the coming year: Here they are:

<u>COMMITTEE</u>	<u>CHAIRMAN</u>
House and Grounds	Joe Maunakea
Canoe and Related Properties.....	Joe Kukea
Finance.....	Mung Yee Yap
Membership.....	Ethel Gately
Publicity.....	Clarence Maki
Entertainment.....	Margaret Hipa
Trophy	H.B.J. Perry
Hawaiian Canoe Racing Association(delegates) Jamma Kekai, Al Bostick, H. Cummings	
Chairmen for the Club's two major projects each year, International Surfing	
Championships and Diamond Head Surf Board Paddle: will be named shortly.	
John M. Lind(Pres)	

NEW MEMBER DEPT: Welcome to our Club: Cynnie Belle Ames
Leslie Kenani Hind Byron O'Neal Easley Jr.
Greg William Hind Jerry Walker
Donald Stroud Kerry Cloward
Maurice Ikeda Wm. Russell Johnson

SAN FRANCISCO MEMBERS: Harry and Dianne Hind with family Leslie and Greg, have arrived for the summer vacation. They will soon get the old tan back on.

GET WELL DEPT: Capt. John Gately had surgery at Queen's last week and now reported on the recovery list: the Beach is waiting to help with it's sunshine.

CANOEING: Training is going on enthusiastically with an eye to piling up the points and medals at the Outrigger's Club famed Walter MacFarlane Memorial Races, July 4th. Jamma Kekai has been named Co-Ordinating Coach with all Men's Senior Crew members as Assistant Coaches. Besides the 12 new Racing Paddles, 6 Work or Regular paddles have been purchased each from Allan Gomes and Joe Kukea, all delivered and working.

DUKE KAHANAMOKU TERRITORIAL CHAMPIONSHIPS at Hilo on the Big Island of Hawaii, is fast coming up; August 4th, AGREEMENTS for participating paddlers will be ready as soon as costs and the amount payable from the treasury is established, which will determine the share payable by each paddler. The Canoe clubs on Hawaii are planning a swell LUAU and entertainment for the visiting paddlers. This regatta event is always one of the outstanding sports events of the islands. See You There!

CONGRATULATIONS to Bud Belshe of Huntington Beach, Calif. for the good showing he made in the Keo Nakana Swimming Meet at the Natatorium June 21 - 24.

MISSING: Will the person to whom Perry handed Jesse Crawford's medal to hold, please turn it in to the Beach Office Attendant: Thankyou.

ASK AT THE OFFICE to see the new Waikiki Surf Club SOUVENIR PENCILS: The few cents profit goes to the HILO FUND. Quality is excellent, the price only 10¢ ea., 2/15 or 4 for 25¢.

CONGRATULATIONS AND GOOD WISHES TO Maile Lorch and her husband. AND we hear that the same will soon be in order for Sherri Steger and Frank Gutierrez. Mercer Vicens also taking the plunge: who is the lucky lady Mercer?

PRESIDENT JOHN LIND and family taking a couple weeks vacation on the Big Island.

EVERYONE IN ARREARS please talk to Jean at the office: dues are so low at \$6. a year or 50¢ a month. Paddlers have to be in good standing. Also it goes to help HILO FUND.

RODNEY BOTELHO back from Perdue University and again paddling for Waikiki Surf Club.

CANOE DEPARTMENT: Six excellent work paddles each from Allan Gomes and Joe Kukaa.

JOE MAUNAKEA (Mauna) has taken over his duties as Chairman of House and Grounds. The right man for the job. Has donated paint to brush up the club quarters and Chairs and Joan has arranged to brush it. Mauna and Geo. L. have as a project, a Surf Board Sign, atop our new nice roof; perhaps one on the Tavern wall too. Then there is the need for more Surf Board Lockers with nearly 150 new members this year; plans are afoot; if you need a locker, register with Joan in the office.

AN APPRECIATED DONATION (we assure everyone they all are) was made to the Hilo Fund by the Hind family. Thankyou folks. This with Perry's Steak Fry \$1.85, Al Bostick's Maritime Day Booth \$79.97, Kam Day Booth at Kailua \$52.69, Beachcomber Ball \$155.54, Ma Brown \$1, Al Bostick \$1., Manney Swardlin \$20., David Hartwell \$5. makes \$337.15 to date. The cost per paddler to HILO is \$37. It will be figured, right after the LUAU ON SAT. JULY 21st. how much the Club can pay per paddler and how much the paddler himself pays. At the same time, every paddler entitled to go to Hilo is entitled to sign their "AGREEMENT" stating how much the Club will be able to pay for them and what they will pay. The "AGREEMENT" is signed and returned with their amount. Tickets and meals will be arranged BY THE CLUB. All money has to be paid in this year before tickets are bot for anyone.

Mr. and Mrs. HIPA? Mrs. ANGIE ROBINSON, Ron. and Vicky HELDREICK attended a recent Board Meeting, suggested a WRITTEN NOTICE in future by paddlers, their parents or guardian. The excellent idea was put to a motion and everyone present voted in favor. The "AGREEMENT" for the HILO journey is the outcome of this very fine suggestion. It simplifies and makes definite, the project and understandings. The Board takes this opportunity of thanking these good parents for their genuine interest in making the Club what it aims to be. We would like others to give us their views too. If not convenient to attend a meeting, send us a letter, we will act on it and send you a reply.

WE FELT GLAD to be told by a senior member, a mother of three: "I feel satisfied when my children are at the club; I feel they are safer than on the street or playing with the neighbors or even at home: and the kids love it so much".

KAMEHAMEHA DAY PARADE: Hawaiian Canoe Racing Association (friend Louis Kahanamoku) and Parks Board Ted Nobriga arranged for canoe participation in this traditional event this year. WSC had our beautiful "MALIA" drawn by Buddy Young and Allan Gomes, followed by Joseph Napoleon with the official WSC Pennant and foot soldiers H.B.J. Perry, Alkey and Charlene Lewis, Millie Osborne, George and Anne Lamont. It was realized by all that

the KAMEHAMEHA DAY PARADE is a real opportunity to acquaint the public with the splendor of carrying on this sport of old Hawaii. For next year parade every paddler or and member should march: let us "ON PARADE" in full strength with our Gold & Yellow shirts. LUAU LUAU LUAU: The good news is out: a MOONLITE LUAU at the Ala Moana HAWAIIAN VILLAGE SATURDAY JULY 21st. A NEW LOW PRICE of \$3. for grown-ups and only \$1.50 for children 12 and under. TO SELL TICKETS is up to every member. ALL the money made goes to pay paddlers way to HILO. EVERY ticket makes a difference and MAKES THE AMOUNT PAYABLE BY THE PADDLER THAT MUCH LESS. Every paddler should sell two to five tickets and you are a better member if you sell more. Turn all money into the office or secretary EVERY DAY. THE SALES will be posted on the BULLETIN BOARD with CLUB and PADDLERS Share as they change. At the new LOW PRICE Tickets will sell easy. HURRAY FOR THE LUAU AND HILO.....

CLARENCE MAKI our Club photographer took some real pictures in the recent BIG SURF at Waikiki. Could you see and read the write-up in July 4th. Advertiser and see Wally & Blackout. These three belong to the best of surfers. Clarence is the only photographer known that is good enuf to both surf AND take pictures of the other surfers at the same time. We understand that copies of the pictures will be displayed at the club and can be ordered.

OUR GOOD MEMBER MANNEY SWERDIN, (of Hawaiian Electric) besides his donation to HILO fund, has shown his faith in the aims of our club by farther donating \$40. for a Surf Board for the use of young members 12 and under in good standing. It is understood that the board is for the use of those young members who have not access to a board or a board of their own. One hour use per day is allowed. Perry (also Hawaiian Electric) is responsible for the board but arrangements for it's use can be used by registering with Joan.

REPORTERS FOR "SURFER" ITEMS everybody chip in: tell any news (some gossip permitted) to Joan, Anne or other attendant at the office or mail it to WSC, box 2299. It will be written down and sure will get to your editor.

MARGARET HIPA and SHORTY OSBORNE both have excellent pictures of this year club events. They would likely let others have copies and the pictures are worth while as so many of the members are in them. Don't forget also the wonderful pictures available from Clarence Maki: he usually has a display at the club but also has hundred of club, paddlers, canoe, Makaha, Luau and subjects of all kinds over the years: can arrange to take pictures of you out in the surf. His pictures occupy a large part of the Club's SCRAP BOOK which, by the way, is an historical and well kept work of art.

NOTICE TO PADDLERS- PARENTS & OFFICIAL GUARDIANS regarding paddlers wishing to participate in the Territorial Championships at Hilo. A copy of the "AGREEMENT" form, is posted in the photo case at the Club for all to read and study. Before the Board will advance any expenses or part of expenses - this "AGREEMENT" and the paddlers share of expenses must be in the Club's possession on or before July 28th. Please phone the secretary if you wish information or do not understand in every way (phone 729/21 - Anne Lamont)

ON AN EVENING LAST WEEK H.B.J. Perry feted the Novice Girls Crew to a Dinner at WAIKIKI SANDS: they sold the most tickets for the Beachcombers Ball last month.

MANY HAPPY RETURNS to LYNN BOSTICK who celebrated her birthday recently.

REGARDING THE LUAU which is specially earmarked to lower paddlers share to Hilo. Directors and Senior members are taking this big responsibility to help you, the paddlers -----all they ask is SELL TICKETS. Ticket money is to be turned in each day to the office. DAILY RESULTS WILL BE POSTED AT THE CLUB. EVERY ticket and EACH ticket - sold - REDUCES the amount (share) to be paid by each paddler.

PERRY did a good job with the P.A. System at Kailua. Profit goes to the HILO fund.

" THE SURFER "

Publication of the Waikiki Surf Club, P.O. Box 2299, Honolulu, Hawaii

AUGUST 1956

THE IMPORTANT NEWS OF this QUICK SURFER is the GENERAL MEETING of the W.S.C. on Friday Aug. 24th. 7.30 P.M. at Waikiki-Kapahulu Library. Medals and Trophies won at the Territorial Championships at HILO will be presented. SURFING & PADDLING Movies will be shown. Refreshments will be served. Paddling crews and friends are all requested to attend. H.B.J. is working hard and wants ALL members, new and old to be on hand. Perry says this is the BIG meeting.

MESSAGE FROM THE PRESIDENT will appear at length in Sept. issue. In the meanwhile he wishes to stress that Diamond Head Paddling Races and International Surfing Championships at Makaha are both coming up fast. Any-one who wishes to assist in these, please contact the office or Anne Lamont, Sec.

BIRTHDAY DEPT: Ian Lind son of our president, had his 9th. Shorty Osborne reluctantly had another birthday on the 12th.

DEPARTURES: Abel Gomes & family including our Jr. Champion Allan leave on the Lurline Sept. 5th. Harry and Dianna Hinn with Leslie and Greg leave same day same Lurline. Dolly Lewis, Charlene, Alky and Carter Aug. 27th. Candy Tappin and family left last week. Jamie McCracken left the 19th. Captain and Mrs Moore with Billie and Carolee who have been visiting with the Lamonts, leave on the 24th.

"JITS" (Lawrence) TABATA now reporter on the BEACH GOSSIP COLUMN says "Hi Members this is JITS the new Beach Attendant who is definitely GLAD to be on the Beach. The exchange of Command of RAKES & KEYS took place Thurs. Aug. 16. We will all miss you JOANIE and join in wishing you many happy hours in your position with the Frank Clinic.

& MRS. DANIEL NATHANIEL Sr. who were hosts to our girls at HILO race meet leave next week for an extended visit to the Mainland.

PERRY'S COLUMN (had to be cut down this time) In winning this year's regatta the Club has added 5 new trophies making now 83. A new trophy case is a must and already promised as a DONATION by our Clarence Maki with Al. Bostick donating the glass. That sure was a real race by the SENIOR MENS SIX at HILO, BOY!!!! Outrigger put up a real fight right to the end and lost by only a few feet, keeping the crowd in cheering suspense the whole 3 miles. That race also won us the REGATTA and by only 3 points. Outrigger was sure on it's toes this season and that's the way to be in good, friendly competition, the life and sport of old Hawaii.

MORE DEPARTURES: Hartwell Freitas Aug. 24th. Rodney Bothelo Sept 3rd. to M.L. Colleges. A/B Samuel V.K. Hipa Jr, AF29-048-717, 3281st. BMTS Flt. 383, Parks AFB, Calif. Drop him a line folks and tell him how we miss him paddling---- ALOHA Vincent!!!!!!

A WONDERFUL LUAU AND TIME was had at our last and it made possible a WONDERFUL TRIP to HILO. Our Alohas to the Committees and workers that put it on. More next issue.

JITS HAS A NEW REGISTER BOOK at the office..everybody put their name down every day --also see that every-one else does too. Let us really show in this way our appreciation of him and the Club, how many members and guests visit and like it.

JOE MAU'AKEA is in charge of House and Grounds.. notice the newly enameled chairs and improvements. We hear a new surfboard type sign is soon to be erected also a paint and clean-up campaign and a wonderful new clock which will be donated.

NEW MEMBERS since July issue: Billy Moore, Anona Naone, Tony Gora, Ken.T.Mendes, Leroy AhChoy, Jesse Crawford, "Ducky" Auld, Lawrence Wise, Marianne MacDonald, Alfred Kalua'u, Henry Miki, and John Clark. ALOHA new members, welcome to our Club. Help us keep it clean and make it better.

Being News of The WAIKIKI SURF CLUB, Honolulu 15, Hawaii September 1956.

THE PRESIDENT'S MESSAGE: Greetings Members All: The way Waikiki traffic has tapered off since the younger members reported back to school, the tourists gone home and the outrigger canoe racing season is tapered away. It leaves all of you free to enjoy the pleasure of the Beach, if you are able to break away from those seen in the surf these week days. It's a real tonic to get to the Surf Club once or twice a week, even get out for a paddle on a board and, if you're lucky, an Outrigger canoe. In any event you should get a little sunshine once in a while. So, those who do not attempt to get away from your routine, make it a point to break away. It will pay off in good health if nothing else.

As a result of the poor turn-out of paddlers at the Labor Day events at Kailua, it appears that in future, WSC will not be participating in these events (subject of course to Board approval). The Club paddlers did nobly during canoe racing season having come thru undefeated. The fellows interested in participating in the MOLOKAI race will be seen working out regularly under the command of veteran Coach Wally Froiseth. It has been officially reported that our good friend "Blue" Makua has been given the green light and will be seen in action in the MOLOKAI event. While not officially reported, the charges against Blue, earlier in the season, were unfounded. The penalty he has paid, not being able to participate in canoe racing the past season, has been hard for him, but we wish to see him in action come the Molokai event.

International Surfing Championships at Makaha will be in the active promotional stage by the time this Bulletin is issued. It is suggested the word be passed around that all members ready to assist in this really great project, give their names to the office.

The annual Diamond Head Championships will be held the Sunday between Christmas and New Year. We know that as in years past, there will be a good entry list in both Stock Board class and Open Board class also in Wahine events. So start getting into shape, it's going to be a lot of fun both for competitors and spectators. Sincerely, John Lind.

CONGRATULATIONS to Board member and Club Photographer Clarence (Mac) Maki on his third place award in the National Photographic contest. It's no surprise to us who know of his dramatic and thrilling pictures and see them in the club Photo Display Case.

OUR OWN WALLY FROISETH has been asked by the Board and has accepted the overseeing of our entry and performance in the MOLOKAI-OAHU Canoe Race. HCRA lifted Blue's suspension and we are all as happy about it as Blue is. The Boys know we are going to have real competition this year and are really snorting at the bit. The smile on Dutchy these days is nice to behold, Jammer is all smiles too: if these boys are beaten, it won't be with a canoe. We love them and we all know our Club is the bestest. Wally just finished some pretty nice workmanship repairing good old training ship Lanikila. Our pride is the MALLA::: what a purty boat.

WE THINK JITS is doing a good job as Beach Attendant, what do you think? Everyone give him your kokua in keeping it neat and clean and your dues paid up too. You will soon see him in his new style shirt that tells everybody "WSC Beach Attendant". Ethel Gately relieves Jits on his day off, she sure knows her stuff and is a good worker for the club. With Anne Lamont to top off the office Trio: they are doing a nice job of looking after things and making the club the nice chummy place we want and well run.

CELEBRATING HER 10th. DAY IN THE WORLD we were glad to have Leiola Joy Froiseth born Sep. 6/56, in the Club "Register Book". What a pretty baby for sure and both Moku (her Mom) and Tutu who guarded her, say that she is so good and sleeps most of the time.

PERRY how about the new clock? We really need it don't we? We hear that Perry and Al. Bostick's furloughs coincide with Mauna's this month. The next thing we know, there'll be the clock, right above the new sign maybe. They're all good working members.

WELCOME NEW MEMBERS: Allen Kealoha Naone, (Mrs) Dorothy Schumaker and sons Mark and Kirk. Jack E. Conley, Trece Lewis, Harry Perry, Harrison Spiegelberg, Stephen Mojica Roy D. Ichinose, David Maki, Charles C. Groff, make yourself at home.

ARDIE FELSTEAD member of our Senior Wahine Crew was married Sept. 15th. to Charles Edward Newser, Honolulu Police Motorcycle Squad and Choral Group and as active in water sports as Ardie. After honey-mooning at Kaiser Hawaiian Village and Kauai, they will make their home in Kaneohe. The Advertiser ran their story and an excellent picture Sunday Sept. 23rd. Every officer and member of our club joins in wishing them Long Life and Happiness.

Everyone who has an idea for a Club Song submit your suggestions or entries to the office. \$5. reward to the one chosen. (Another Perry donation and we do need a Club Song so.)

HAPPY BIRTHDAY TO: Roy Higa, Vickie Heldreich, and Mary-Anne Higa. What a lovely party Mary-Anne had!

BRUCIE ANES appears at the club again doing nicely after a broken shoulder. BOY!

BE SURE TO SIGN in JITS new REGISTER BOOK every time you come to the Club (and your guests (and friends)) It even tells you each day, how the waves are. Nice idea Jits.

THE NEW EDITOR AND ASSISTANT for your SURFER are Al. and Diane Hostick. It's not too well known but Al. (our V.P.) majored in English Literature in College and has had a number of his efforts accepted and published. They are both very active and productive club members and have produced one of our foremost Wahine Junior Surfers, their daughter Lynn, 9 years old. She rides with the best of them on her very own standard type balisa board. You might guess that it's quite a job to find out all the news without help so, anything you think is NEWS and for the good of the Club, write it out and give it to Jits: he might even write it out for you (if you tell him). Let's make this our FAMILY NEWSPAPER by getting the NEWS to Al. and Diane. (Tell Jits as soon as you hear some).

Member GILBERT MINN who helped so much with International Surfing Championships last time called up asking what can be done toward having a canoe available for us all to entertain our friends like we used to. The message was carried by fast horse to Pres. John Lind who reports that, after the last get-together of himself, Wally and the bunch when Frank Hendriques generously came over from the Big Island purposely and brot his big plane; they put in several big days working over the KULANI. It promises to be an excellent canoe for such use and a perfect piece of wood. Only a few more days work is needed to make it one of the best on the Beach and surfworthy. 4 volunteers needed: please let Wally know you would be willing to lend a hand.

WSC played host to our Frank Hendriques and the KAIOPUA CANOE CLUB of KONA over Labor Day. They were dined at the Waikiki Sands, Downtown. Lovely girls, wonderful people, a nice get-together. After the meal a City Tour in 8 members cars, a stop and a chat at several points of interest and a fond Aloha. An evening we all enjoyed and will be cherished in our memories and those who have been so nice to our club over there.

Junior Members SURF BOARD PADDLING RACES to be held on WAIKIKI under direction of Clarence Maki, Joe Kukea and Noah Kalema. Watch for the dare and GET READY JUNIORS.

HAROLD P. RALPH (Ford Motor Co) and family of New Zealand visited with Anne and George Lamont while passing thru our Fair Hawaii. Last month Mr Oliver Symes previously of Ford Motor of Canada, now transferred to Australia, renewed acquaintances with the Lamonts.

DOLLY LEWIS and FAMILY, Charlene, Anita (Princess), Alcie and Carter really had a send-off at the Airport for sure. Club members, friends and relatives galore showed their love and regard. They were piled high with leis, from every-one and tears flowed freely. Dolly wrote saying "THANKYOU EVERYBODY" and to tell of safe arrival and their regards to us all: a lovely wedding and her new name and address Mrs Harlo (Lucille) LeBard, 1821 McDuff St., Garden Grove, Calif. The kids say swimming is good, water 70 degrees.

HARRY & DIANNE, Leslie & Greg HIND and ABEL GOMES and family left this month as scheduled. We figure well over a hundred club members and friends enjoyed the Lurline farewell, a real Bang-up party for sure. ALOHA you all and we miss you too.

Howard and Rene MEADOR left early Sept. for San Francisco amid the farewells of their host of friends and members. For safe-keeping, Howard carried his board with him; Yep, y' guessed it, he dinged it off the baggage rack. ADAMS- ADAMS! Best love folks.

PERRY advises a CHECKER TOURNAMENT at an early date; watch the Bulletin Board.

JITS says it's astounding how "Sally" Hale at the Outrigger Club predicted the FIRST BREAK waves Sept 5, 6, & 7th., weeks ahead of time.

Should you see A CUTE WAIFING GAL at the Beach with scratches on her legs and arms, don't be alarmed she's not a Lion Tamer but CHRISTY DONALDSON our WSO's skin diver Deluxe. But Say, Christie explain us how cum you run after a fishes on de reef wit fins on?

SHORTY now has a Hearing Aid; watch out wat you say maybe she tuning you in.

YOU KIDS who are interested in GYMNASTICS Joe Hadley & me(Jits) will conduct a Hand-Balancing and Stunt Class every Sunday afternoon. Some of the Junior Members already started are Kala & Kahalo Kukea & Mele, Allan Cross, Lucky McGurn & Lynn Bostick.

Sassy Hiona just Missed a trip to the WEST COAST BOXING TOURNAMENT. He had to fight twice the same pite to qualify and lost the second bout to last year's defending champion. But a pretty keen boxer and nice club member. Better luck next time. MIRIAM
D. S.
Brown

Charter Member MA BROWN has donated a Juke Box to the Club. Our next effort is to know where we can store and use it. Thanks MA for this and always so many of your nice kindnesses and helps. We would like to see you at the club more but realize that you are busy and so much in demand in your dancing at the Beachcomber's, Kodak and many other appearances.

JEROME KALANA leaves for Down Under early October. Good Luck Jerome, lots of it: Aloha.

TOM PUNDYCK and TERRY EBERET submitted excellent new designs for the club's Coat of Arms. Every-one is invited to enter their ideas & sketches at the office.

JOE MAUNAKA, House & Grounds Chairman saysh he is taking his vacation shortly and hopes to use part of it in a clean-up, paint-up, improvement campaign and wants some volunteer helpers. New Steel Surf Board Lockers(40) on the Diamond Head wall, are in the picture for the future.

License and Permission now received, Jits will repair surfboards at the club. Good work at reasonable prices will be nice service for members.

Harriet & Harris Warren would like to thank everyone who helped them comb Waikeiki Beach in search of 2 year old Maki a few Sundays ago. He was finally found at the water's edge clear down by Kapiolani Park. Just to show what can happen if a "Ball and Chain" is not standard equipment on the family.

JOE & KAYE HADLEY participated in a recent BICYCLE TOUR OF THE ISLAND week-end. George & Anne passed them Sunset Beach side; some 8 or ten or them in the party, all carrying packs: declare they had a heap of fun but don't think they'll tackle it again for a week or two.

GEORGE MCCARTHY otherwise "MacCarty" plays a keen guitar and sings a good da kine same as Lena, Hannah, Margaret, Mary-Anne, plenty more too. Jits makes the guitar talk nice too. Sure is a good club. SEE YOU NEX TIME.

Appendix B: Written History of the Molokaʻi Hoe by John Lind

DRAFT

Michael Tongg
Hawaiian Canoe Racing Association

Note: I have found several drafts of this short history, each with slightly different details. Written by in 2002 by John Lind, then age 88.

Dear Mike,

The night of the awards banquet for the Waikiki Surf Club paddlers you asked that I give you a report covering the early period of the Molokai Oahu Outrigger Canoe Race. Following is my report:

This event was founded and started by the Junior Chamber of Commerce Oldtimers as part of the Aloha Week program developed by that organization. The J.C. Oldtimers was made up of those active in the J.C.C. who had passed their 35th year age as membership is limited to those between the ages of 21 to 35. Harry Nordmark was the first president of the organization with Harry Palmer, Drury Malone, R. Allen Watkins and a lot of other active guys including myself. I was a board member of the new group. For an event such as the proposed Aloha Week program a list of events were suggested to make up the overall program and committees were appointed and each committee selected other members to assist on their project and to make reports to the overall group concerning their progress. An office staff headed up by Elsie Ross Lane handled all the office routine as it was a big project consisting of the Aloha Week Parade, Street Dances in the Waikiki Area, Luau's, various contests and programs in the parks and encouragement of musical groups to perform in the downtown area during the Aloha Week period. As my interest was largely aquatic related at the time I was appointed to head up the aquatic committee. Several members of the oldtimers served as members of that committee and came up with various events for consideration. For years Mr. E.A. Minville the father of "Toots" had been the source for celebrative flags used in decorating the beach area, and dance pavillions, luau sites during the late 30's and 40's as we had many projects such as the Aquacade at the Natatorium featuring surfboard paddlers headed up by O.B. Patterson. The Hawaii Surfing Championships featuring the Miss Waikiki Beach Girl Contest. Diamond Head Surfboard Paddle, Makapuu Body Surfing Championships, Surfboard Paddling Championships in the Ala Wai canal and numerous other activities such as night time searchlight surfing.

Mr. Minville was very proud of his flag collection and carefully examined them following return after each event. In 1947 when the Waikiki Surf Club was organized and even before, Mr. Minville's son "Toots" often spoke of his association with tugs in the Kaiwi channel between Molokai and Oahu and the severe currents and storms in the channel he often discussed the possibility of a race using outrigger canoes. Prior to the organization of the Waikiki Surf Club most of the competitive aquatic sports between 1939 and 1947 was under the sponsorship of the Hawaii ^{surfing} Association an organization that had been started with the help of Arthur Powlison director of the City and County Parks and Recreation Dept. Mike, I am attaching with this letter a list of organizations that I have been affiliated with in my short lifetime to give you an idea of the interest I had in aquatic activity prior to my coming to Hawaii. It was also the result of my seeking employment here with ^{the} organization I worked for in California as ^{they} had a branch store in Honolulu that required a trained company worker. I WAS SELECTED. I was an enthused individual and of the opinion aquatic sports was a big thing here by comparison to that in California.

Upon arrival in Hawaii I found that there was little competitive activity but a lot of interest for it.

Here I was an unknown mainland haole who knew he had to tread lightly especially in the sport that Hawaii was famous for. Using the established Junior Chamber of Commerce as a base it was possible to build activity that I had expected to find in Honolulu especially Waikiki.

I learned long ago that it takes a lot of people to accomplish most projects. Without the Waikiki Surf Club there would never have been a Molokai race in 1952. In my book Wally Froiseth should be jointly recognized for making the Molokai race a reality. I would like my grandchildren and great grandchildren know the correct history of the event.

In addition to full time employment with the Dohrmann Hotel Supply Co. from 1933 till 1959 when they sold out plus the organization of the Honolulu Restaurant Supply Co. Inc. in 1959 until my retirement in 1999 I found time to take part in the following organizations.

Junior Chamber of Commerce	past member and director
Central Branch YMCA	past member of board
Hawaii Surfing Association	past President
Waikiki Surf Club	Founder and life member
Merging of the Hawaii Surfing Association with the new Hawaiian Canoe Racing and Surfing Association in late 1949	
Outrigger Canoe Club	past member 1939-1948
Mercury Business Club	past president
Honolulu Commercial Club	past president
Waialae Country Club	past member 1946-1947
International Geneva Assn.	past president
Business Mens Training Corp.	member
Honolulu Police Reserves	past member 1942 thru 1950
Traffic Safty Commission	representing Junior Chamber
Hawaii Hotel Association	past member representing co.
Hawaii Restaurant Association	past member
Keys and Whistles	past president
Hawaii Big Game Fishing Club	member

In 1999 I turned the Honolulu Restaurant Supply Co., Inc. over to a trusted employee winding up my career of sixty-six years in the hotel and restaurant supply business.

My only club affiliation at this time is the life time memberships with the Long Beach Surf Club and the Waikiki Surf Club plus the Hawaii Big Game Fishing Club

Dear Michael,

At the awards banquet of the Waikiki Surf Club ~~you asked me about my part in the Aloha Week activities.~~ You indicated you were rounding up material for the 50th running of the Molokai -Oahu Outrigger Canoe Race. and wanted my input. Here is my account of the formation of ~~teh~~ project and the part I played.

I will go back to the formation of the Waikiki Surf Club the organization that made the event possible, at that time. In my opinion the event would never have happened without the input from surf club members. As you know I was at that time manager of the Hawaii Branch of the Dohrmann Hotel Supply Co and following a request from your Dad, Ruddy Tongg, who we had been doing business with he wanted to see me about a cocktail lounge he was planning for the building next to the Waikiki Tavern. During the inspection of the area and taking measurements for the preparation of plans I made the comment that IT WOULD BE AN EXCELLENT AREA FOR A BEACH CLUB SIMILAR TO THE Outrigger club that was limited to haoles. I had arrived in the islands in 1949 and was surprised to find the limited aquatic activities for island residents. I had two boards that I ~~had~~ brought over with me on the top of my 1939 Dodge Club Coupe that ~~I had brought with me~~ on the Iurline and had no place to put them. I didn't know any ~~one~~ here so waited until my car and its contents were unloaded at the dock and drove off not knowing the location of Dohrmann offices here. I ultimately found the store at 925 Bethel St. I ~~was met by~~ Sam Wong the local manager who had been at the dock with leis but not knowing me or me him we didn't make contact. After meeting the crew at the shop I was told I could probably get a place to stay at Beach Walk Inn operated by one of the customers I ended up there and learned the only place for storage of boards was at the Outrigger Canoe Club so I headed down there and learned the lockers were for members only. Membership was \$10.00 so I applied for membership and was assigned lockers for my two boards. ~~One~~ was a solid board that I had shaped; Hoppy Swarts who was building boards at ~~teh~~ time in Venice Calif. The other was a 17" paddleboard that had been built for me by Mr. Brejcha the Tax Collector of the city of Long Beach who had a hobby of building things. His son Myron was one of the members of the Long Beach Surf Club that I had organized and given a life membership. When I took the board into the ^{club} area a little dark skinned hawaiian boy greeted me with Hey Haole where you goin with the "pineapple barge" This little ^{guy} was Blue Makua my first introduction to Waikiki

Blue must have been around 12 years old at the time (maybe younger)

~~There was very limited activity indicating there was room for~~

and what there was was limited to entrysts. I joined the Honolulu Jr. Chamber of Commerce as I had been active in the Long Beach Jr. Chamber and a year before being assigned to ~~the~~ Hawaii had with the help of the Long Beach Surf Club and hundreds of other people successfully engineered the ~~running of the~~ first International Surfing Championship during the running of the "SALUTE TO THE STATES" program of the city of Long Beach sponsored by the J.C.C. I served as general chairman of the ~~event~~ surfing portion of the event. It took a lot of people and it was there that I learned that one cannot do things alone but one can guide many.

2000
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A few weeks following my arrival to the islands I met Arthur Pollison who was serving as director of the parks and recreation department. He had a weekly Saturday program on KGU that was located in the advertiser bldg. I appeared on his program a few times resulting in the start of the Hawaii Surfing Assn. We followed the pattern as in Long Beach tying in the strength of the Jr. Chamber of Commerce in the promotion of water sports events. It wasn't difficult encouraging the many guys on the beach to get involved in competition and many projects were sponsored by the combined groups in 1939 thru the war period till 1947. The Surfing Association in 1943 had put on one of the biggie crowd pleasers at Waikiki with the Hawaii Surfing Championships and the Miss Waikiki Beauty Contest co sponsored by the JCC,s

2000
39
6
Your Dad, Ruddy had called me a few days following our initial meeting and said he liked the idea of a club and gave me permission to use the area above Waikiki Tavern for a meeting room and the locker room facilities already in place suitable for men and women's sections. Permission was obtained to move surfboard lockers from the diamond head side of the building next to Kuhio beach to the space adjoining the locker rooms. This happened a few weeks following the early meeting and development of membership. In 1943 the Waikiki Surf Club was officially registered with the State of Hawaii. One of our original members ~~Herbert Choy~~ ^{+ Dickson} prepared all the paper work thru his organization FONMG, MIHO AND CHOY. Within a very short time over five hundred members had been signed up. Gene Smith noted surf board paddler served as our first beach attendant and maintained the beach that was fitted with yellow and red umbrellas and beach chairs. One of our new members Elmer Lee made his personal six man ^{KOA} surfing canoe available for canoe surfing for the membership. The surfing and canoeing was handled by ¹⁹ that committee headed by Wally Froiseth assisted by George Downing. ~~There~~ many committees of the new organization had their assignments and the chairman was responsible for controlling the activity of its committee. It wasn't long following organization that the new organization was the leading competitor in beach activity and sports of surfing and canoeing. ^{ADVERTISER + RILEY ALLEN OF THE BAY AREA PUBLICATION} we used to have a lot of support from Lorrin Thurston, Julian Yates, Andy Anderson ^{HEALING KID} Pam Anderson's father who was ^{president} of Von Ham Young Co and the Al;

IMPORTANT NOTICE IN THE POCKET
OF THE ENVELOPE

May 6, 2002
John M. Lind

I was requested recently to prepare a report of my knowledge of the development originally of the Molokai -Oahu Outrigger Canoe Race held in 1952. Following is my report.

The Junior Chamber of Commerce old timers was organized in the early 1950's consisting of Junior Chamber members who had passed their age limits for membership (21 to 35 years of age) Harry Nordmark was the chosen leader of the group that consisted of interested active members of the JCC in that category. I was one of the group or original members and served on its board of directors. One of the major projects was a community project the brain child of Harry Nordmark " ALOHA WEEK " The membership came up with a number of events consisting of street dancing, parades, group singing and hawaiian dancing, lei making and encouragement of lei making and wearing of leis. Beach activity of which I had been active in since my arrival in the islands in 1939 became a large part of the planned program. The Waikiki Surf Club and its active membership of which I was president spearheaded that part of the program. This was the opportunity for the event that Toots had been talking about for a number of years The Molokai to Oahu Outrigger Canoe Race. It was accepted and encouraged by the JC Oldtimers as part of the aquatic program. Toots was called in and he went to work in an effort to get organized clubs with outrigger canoes to participate. Outrigger and Hui Nalu were the only organized clubs at the time other than the newly organized Waikiki Surf Club. Wally Froiseth the head of the canoe committee of the Surf Club relished the idea of the event and was the first to volunteer an entry. Henrietta Newman Newman a resident of Molokai whom Toots was acquainted with was contacted . She had a group on Molokai also interested in competing but did not have a canoe to paddle - Toots went to work and obtained the use of a outrigger owned by Doris Duke Cromwell that was loaned for the event. The only other interested group was an unknown named Hawaiian Canoe Club Dad Center the proud owner of a beautiful outrigger canoe named "malia" was loaned to the surf club for the event. I remember the day that Wally and George Downing asked me to go with them to see the canoe that was stored along Dads house on the Diamond Head side of Waikiki. A beautiful 40' Koa Outrigger Racing Canoe. Dad was a staunch member of the Outrigger Canoe Club whose organization had turned down the opportunity to allow any of the clubs equipment to be used for the event.

John D Kaupiko the head of the Hui Nalu group was interested in entering but his equipment was in the inventory of the Outrigger Canoe club resulting in his clubs inability to participate. The three teams were the only entrys for this first Aloha Week event in 1952.

Today this event as dangerous as it might be now has an entry list of over one hundred outrigger canoes participating in the mens as well as the womens event. Thanks to safty precautions in every years race there have been no casualitys even tho treasured outrigger canoes have been broken apart by the heavy seas during heavy weather crossings.

As a personal note I feel as close to this event as any one could be as in 1952 I was serving as President of the Hawaiian Canoe Racing Associion, President of the Waikiki Surf Club, Chairman of the aquatics committee of the Junior Chamber of Commerce Oldtimers the sponsoring group and in addition to the outrigger activity was busy organizing the first International Surfing Championships at Makaha in conjunction with the Waianai Lions Club and all at the same time as serving as manager of a mainland hotel and restaurant supply co with that required at at least ten hour days usually seven days a week.

The 1953 event

As this was the first long distance paddle in many years koa canoe owners were reluctant to allow their boats in the event as in preceeding events many beautiful Koa racing canoes were damaged and some totally broken up

The men of the Waikiki Surf Club canoe committee went to the Bishop museum to study how ancient Hawaiians rigged their canoes for rough water journeys and learned they used lahala coverings to keep the seas from swamping their canoes. Coverings were used following the first race and were custom fitted to each canoe with zippered openings at each paddlers seat . Gromets were used to secure the canvas to the gunnels of the canoes. ^{early} many novel ideas for fastening the canvas coverings have since been developed. Paddlers wore swimming trunks and shirts with long sleeves and hats of every discription as the sun over a six to seven hour period was fierce. Many seasoned paddlers wore only swimming trunks during their time in the canoe but it has been common to see long sleeved shirts and hats of many discriptions

how's it whats up

Outline for story covering the early Molokai to Oahu Outrigger Canoe Race

INTRODUCTION

Use article to Mike Tongg present president of the Hawaii Canoe Racing Association. Mike requested this information as this year is the 50th running of the event and he wanted the history of it from someone of authority. I was the president of the Hawaiian Canoe Racing and Surfing Association in 1952 the first year of the running of the event. As indicated I was the President of the Waikiki Surf Club at that time and a director of the sponsoring Junior Chamber of Commerce Old Timers organization who started the Aloha Week Celebration. I had been appointed chairman of the AQUATIC EVENTS COMMITTEE. The Molokai to Oahu was one of the aquatic events of that committee

Main people active in the development of the first race consisted of the following. Harry Nordmark President of JC Oldtimers and Harry Palmer of that organization., Wallace Froiseth who was in charge of the Waikiki Surf Club canoe committee and enthused about the idea of the Kaiwi channel race. Pepi cooke of Molokai ranch co. Henrieta Newman of Molokai and the Molokai County officials met with JC Oldtimers on Molokai to coordinate the planning of the start of the first event. Subjects of importance were transportation of paddlers and outrigger canoes from oahu and hauling of the canoes to the starting point at Ilio Point on Molokai, feeding of the crews and officials, entertainment, permission to get thru the many gates at the time to get to the starting point. as The Molokai county officials were very cooperative and no hurdle was a major problem but official clearance was necessary. The meetings were held in the county offices in Kanakakai.

The selection of Arthur "Toots" Minvilleto serve as chairman of the original Molokai to Oahu Canoe Race met with the approval of the Aloha Week aquatic committee of the Junior Chamber of Commerce oldtimers and its board of directors, sponsors of the event largely because of his interest and efforts on many occasions to make such an event a reality. Francis H Brown had posted a \$500.00 award for the first canoe to cross the channel but even with the cash award entry's were hard to find. The only organized canoe clubs active at the time were the Outrigger Canoe Club whose president was Samuel Fuller, The Hui Nalu led by John D Kaupiko Sr. and the Waikiki Surf Club that I was heading. The Outrigger Canoe Club ruled against putting a team in the first race however John D. was anxious but his available canoes were controlled by the O.C.C. The Waikiki Surf Club was anxious and willing to participate as competition was one of its purposes particularly Outrigger Canoe racing and surfing. The club's canoe committee headed by Wallace Froiseth and his large selection of paddlers were anxious. The "Malia" an outrigger owned by Dad Center and ultimately sold to the surf club membership was made available for the first race and used by the Waikiki Surf Club in the first MO race.

Henreeta Newman of Molokai and Charles Titcomb had a group of Molokai residents interested in competing but they did not have a boat. It was arranged to get the use of a boat owned by Doris Duke for the Molokai crew. It was sent to Molokai by barge and was used for a weeks training before the day of the race. A third crew was finally lined up identified as the Hawaiian canoe Club. The first race was started at Ilio Point on the west northern end of Molokai.

Molokai's team consisted of the following men William Foster age 30 a fisherman, William Nainui age 40 a painter, Abe Bowman a lineman age 38, William Anyee age 30 a lineman, Ulysses Puaa age 30 Libby McNeil worker and Charles Titcomb age 38 a county worker They were all healthy and determined

The Waikiki Surf Club crew consisted of George Downing, Dutchy Kino, Moki Perkins, George Cabral, Roy Folk and Wallace Froiseth all top well trained canoe paddlers. How the Molokai crew could have won that event over a far superior well trained crew using the finest outrigger canoe in the islands for the purpose is one of fate but the real story is one of dissapointment for the W.S.C. A fitting had been attached to the bottom of the ama kept coming loose causing the canoe to veer off course regardless of the steersmans efforts to hold the course. The enclosed picture shows George Downing and Dutchy Kino working in the water during the race trying to correct the problem

The event the first ever had three entrys however only the Molokai and Waikiki Surf Club boats were seen or reported during the race after it was started.

The great victory by the men from Molokai is not to be discounted as they were a determined group who gave it their all and were victorious in spite of the odds and a tremendous accomplishment.

Appendix E – Draft Parking Study

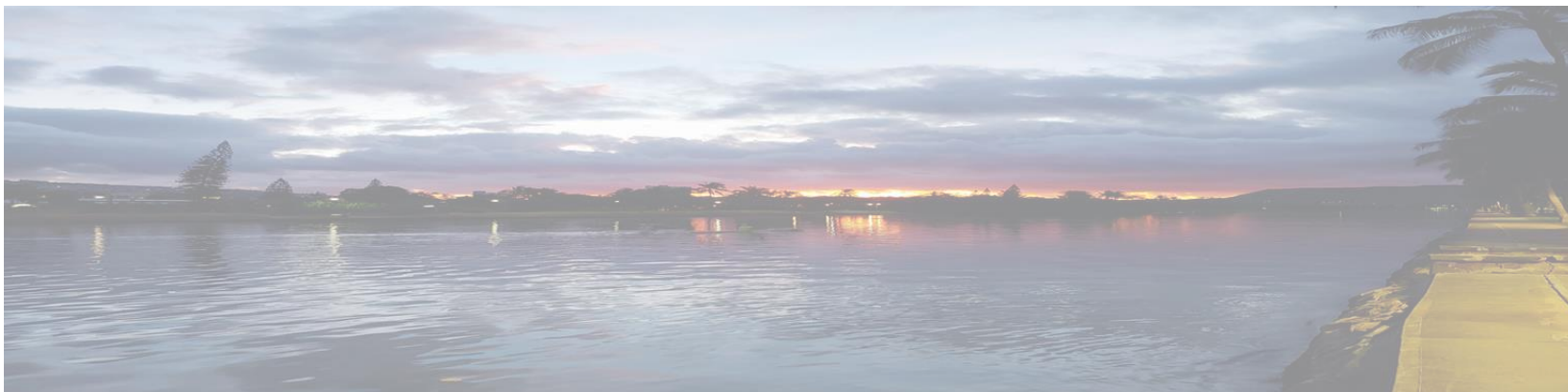


DRAFT

Ala Pono Parking Study



December 17, 2020



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DRAFT

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The proposed Ala Pono project (also known as Ala Wai Bridge) consists of a new pedestrian and bicycle crossing of the Ala Wai Canal, connecting the McCully/Moiliili and Waikiki neighborhoods. The bridge connects the Ala Wai Neighborhood Park on the canal's mauka (toward the mountains) side with Waikiki at Kalaimoku Street and Ala Wai Boulevard on the makai (toward the ocean) side. The purpose of this study is to evaluate existing parking conditions in the project vicinity, identify any anticipated parking impacts associated with the project, and develop a preliminary parking management plan for the project. A more detailed parking management plan will be developed following stakeholder engagement, in coordination with the final publication of the Environmental Assessment.

LEGEND

- Zone of Interest
- Potential alignments or improvements to existing structures

- Inventory of on-street parking type (marked, unmarked),
- Identification of signage, regulations, and restrictions,
- Cost of the parking,
- Review of payment compliance at metered spaces,
- Occupancy analysis, including turnover rate and average time parked,
- Review of Transportation Demand Management (TDM) techniques,
- Identification of potential impacts to parking due to the bridge, and
- Preliminary Parking Management Plan with implementation timelines and costs.

1. On-street parking mauka of the Ala Wai Canal
2. Ala Wai Community Park, Ala Wai Neighborhood Park, and Ala Wai Neighborhood Park Annex parking lots
3. On-street parking makai of the Ala Wai Canal

On-street parking data was collected on 16 blocks on the mauka side of the canal shown in Figure ES-2. All surveyed streets mauka of the canal provide unmetered on-street parking. Of all the mauka street blocks evaluated, Isenberg Street is the only street with marked parking stalls.

Figure ES-2. Streets and Lots Surveyed Mauka of the Ala Wai Canal



- ❖ Approximately 261 spaces are available for on-street parking on the surveyed nearby streets. The number is approximate because most spaces are not marked.
- ❖ Overall occupancy for weekdays is 84% and weekends is 96%. There are very few available spaces under existing conditions.
- ❖ Parking use statistics were similar for weekday and weekend use. Vehicle turnover is 2.0 vehicles per space on weekdays and 1.9 vehicles per space on weekends.
- ❖ Parking duration is shorter weekdays at 6.8 hours per space and 8.2 hours per space on the weekends.
- ❖ Parking is mostly used by nearby residents. Few commercial vehicles were observed except for short-term repair or contractor vehicles. Less than 10 commercial vehicles were observed parking longer than four hours.
- ❖ Iolani School impacts neighborhood traffic and parking availability on Kamoku Street during the peak morning and afternoon periods.

Ala Wai Community Park, Ala Wai Neighborhood Park, and Ala Wai Neighborhood Park Annex Parking Highlights

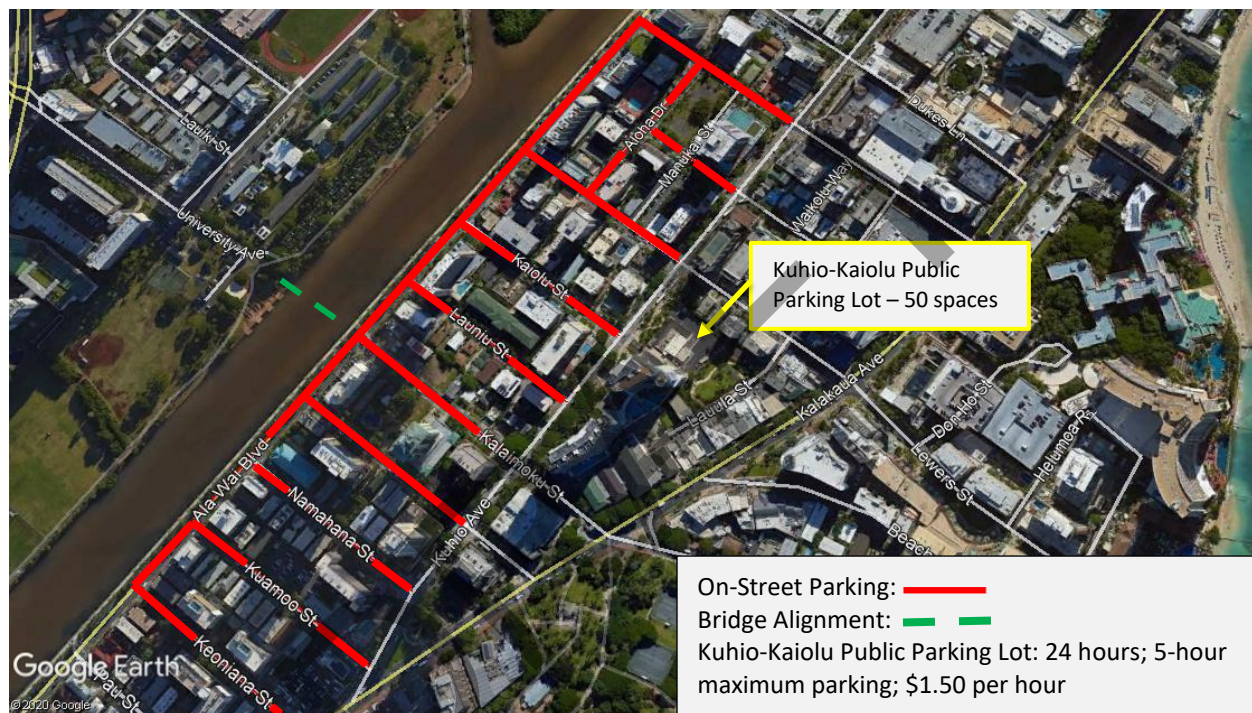
Three parking lots were included in the data collection on the mauka side of the canal: Ala Wai Community Park adjacent to McCully Street, the Ala Wai Neighborhood Park at the end of University Avenue, and the Ala Wai Neighborhood Park Annex which shares parking with Iolani School. These lots are shown in Figure ES-2. The parking lot at Ala Wai Community Park adjacent to McCully Street was selected for data collection to assess if people were parking in this lot to access Waikiki or nearby businesses.

- ❖ The Ala Wai Community Park and Neighborhood Park system provides 283 marked parking spaces within three parking lots. Ala Wai Community Park and Ala Wai Neighborhood Park both have 95 marked spaces for park use only. The Ala Wai Neighborhood Park Annex has 93 marked spaces available exclusively during school hours and special events to Iolani School, but available for Park use after school hours and on the weekends. Parking supply exceeds observed demand for park use with very few exceptions:
 - Parking demand at the Ala Wai Community Park is at capacity when several major events are occurring simultaneously.
 - Parents use Ala Wai Neighborhood Park parking when Ala Wai Elementary School releases students. Parents use the park parking to wait for their children. While parking is available the congestion caused by dwelling vehicles makes it difficult to access spaces. The congestion appeared to clear after 30 minutes.
 - The Ala Wai Neighborhood Park Annex parking is completely full during Iolani School hours but is lightly used on the weekends and after school hours with the notable exceptions during major school functions. The 93 marked spaces provide additional capacity after school hours and on the weekends: almost doubling the Ala Wai Neighborhood Park spaces.
- ❖ A contracted security vehicle was observed several times during the data collection driving through both the Ala Wai Community Park and Ala Wai Neighborhood Park lots.
- ❖ There did appear to be workers parking at the Ala Wai Community Park lot and accessing work sites nearby. On any given day up to five vehicles were parked seven or more hours. *These vehicles did not impact parking availability.*
- ❖ Parking at the Ala Wai Neighborhood Park is used by nearby residents for short- and mid-term vehicle storage. Repair and maintenance vehicles were also parked in the lot short-term, for one to two hours. Drivers were observed going to nearby buildings. *These activities did not impact parking availability.*
- ❖ The Ala Wai Neighborhood Park had three distinct parking areas: 18-spaces close to the entrance and by the restrooms; 46-spaces in the middle lot fronting Ala Wai Elementary School, and 31 spaces by the canoe halau by the Ala Wai Canal. The upper 18-space lot was frequently full, however, the other two sections offered plenty of parking for park users (*even with construction workers using up to 15 spaces*).

On-Street Parking Makai of the Ala Wai Canal Highlights

The makai landing of the bridge touches down into the residential section of Waikiki at Kalaimoku Street. The makai study area included Ala Wai Boulevard to Kuhio Avenue from Keoniana Street in the northwest to Seaside Avenue in the southeast. Data collection was conducted on Ala Wai Boulevard from Seaside Avenue to Keoniana Street and 11 block faces on the mauka/makai streets as shown in Figure ES-3. This portion of Waikiki is largely residential with a wide mix of buildings including many low and high-rise condominiums, apartments, and hotels, as well as some single-family homes. There are also many restaurants and shops on the ground and second floors of buildings, especially towards Kuhio Street, Lewers Street and Seaside Avenue.

Figure ES-3. Streets and Lot Surveyed Makai of the Ala Wai Canal

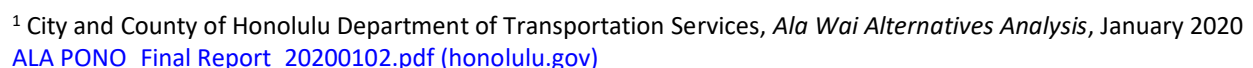


- ❖ There are approximately 263 parking spaces estimated on the surveyed streets makai of the Ala Wai Canal. Ala Wai Boulevard has unmarked stalls so the number of spaces can change depending upon parking capabilities.
- ❖ Streets in the Waikiki portion of the study area are defined as: marked and metered, unmarked, and unmetered (Ala Wai Boulevard), and marked and unmetered.
- ❖ Overall occupancy was recorded at 90 percent on weekdays and 88 percent on weekends. Parking supply does not meet demand. Parking along Ala Wai Boulevard is consistent at almost 100 percent throughout both weekdays and weekends. The peak for parking on surveyed streets occurs at 5:00 PM when occupancy reaches 80 percent or more for all streets on both weekdays and weekends continuing through the end of the survey day.
- ❖ Parking use statistics were similar for weekday and weekend use. Vehicle turnover is 3.3 vehicles on weekdays and 2.9 vehicles per space on weekends.

- ❖ Parking duration is shorter weekdays at 4.4 hours per space and 4.9 hours per space on the weekends.
- ❖ Free parking is in high demand in Waikiki. Parkers tend to occupy spaces as long as possible.
- ❖ Metered parking with the 2-hour time limits is not regularly enforced.
- ❖ Vehicles with disabled placards and electric vehicles were witnessed parked for days in the same location. Since the conduct of the study, electric vehicles no longer have free parking in metered spaces.
- ❖ Illegally parked vehicles were frequently noted on the unmetered streets other than Ala Wai Boulevard. These included parking too close to the curb and driveway entrances and parking outside of the marked spaces.
- ❖ Between 20 and 30 percent of occupied metered parking spaces were unpaid. This was observed throughout the day. Those parking without paying included private passenger carriers dwelling at the spaces.
- ❖ Searching for parking adds to congestion within Waikiki.
- ❖ Due to the lack of parking supply, the Kuhio-Kaiolu Parking Lot at \$1.50 an hour should be well used and would relieve the pressure from on-street capacity. This was not the case as the lot was unused during the time of the data collection. This may be due to the lack of signage (three signs have been added), confusing entry, and need to use quarters for payment.
- ❖ Construction and maintenance permitted spaces were sometimes being used for construction workers personal vehicles or were not being used. Closing parking spaces inappropriately adds stress to an already overstressed system.

The proposed Ala Pono project (also known as Ala Wai Bridge) consists of a new pedestrian and bicycle crossing of the Ala Wai Canal, connecting the McCully/Moiliili and Waikiki neighborhoods. The bridge connects the Ala Wai Neighborhood Park on the canal's mauka (toward the mountains) side with Waikiki at Kalaimoku Street and Ala Wai Boulevard on the makai (toward the ocean) side. The purpose of this study is to evaluate existing parking conditions in the project vicinity, identify any anticipated parking impacts associated with the project, and develop a preliminary parking management plan for the project. A more detailed parking management plan will be developed following stakeholder engagement, in coordination with the final publication of the Environmental Assessment.

Figure 1-1. Ala Pono Ala Wai Crossing Alternatives



The AA recorded on-street parking occupancy to capture data for one typical weekday and Saturday at three timepoints: 5:30 AM, 12:00 PM, and 7:00 PM. Weekday data was collected on April 10, 2019 and Saturday data was collected over two dates on April 13 and 20, 2019. The AA noted that parking use exceeded 80 percent on both sides of the canal during the times data was collected. Observed on-street parking use was consistent with the findings of the AA parking inventory, with occupancy exceeding 80 percent.

This parking study expands on the AA to include:

- Inventory of on-street parking type (marked, unmarked),
- Identification of signage, regulations, restrictions,
- Cost of parking,
- Review of payment compliance at metered spaces,
- Occupancy analysis, including turnover rate and average time parked,
- Parking management strategies,
- Anticipated impacts of the project to parking, and
- Parking management recommendations.

1.1 Report Contents

This report contains the following chapters with a summary of their content:

Executive Summary:

Introduces the project, highlights study area parking observations, and presents an overview of parking management recommendations.

Chapter 1 Introduction:

Introduces the project, describes the parking review conducted under the Alternatives Analysis, and describes the tasks and methodology undertaken for this Parking Study.

Chapter 2 Parking Management Strategies:

Describes how the City's parking strategies are based upon policy, technology, and data. This chapter also discusses Transportation Demand Management Strategies (TDM) that can be effective in reducing auto travel and parking demand by incentivizing the use of active modes of transportation and by discouraging driving alone.

Chapter 3 Observed Parking Use:

Presents the parking data and provides observations of parking use on the streets and parking lots surveyed.

Chapter 4 Ala Wai Bridge Project Parking Impacts:

Discusses the expected impacts on parking with the construction of the Ala Wai Bridge.

1.2 Complete Streets Goals and Objectives

The adoption of Ordinance 12-15 in 2012 expresses Honolulu's commitment to planning, designing, operating, and maintaining Complete Streets. Complete Streets are streets that work for all of us, safely moving people while balancing the needs of all roadway users, such as pedestrians, bicyclists, transit riders, and motorists. Recognizing the unique characteristics of each community, planning for Complete Streets uses localized data and engages the community to deliver the most appropriate design improvements to streets. Oahu's transportation environment should be safe and healthy, sustainable, responsive, and equitable.

The Honolulu Complete Streets Ordinance identifies the following objectives:

1. Improve safety,
2. Apply context sensitive solutions,
3. Protect and promote accessibility and mobility for all,
4. Balance the needs and comfort of all modes and users,
5. Encourage consistent use of national industry best practice guidelines to select complete streets design elements,
6. Improve energy efficiency in travel and mitigate vehicle emissions by providing nonmotorized transportation options,
7. Encourage opportunities for physical activity and recognize the health benefits of an active lifestyle,
8. Recognize complete streets as a long-term investment that can save money over time,
9. Build partnerships with stakeholders and organizations statewide; and,
10. Incorporate trees and landscaping as integral components of complete streets.

The Ala Wai Bridge is an important part of the active mode network connecting communities and providing both commuting and recreational opportunities and is therefore part of the Complete Streets Program. Implementation of the parking strategies combined with a network of pedestrian, bicycle, and transit options provides residents and visitors with options for their transportation needs.

1.3 Methodology

This study evaluates parking use in the vicinity of the future Ala Wai Bridge, including on-street parking and city-owned and operated parking lots. Figure 1-2 shows the streets and parking lots that were surveyed mauka of the Ala Wai Canal. Surveyed streets in Waikiki on the makai side of the canal are shown in Figure 1-3. The streets selected for review were close to the future Ala Wai Bridge, had mostly 24-hour parking availability with the exception of Hihiwai Street, were mostly residential, were identified in the AA, and had the potential to be impacted by increased parking demand. Even though Hihiwai Street has no parking during peak-hour drop-off and pick-up times on school days, it was selected for review because it is directly adjacent to the Ala Wai Neighborhood Park.

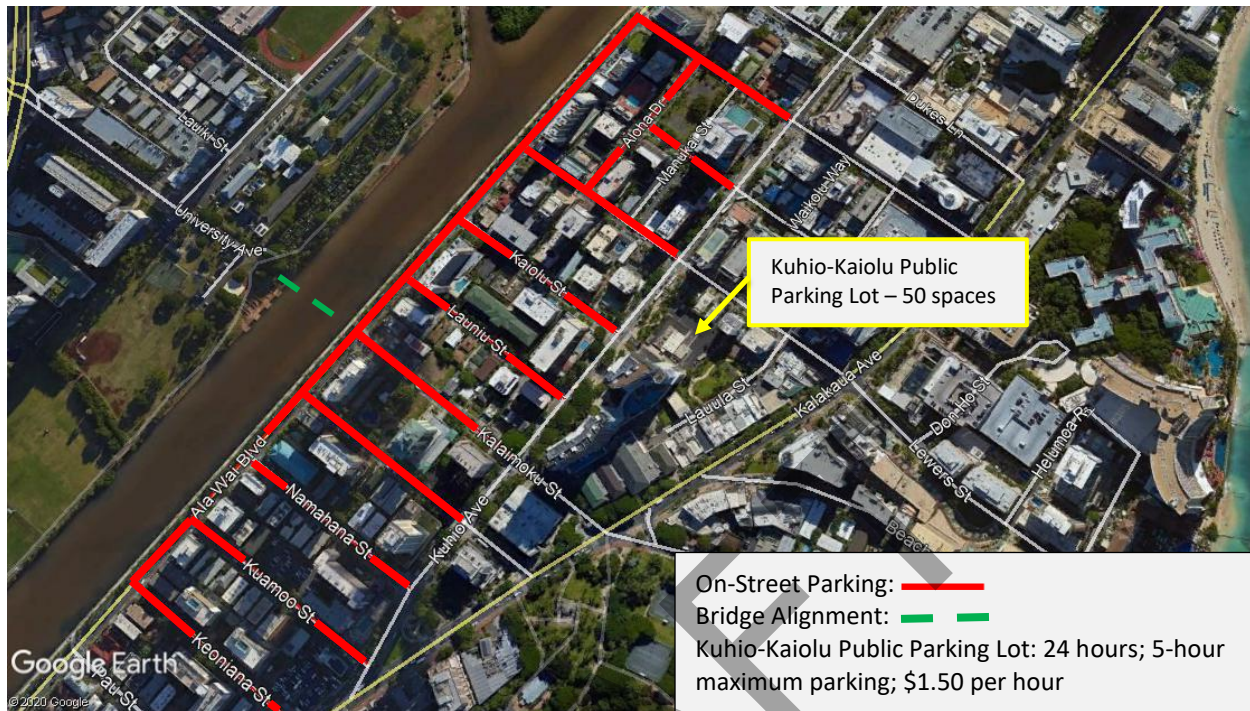
Data collection involved a license plate survey of parked vehicles along block faces and parking lots that were identified as most likely to be impacted by a new crossing on the mauka and makai sides of the canal. License plates were recorded between the hours of 6:00 AM and 10:00 PM on two weekdays and Saturday and Sunday. Data collection did not occur during the holiday season, and days with inclement weather were avoided. Data was collected in January 2020 after the holiday season once schools and businesses resumed normal schedules. Mauka streets and park lots were surveyed on January 18, 19, 22, and 23 and Waikiki streets were surveyed on January 25, 26, 28, and 30.

Three parking lots were included in the data collection on the mauka side of the canal: Ala Wai Community Park adjacent to McCully Street, the Ala Wai Neighborhood Park at the end of University Avenue, and the Ala Wai Neighborhood Park Annex which shares parking with Iolani School. The parking lot at Ala Wai Community Park adjacent to McCully Street was selected for data collection to assess if people were parking at this lot to access Waikiki or nearby businesses. Review of this data would help determine the extent to which parking at the Ala Wai Neighborhood Park might be impacted by the new bridge.

Figure 1-2. Streets and Lots Surveyed Mauka of the Ala Wai Canal



Figure 1-3. Streets and Lot Surveyed Makai of the Ala Wai Canal



On-street parking data was collected on 16 blocks on the mauka side of the canal. All surveyed streets mauka of the canal provide unmetered on-street parking. Of all the mauka street blocks evaluated, Isenberg Street is the only street with marked parking stalls.

Parking along Ala Wai Boulevard is unmarked and unmetered. Vehicles must be removed on Monday and Friday mornings for street sweeping, or they will be ticketed and towed. Most of the other streets surveyed contain parking that is marked and metered, except for Keoniana Street, Kuamoo Street, and Namahana Street. These streets have marked spaces that are unmetered. Parking on metered Waikiki Streets is \$3.00 per hour between the hours of 6:00 AM and 10:00 PM. These streets are identified with regulatory, on-street signage, and the parking meters indicate a two-hour maximum parking time limit. Parking in urban areas including Downtown Honolulu and Kakaako is charged from 7:00 AM until 6:00 PM. The Revised Ordinances of Honolulu (ROH) detail parking hours and costs.²

The Kuhio-Kaiolu public parking lot was recently reopened on December 5, 2019. This lot has 50 metered spaces at a cost of \$1.50 per hour, half the cost of on-street metered spaces, and payment must be made using coin-operated meters. The lot is open 24 hours with a maximum parking limit of five (5) hours.

² Parking time limits are cited in the Revised Ordinances of Honolulu, Chapter 15 Traffic Code, Section 15-22.4.

2.0 Parking Management Strategies

Parking is one component of the City's multimodal transportation system and the Honolulu Complete Streets Program. The City provides on-street and off-street parking. On-street parking can be scarce and coveted. On-street parking availability in residential neighborhoods can be impacted by nearby business, attractions, or residents living nearby. Residences with multiple vehicles compound limited parking issues in some neighborhoods. It is recognized that a parking space may not be available for whomever wants one at the location closest to their destination such as a shop or other business. However, it is generally expected by residents that parking should be available near their homes. It can be a source of frustration when parking is not available. Therefore, the City has reviewed best practices and developed goals and strategies to provide parking management.³

2.1 City Strategies

The City's parking strategy is policy driven, technology enabled, and data driven. Overall, the City has a target of 15 percent parking availability at any given time. This is known as the 85 percent rule or target, where 85 percent of parking is occupied, leaving spaces available at any given time⁴. Meeting that target requires using several strategies to manage parking. These measures include pricing, parking limits such as time, and Restricted Parking Zones (RPZs).

Policy Driven – City policy sets pricing, parking time limits, and implementation of RPZs. Both parking pricing and parking time limits for paid or metered zones are set by ordinance. Any changes to pricing and metered zone time limits must be revised through a City Council approved ordinance. Innovative strategies for pricing parking include:

- **Dynamic Pricing** – Flat rates are set; parking use is monitored; and rates are adjusted each year (or other identified time-period) based upon use.
- **Progressive Pricing** – Variable rates are set; rate fluctuates in real-time by parking use and length of time parked. Progressive pricing rates can fluctuate based upon number of cars parked within the zone. Rates could be raised when use exceeds 85 percent and rates reduced when parking use is lower. Progressive pricing can also be linked to the amount of time an individual vehicle is parked in a space. For example, the first two hours may be charged at one price, but the next two hours may be charged at a higher price.

Both pricing strategies would require City Council action. DTS may impose on-street parking restrictions by creating RPZs. Such restrictions in residential areas can reduce congestion or hazardous conditions and preserve the residential character of the neighborhood from commuter problems or nearby major generators such as a school. RPZ requests must be initiated

³ City and County of Honolulu Department of Transportation Services, *Parking Management, A report to the Honolulu City Council*; June 2017.

⁴ Donald Shoup in his 2005 *The High Cost of Free Parking* is generally credited with a rethinking of parking policy and the 85 percent parking use goal. Donald Shoup recommended three parking reforms: 1) remove off-street parking requirements, 2) charge on-street parking fees correctly, and 3) return parking revenues to improve services such as transit in areas with on-street parking fees.

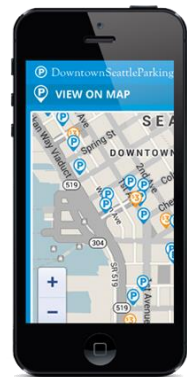
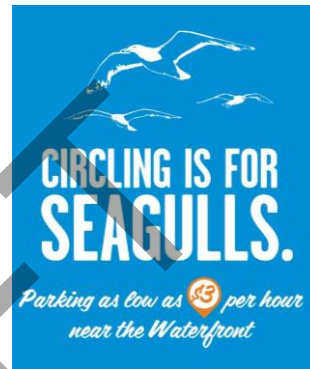
by the Neighborhood Board representing the area. The proposal must describe the need and include a petition from most residents in the affected area. Following review and other requirements, DTS will make a recommendation to approve an RPZ. The City currently has one established RPZ in Kalihi that has received approval from the majority of residents.

Technology Enabled – Technology provides the means to enact pricing strategies and monitor results. Below are examples of technologies that could be used to manage limited parking supply.



- **Smart Meters and Pay Stations** – Users pay using credit card or cash. Payment is tracked by time of day and length of time paid. Reports are provided showing individual meter use to allow for pricing changes.

- **Mobile Applications** – Users may pay via mobile application or internet. This is typically used in addition to on-site payment options (i.e. meters). Applications provide options to add time to the parking without the individual having to return to the meter or pay stations and can even notify the individual that their paid time is about to expire. A parking application can be designed to provide real-time parking availability.



Seattle: parking wayfinding and campaign

- **HOLO Card Type Fare Payment Program** – Users may pay using a registered card (similar to HOLO or Biki) on-site (i.e. parking meter) or via mobile application. Data is collected, and an account-based system allows the parking manager to make real-time pricing adjustments. This system could be a stand-alone payment option, or it could be combined with the HOLO program to provide a payment consistency across multiple modes of transportation. The latter option would require adjustment to the current HOLO program and could expand to include additional transportation options, like bikeshare.
- **Radio-Frequency Identification (RFID)** – RFIDs can be used to automatically record a vehicle arrival and departure at an entry point to a parking area known as Parking Access Revenue Control Systems (PARCS) or to be read by handheld or vehicle installed readers. The RFID can be embedded in the license plates which is ideal to track vehicles easily and universally. RFIDs could also be installed on windshields. Data can be collected from the RFID chip, and therefore the parked vehicle, to enforce time limits and payment for parking.
- **License Plate Reader (LPR)** – LPRs, either handheld or attached to a vehicle, can be used like RFID except the license plate number is linked to the vehicle information. License plates can be registered to an RPZ, and the LPR can be used for enforcement.

Data Driven – The collection and monitoring of parking data is used in each of the parking control measures. Detailed data collection allows for the following parking management strategies.

- Dynamic pricing requires continuous monitoring of parking use.
- Progressive pricing identifies in real time when parking is above or below the 85% so pricing can be adjusted. Pricing is adjusted in the device's computer management system (CMS).
- Identification of chronic abusers of regulated parking time limits can be identified by the data that is collected usually by license plate. Using collected data, the license plates of chronic abusers can be identified, and a hold put on plate renewal until fees are paid. City Council and State legislation may be required to put a hold on license plate renewals until unpaid parking fees are paid.
- Real-time parking availability can be identified using LPR and mobile applications.

Table 2-1 presents the measures and policy elements that drive approaches to parking management. The table shows how the measures are applied among the policy elements. Importantly, no single approach is recommended for Oahu. All approaches are needed to achieve the City's goals.

Table 2-1. Parking Policy Elements

PARKING CONTROL MEASURE	BASIC PARKING PROGRAM ELEMENTS		
	Policy Driven	Technology Enabled	Data Driven
Dynamic Pricing	<ul style="list-style-type: none"> • Set flat rate • Fluctuates every year with demand 	<ul style="list-style-type: none"> • Smart meters, pay stations, mobile application 	<ul style="list-style-type: none"> • 85% Target • Analysis of historical data to adjust rate
Progressive Pricing	<ul style="list-style-type: none"> • Set variable rate • Fluctuates in real-time based on occupancy 	<ul style="list-style-type: none"> • HOLO Card; User taps card to a system or device connected to a network CMS to enter payment and record data • Pay stations, mobile application 	<ul style="list-style-type: none"> • 85% Target • Real-time analysis of occupancy
Time Limits	<ul style="list-style-type: none"> • Set time limits 	<ul style="list-style-type: none"> • RFID • Monitors at site record and link signal to parked vehicles 	<ul style="list-style-type: none"> • 85% Target • Real-time management required
Restricted Parking Zones	<ul style="list-style-type: none"> • Permits allow use in restricted areas 	<ul style="list-style-type: none"> • License Plate Recognition • Survey zones to record parked vehicles 	<ul style="list-style-type: none"> • 85% Target • Periodic management required

Parking pricing is an effective method of shifting travel behavior and encouraging individuals to use active transportation (walk, bike, transit) in lieu of single-occupant vehicle trips. However, reasonable alternatives need to be available once parking is priced to manage demand and incentivize use of other modes. This means that a network of bicycle-friendly and pedestrian-friendly facilities and convenient access to reliable transit needs to be provided. Importantly, the supply must be priced and managed such that demand does not simply move to a nearby neighborhood or location that has unmetered and available parking, thereby moving the problem.

2.2 Transportation Demand Management Strategies

The implementation of TDM measures is an effective way to reduce auto travel and parking demand by incentivizing the use of active modes of transportation and by discouraging driving alone. TDM strategies including ride matching, vanpooling, guaranteed ride home programs, and other initiatives. Many successful TDM strategies are implemented by employers such as providing transit passes as part of the employment package or providing preferred parking for vanpools.

TDM programs are generally maintained by a division or office within a transportation agency, the transit system, or by a private/public partnership such as a Transportation Management Association (TMA). The program would provide the marketing and ride matching that is necessary to encourage a shift in transportation behavior. It is recommended that State and City efforts be combined to implement a County-wide TDM program. In August 2021 and in partnership with the Oahu Metropolitan Planning Organization, the City began the 24-month process of developing a Transportation Demand Management Action Plan that describes the funding and steps required to implement a TDM Program.

The following TDM techniques help reduce single occupant vehicle travel and parking demand. Individually, most of these techniques would have a minimal impact on a change in travel behavior. However, packaged together, these techniques can have a trip reduction of four to up to fifteen percent and higher in areas with higher quality transit service.⁵

- ❖ Promotion and Marketing of Transportation Options - Easily-accessible information about transportation options, giving residents and businesses an important tool to inform their transportation decisions.
- ❖ Free Real-Time Online Carpool Matching - Web-based carpool matching opportunities that can be scheduled for recurring trips or occasional trips as needed. This technique provides a tool for residents and businesses to identify potential carpool opportunities. While not real-time, the State of Hawaii Department of Transportation (HDOT) provides a free rideshare matching service for work and school carpools.⁶

⁵ Victoria Transport Policy Institute, Todd Litman, *Evaluating Mobility Management Strategies for Reducing Transportation Emissions in the Fraser River Basin*; December 2004, page 109

⁶ State of Hawaii Department of Transportation, Highways: [Highways | Car/School Pool Matching Form \(hawaii.gov\)](https://highways.hawaii.gov/car/school-pool-matching-form/)

- ❖ **Emergency Ride Home Program** - Emergency ride home programs provide a ride to commuters at little to no cost in an emergency that requires the person miss their bus, carpool, vanpool, or other travel mode. This service addresses a concern that commuters have in using alternative modes. The comfort of knowing a ride home program exists has been identified as an important factor in a person's decision to use alternative modes.⁷ Taxis, transportation network companies, or other alternatives can be used in addition to transit as part of an emergency ride home program. The cost of offering the program is generally low due to minimal use; however, it must be administered either by individual employers or a lead agency.
- ❖ **Employer Based Commuter/Parking Program** - Employers can have an impact on how employees commute to work. They can provide the information and incentives to encourage their employees to use alternative modes, or they can provide free parking which encourages driving alone. This strategy includes employer-based programs that can impact mode choice. Strategies include:
 - Financial incentives, such as providing or cost sharing in transit passes.

Local Example 1: DTS has executed agreements with nine universities and colleges known as the U-Pass to provide reduced-rate bus passes for students. Each agreement is tailored to the needs of the individual institution.

Local Example 2: The Honolulu Commuter Choice Program provides benefits to both employees and employers. As a fringe benefit program, these benefits are not considered taxable income to the employee but are a tax-deductible expense for the employer. The program is flexible in that each employer can tailor how they want to administer the benefit. The employer can pay all or part of the cost of the transit pass and allow employees to pay for the balance by pre-tax payroll deductions. As of April 22, 2019, 93 employers were participants in the program.⁸
 - Free or discounted parking for carpools and vanpools in lieu of free parking.
 - Free or discounted parking for one or two days a week if the employee usually uses alternative modes.
 - Secure bicycle parking.
 - Showers and changing areas to support active commutes.
 - Incentivized or subsidized bikeshare membership.
 - Emergency or guaranteed ride home program

⁷ Victoria Transport Policy Institute, *TDM Encyclopedia, Guaranteed Ride Home*, updated 11 June 2014.

⁸ Oahu Transit Services, Honolulu Commuter Choice Participants, TheBus - Employer Program

- ❖ Carshare - Shared vehicles are in various locations such as residential areas or near work sites and are usually priced by the hour, providing an alternative or substitute for private vehicle ownership. This service is usually provided by car rental agencies (such as Enterprise in Waikiki). Carsharing provides people access to a car when needed without the hassle and ongoing, fixed costs of car-ownership, like insurance and parking. Carsharing is designed to supplement to other modes of transportation.



Local Examples: Three types of carshare models are:

1. For profit rental companies (Hui, Enterprise, Car2Go, Zipcar).
2. Not for profit co-operatives.
3. Private where car owners rent their personal vehicles for short periods of time. A for profit company provides the internet or telephone app such as Turo (currently available in Honolulu), insurance, and roadside assistance (if the owner signs up for these items).

The impact of car sharing is mixed. Some users will increase car travel since they have access to a vehicle that they may not have had before. Others have a significant decrease in vehicle travel⁹. Variable costs are higher than a personal vehicle, so users will monitor their travel and use. Overall, the net result is a decrease in driving. The paper *Impact of Carsharing on Household Vehicle Holdings* found that each carshare vehicle decreased personal vehicle ownership by 9 to 13 vehicles.¹⁰

- ❖ Bikeshare – A system of shared bicycles available for public use at multiple convenient locations, predominantly used for short-trips. The Biki bikeshare program in urban Honolulu has been a success with over 3.1 million trips since its launch in Jun 2017. Biki has a fleet of bicycles, a network of automated docking stations, and bike redistribution and maintenance programs. Bikeshare provides a transportation option for short trips or for last mile connections from transit. An overall program can offer bikeshare for work trips.



⁹ Victoria Transport Policy Institute, Todd Litman, *Evaluating Mobility Management Strategies for Reducing Transportation Emissions in the Fraser River Basin*; December 2004, page 95

¹⁰ Transportation Research Record, *Impact of Carsharing on Household Vehicle Holdings*; Elliot Martin, Susan A. Shaheen and Jeffrey Lidicker; Journal of the Transportation Research Board, No. 2143; 2010; pages 150-158).

- ❖ Vanpool – Vanpools, like carpools, carry additional passengers when making a trip. They usually have a designated driver and backup driver. Vanpools generally use rented vans that are supplied by employers, non-profit organizations, or government agencies. Vanpools are a good alternative for longer commutes which are experienced by many Oahu drivers.

Local Example: DTS supports a vanpool program operated by Enterprise and has experienced some success on the military bases. Vanpools can have lower costs per vehicle mile than bus transit because a paid driver is not required, and there are no vehicle travel costs from a central operating facility to the start of a trip.



- ❖ Support Teleworking – Incentives and benefits for employers to have employees telework either full- or part-time. Businesses that do not require all employees to be onsite for their operations can be encouraged to promote teleworking either full or part time. Studies have shown that business can save money on office operations costs and parking (if provided) when employees work from home.¹¹ Benefits include increased productivity, reduction in absenteeism (employees can work at home when, for example, their children are sick), helps attract and retain employees, and eliminates commuting stress on employees. Encouraging telework may be more acceptable to some businesses that have employees working at home due to COVID-19.
- ❖ Support of flexible work schedules – Supporting shifted work hours benefits to employers and employees to shift work hours to avoid the peak of the peak travel. Government and business offices can offer alternative work schedules including Compressed Work Week (CWW) and staggered shifts, depending on the type of business. These strategies reduce peak period commute travel and help accommodate ridesharing and transit use. The total number of hours an employee works in a compressed work week does not change. However, the way the hours are scheduled can be difference. Typical compressed work week schedules include:
 - 4/10s: Forty hours are worked in four 10-hour days
 - 9/80s: Eighty hours are worked in eight 9-hour days and one 8-hour day
 - 3/12s: Thirty-six hours are worked in three 12-hour days (this is common for medical personnel)

TDM is most effective when implemented on a broader scale (i.e., at the regional level) to result in a travel behavior change across the greatest proportion of the population. Selective implementation of measures

¹¹ Victoria Transport Policy Institute, *TDM Encyclopedia, Telework*, updated 6 September 2019.

also results in limited participation; whereas, providing a comprehensive suite of measures or techniques increases the options for participants and maximizes effectiveness.

DRAFT

3.0 Observed Parking Use

Identifying the strategies that may be useful in meeting the City's goals and objectives starts with data. The following sections provide a description of current parking use on the streets and lots that were surveyed.

3.1 On-Street Parking Mauka of the Ala Wai Canal

The identified streets mauka of the Ala Wai Canal mostly serve densely populated residential areas. Weekday parking on Hihiwai Street and Kamoku Street are impacted by Ala Wai Elementary School and Iolani School when school is in session. The streets closest to the bridge site are adjacent to high rise condominiums and apartment buildings. These streets include University Avenue between Ala Wai Park and Kapiolani Boulevard, Hihiwai Street and Kamoku Street. The remaining streets are adjacent to mostly single-family homes and single, two- and three-story apartment buildings.

All on-street parking surveyed mauka of the Ala Wai Canal is unmetered. Only Isenberg Street (between Kapiolani Boulevard and Lime Street) has marked parking spaces. All other parking spaces are unmarked. The total number of parking spaces associated with the surveyed streets, shown in Figure 1-2, is approximately 261. This number is approximate since it is based upon judgement of legal parking spaces.

Table 3-1 provides a summary of parking characteristics for an average weekday and weekend based upon the collection of license plates over a 16-hour period for two typical weekdays and a Saturday and Sunday. Data was collected on January 18, 19, 22, and 23. As shown, 261 parking spaces were identified for the on-street parking. The turnover per space is just slightly higher for weekdays than on the weekends, with an average two (2) vehicles per space on the weekday as compared to 1.9 vehicles per space on the weekends. This is based upon 532 observed vehicles parking in those spaces on the weekday and 490 on the weekend.

Table 3-1. On-Street Parking Use Summary for Identified Streets Mauka of Ala Wai Canal

Day	On-Street Number of Parking Spaces	Number of Parked Vehicles	Average Vehicle Turnover Per Space	Average Duration (Hours Parked)	Overall Occupancy
Weekday	261	532	2	6.8	84%
Weekend	261	490	1.9	8.2	96%

The overall average parking duration is higher on the weekends at 8.2 average hours parked per vehicle than the weekday at an average 6.8 hours parked per vehicle. Peak-hour parking is not permitted on Hihiwai Street during weekdays during school drop off and pick-up hours. The observed occupancy was 84 percent on weekdays and 96 percent on the weekends. Some individual block faces show occupancy well above 100 percent due to illegal parking. (Picture: Lime Street and Hoawa Street intersection.)



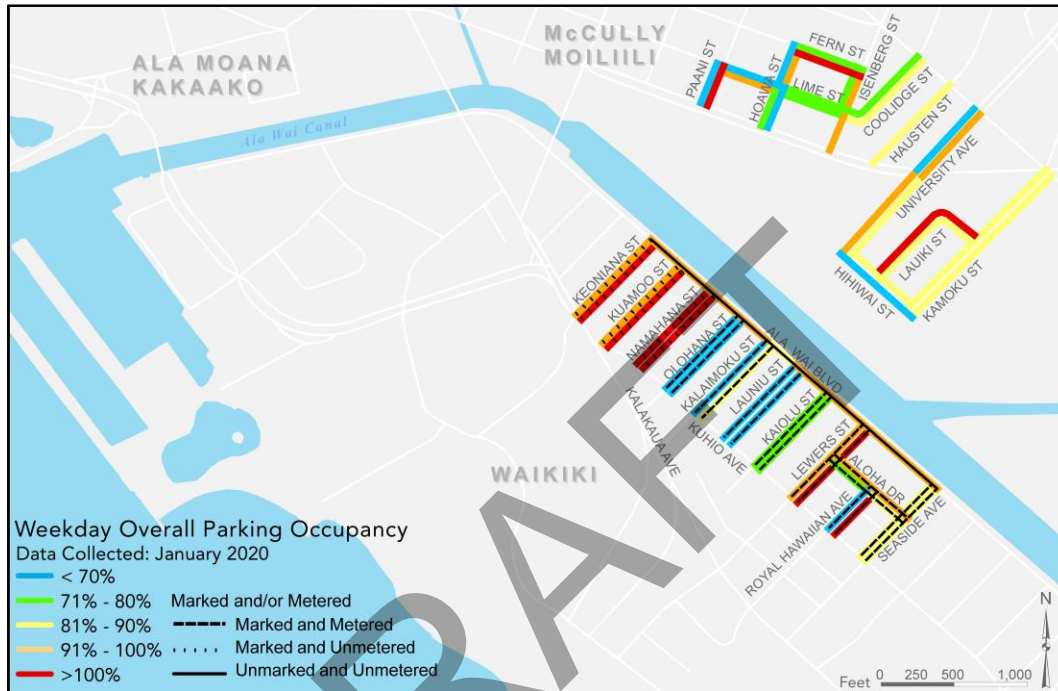
Average parking duration was calculated based upon the 16-hours of data collection for the two weekdays and weekend days. In most cases, the vehicles observed in the late evening hours stayed throughout the night. These overnight hours were not included in the parking duration calculations. The weekday summary shown in Table 3-1 is based upon the detailed findings by block face presented in Table 3-2. As shown, most block faces have a high overall occupancy, high average parking duration, and low vehicle turnover. The exception is the Diamondhead side of Kamoku Street. The impact of Iolani School is shown in the higher average vehicle turnover per space at 4.3 vehicles per space and lowest average duration parked at 2.8 hours.

Table 3-2. Weekday On-Street Parking Use for Identified Streets Mauka of Ala Wai Canal

Street	Between		Number of Parking Spaces	Number of Parked Vehicles	Average Vehicle Turnover Per Space	Average Duration (Hours Parked)	Overall Occupancy
University Ave. - DH side	Hihiwai St.	Kapiolani Blvd.	16	28	1.8	7.9	86%
University Ave. - Ewa side	Hihiwai St.	Kapiolani Blvd.	12	22	1.8	8.7	99%
University Ave. - DH side	Kapiolani Blvd.	Date St.	7	12	1.7	8.5	91%
University Ave. - Ewa side	Kapiolani Blvd.	Date St.	7	12	1.7	5.8	62%
Hihiwai St. - Makai side	University Ave.	Kamoku St.	18	33	1.8	3.7	52%
Hihiwai St. - Mauka side	University Ave.	Kamoku St.	15	33	2.2	6.4	88%
Lauiki St. - DH/Makai	Hihiwai St.	Kamoku St.	3	4	1.3	10.3	85%
Lauiki St. - Ewa/Mauka	Hihiwai St.	Kamoku St.	17	38	2.2	7.2	101%
Kamoku St. - DH side	Hihiwai St.	Date St.	21	90	4.3	2.8	86%
Kamoku St. - Ewa side	Hihiwai St.	Date St.	23	40	1.7	7.7	84%
Hausten St. - Ewa only	Kapiolani Blvd.	Date St.	12	17	1.4	10.1	89%
Isenberg St. - Ewa side	Kapiolani Blvd.	Lime St.	5	12	2.4	6.2	93%
Isenberg St. - DH side	Lime St.	Fern St.	6	12	2.0	7.6	95%
Isenberg St. - Ewa side	Lime St.	Fern St.	2	3	1.5	7.7	72%
Coolidge St. - DH side	Isenberg St.	Date St.	10	18	1.8	7.3	82%
Coolidge St. - Ewa side	Isenberg St.	Date St.	15	33	2.2	5.2	72%
Lime St. - Makai side	Isenberg St.	Hoawa St.	9	19	2.1	5.9	78%
Lime St. - Mauka side	Isenberg St.	Hoawa St.	7	9	1.3	9.3	75%
Lime St. - Makai side	Hoawa St.	Paani St.	10	17	1.7	9.1	96%
Lime St. - Mauka side	Hoawa St.	Paani St.	6	10	1.7	6.4	67%
Hoawa St. - DH side	Kapiolani Blvd.	Lime St.	4	7	1.8	3.9	42%
Hoawa St. - Ewa side	Kapiolani Blvd.	Lime St.	6	10	1.7	7.3	76%
Hoawa St. - DH side	Lime St.	Fern St.	6	9	1.5	10.4	98%
Hoawa St. - Ewa side	Lime St.	Fern St.	6	13	2.2	3.9	53%
Fern St. - Makai side	Hoawa St.	Isenberg St.	1	4	1.0	8.3	206%
Fern St. - Mauka side	Hoawa St.	Isenberg St.	8	9	1.1	10.3	73%
Paani St. - DH side	Kapiolani Blvd.	Lime St.	4	7	1.8	11.9	130%
Paani St. - Ewa side	Kapiolani Blvd.	Lime St.	5	11	2.2	4.7	65%

Overall parking occupancy by block face is shown in Figure 3-1. This figure and the following five figures (Figures 3-2 through 3-6) include parking use from Waikiki streets presented later in this chapter in Table 3-6. The legend in this series of figures show the different parking regulations for streets in Waikiki. As shown, some streets require payment, some have marked spaces but are unmetered, and one has unmetered parking and no marked spaces. Figure 3-1 identifies nine block faces with over 100 percent parking occupancy during weekdays illustrating where illegal parking occurred.

Figure 3-1. Weekday On-Street Overall Parking Occupancy



Five block faces on the mauka side of the Ala Wai Canal had vehicles parking five hours or less as shown in light green in Figure 3-2. Seven block faces had parking duration averages of over nine hours. Only one block on the makai streets had vehicles parking over nine hours. Most of the marked and metered Waikiki streets shown in Figure 2-2 had vehicles parking less than five hours.

The difference between unmetered and metered parking is clearly shown in Figure 3-3. Only one block face of the mauka streets had an average of more than three vehicles parking per space along its length on weekdays: Kamoku Street. Kamoku Street is impacted by Iolani School with parking restricted during peak student drop-off and pick-up times on school days.

Figure 3-2. Weekday Parking Duration by Hour

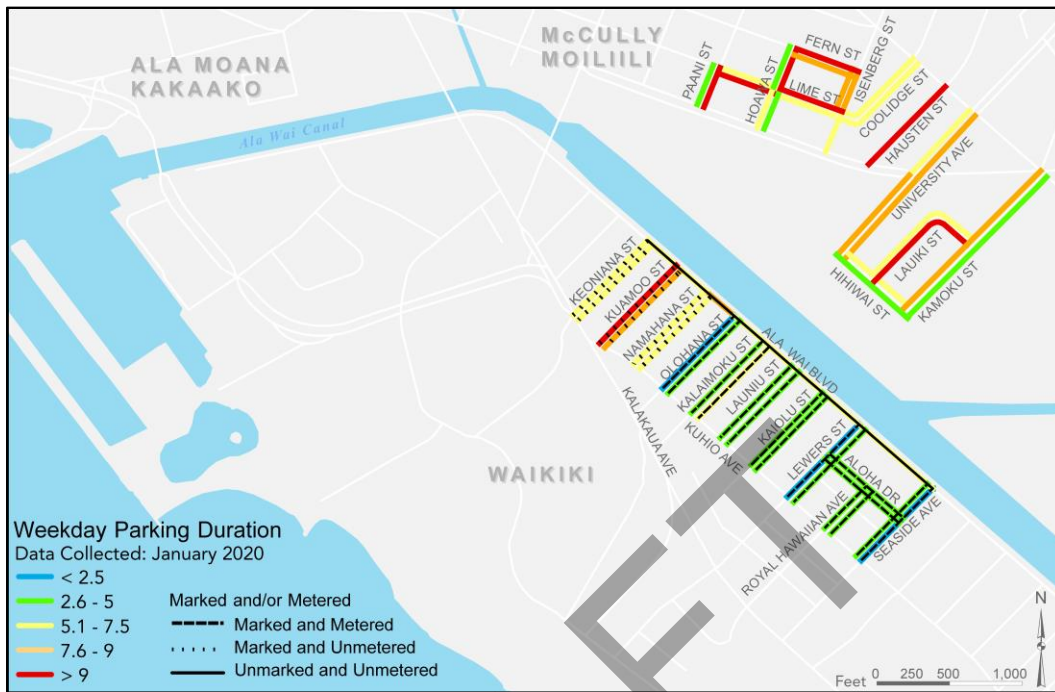
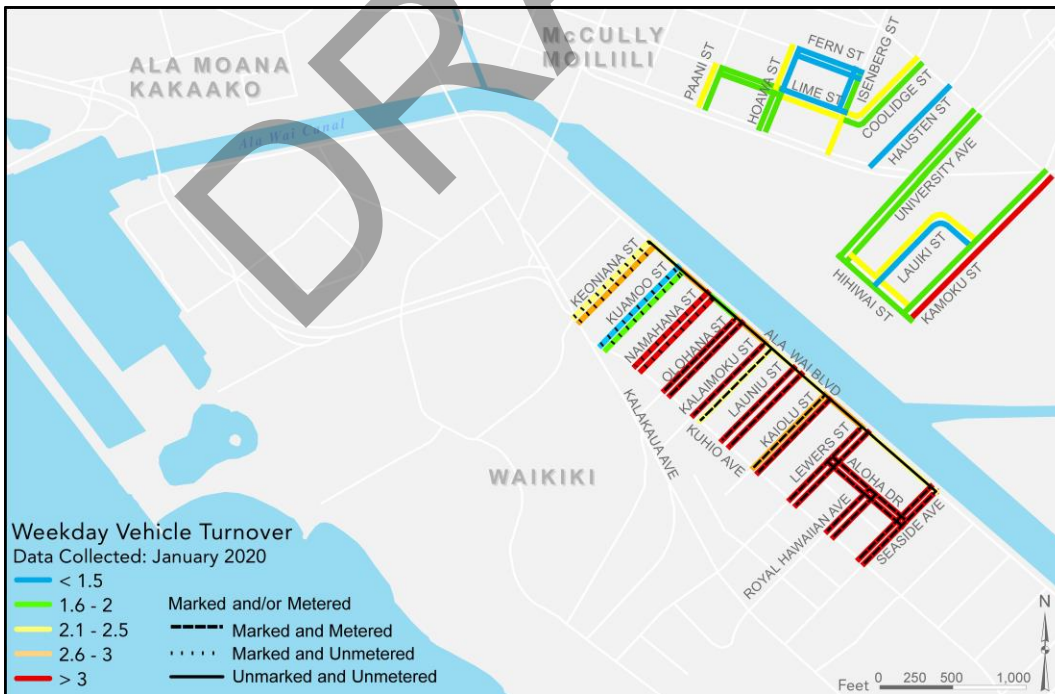


Figure 3-3. Weekday Vehicle Turnover



The City target of 85 percent parking use is considered ideal in that parking is used, but spaces are available for those who desire to park. This minimizes congestion caused by motorists searching for parking. That target rate of parking use is generally applied to commercial areas along with pricing techniques to promote turnover. The rate of use exhibited in these residential streets shows parking demand is higher than supply. This is witnessed by the number of observed vehicles parked illegally on both weekdays and weekends. It is apparent from the data collection, observations, and discussions with residents that once a parking space is found it is kept for as long as possible.

Weekend on-street parking use details by block face are shown in Table 3-3. The Diamond Head side of Kamoku Street has the lowest average parked duration and the highest vehicle turnover per space like weekday characteristics. Overall parking occupancy is high with some streets having more parked vehicles than legal parking spaces.

Table 3-3. Weekend On-Street Parking Use for Identified Streets Mauka of Ala Wai Canal

Street	Between		Number of Parking Spaces	Number of Parked Vehicles	Average Vehicle Turnover Per Space	Average Duration (Hours Parked)	Overall Occupancy
University Ave. - DH side	Hihiwai St.	Kapiolani Blvd.	16	28	1.8	8.4	92%
University Ave. - Ewa side	Hihiwai St.	Kapiolani Blvd.	12	17	1.4	10.5	93%
University Ave. - DH side	Kapiolani Blvd.	Date St.		10	1.4	10.4	93%
University Ave. - Ewa side	Kapiolani Blvd.	Date St.	7	11	1.6	6.6	65%
Hihiwai St. - Makai side	University Ave.	Kamoku St.	18	31	1.7	8.3	89%
Hihiwai St. - Mauka side	University Ave.	Kamoku St.	15	24	1.6	8.9	89%
Lauiki St. - DH/Makai	Hihiwai St.	Kamoku St.	3	6	2.0	10.0	125%
Lauiki St. - Ewa/Mauka	Hihiwai St.	Kamoku St.	17	30	1.8	10.4	114%
Kamoku St. - DH side	Hihiwai St.	Date St.	21	72	3.4	4.4	93%
Kamoku St. - Ewa side	Hihiwai St.	Date St.	23	41	1.8	8.3	92%
Hausten St. - Ewa only	Kapiolani Blvd.	Date St.	12	23	1.9	8.6	103%
Isenberg St. - Ewa side	Kapiolani Blvd.	Lime St.	5	12	2.4	8.0	120%
Isenberg St. - DH side	Lime St.	Fern St.	6	13	2.2	8.2	110%
Isenberg St. - Ewa side	Lime St.	Fern St.	2	4	2.0	8.8	109%
Coolidge St. - DH side	Isenberg St.	Date St.	10	15	1.5	9.5	89%
Coolidge St. - Ewa side	Isenberg St.	Date St.	15	27	1.8	8.5	95%
Lime St. - Makai side	Isenberg St.	Hoawa St.	9	25	2.8	5.6	98%
Lime St. - Mauka side	Isenberg St.	Hoawa St.	7	9	1.3	12.2	98%
Lime St. - Makai side	Hoawa St.	Paani St.	10	14	1.4	10.6	93%
Lime St. - Mauka side	Hoawa St.	Paani St.	6	11	1.8	7.9	91%
Hoawa St. - DH side	Kapiolani Blvd.	Lime St.	4	8	2.0	6.8	84%
Hoawa St. - Ewa side	Kapiolani Blvd.	Lime St.	6	9	1.5	9.6	90%
Hoawa St. - DH side	Lime St.	Fern St.	6	8	1.3	11.5	96%
Hoawa St. - Ewa side	Lime St.	Fern St.	6	8	1.3	9.1	76%
Fern St. - Makai side	Hoawa St.	Isenberg St.	1	3	1.0	16.0	300%
Fern St. - Mauka side	Hoawa St.	Isenberg St.	8	12	1.5	9.8	92%
Paani St. - DH side	Kapiolani Blvd.	Lime St.	4	8	2.0	8.6	108%
Paani St. - Ewa side	Kapiolani Blvd.	Lime St.	5	11	2.2	8.0	110%

Figures 3-4 through 3-6 portray average parking occupancy, parking duration, and vehicle turnover data for weekends.

Figure 3-4. Weekend On-Street Overall Parking Occupancy

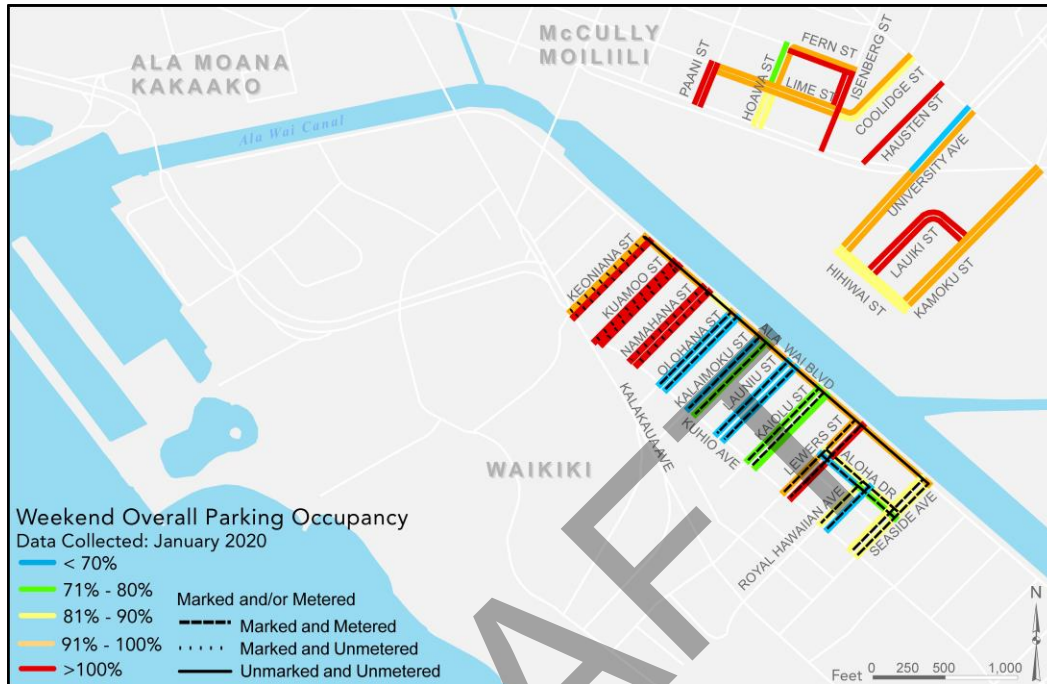


Figure 3-5. Weekend Parking Duration by Hour

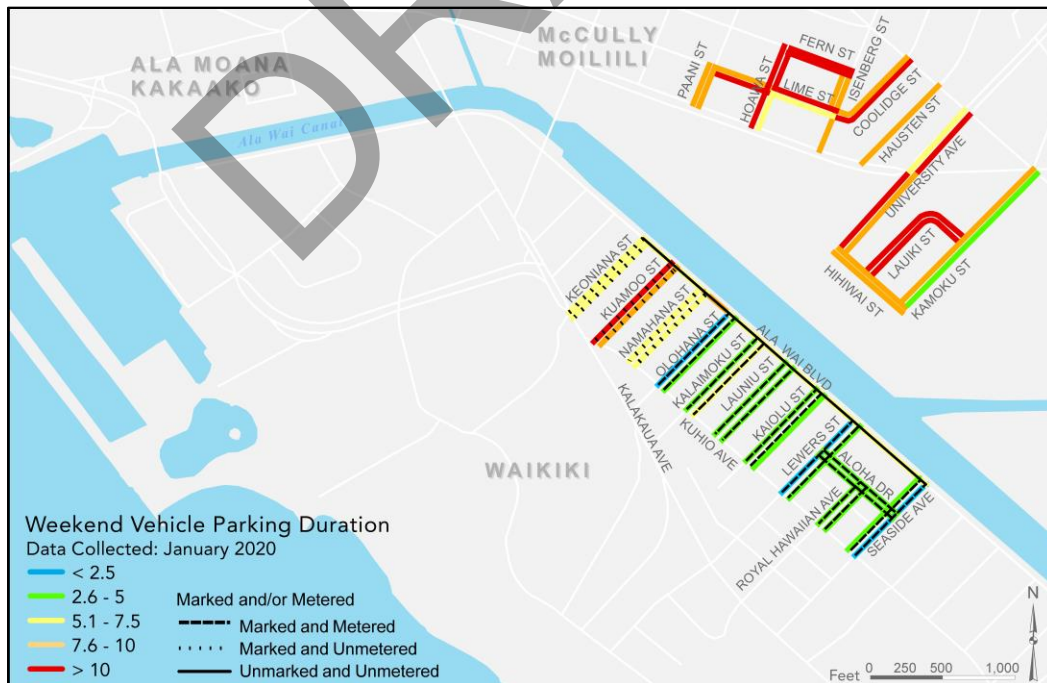
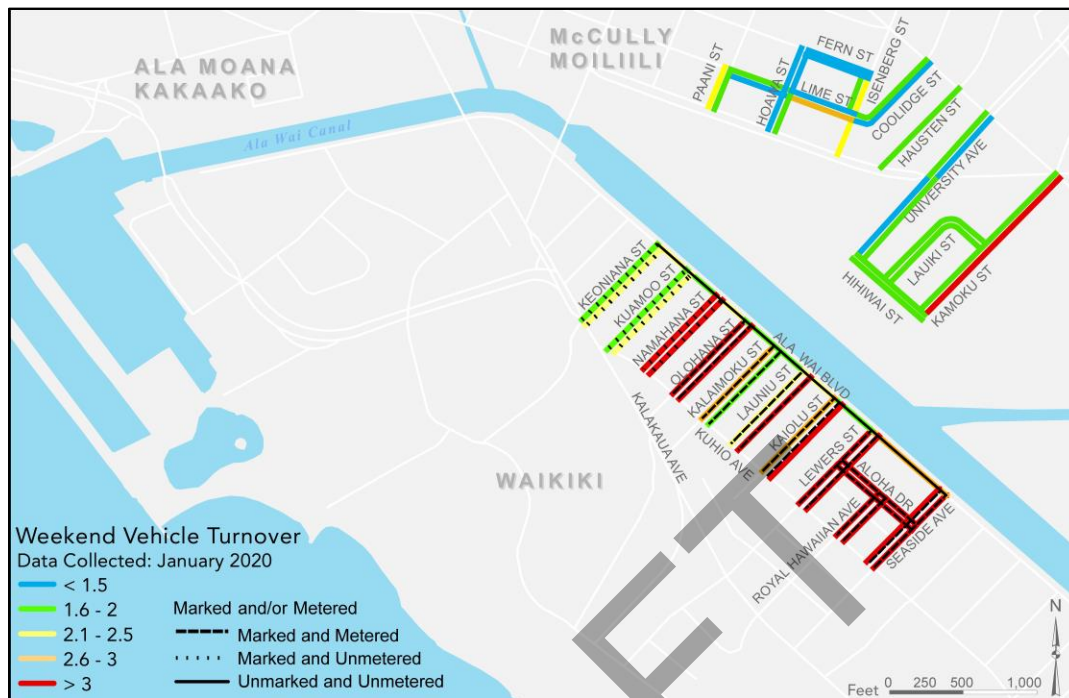


Figure 3-6. Weekend Vehicle Turnover

The number of parking spaces shown in the above tables do not include the approximate 21 parking spaces on the makai side of Kapiolani Boulevard. Kapiolani Boulevard has parking permitted on the makai side of the street with restrictions during the weekday peak periods. As shown in the images to the right, morning parking restrictions begin at two different times: 5:30 AM in the section between Isenberg Street and University Avenue and 6:30 AM in the section Ewa of Isenberg Street.

Kapiolani Boulevard is reduced to one lane in the Diamondhead direction just prior to the intersection with University Avenue in the morning peak period. This lane reduction combined with Iolani School drop-off traffic in the mornings contribute to increased traffic congestion in this area.

On-Street Parking Observations Mauka of Canal

- ❖ Parking demand is higher than supply.
- ❖ It appeared that parking is used by nearby residents.



- ❖ Approximately six long-term parked vehicles could be considered commercial vehicles (tour van vehicles and trucks). The owners appeared to live in the neighborhood as the vehicles were spotted on all data collection days.
- ❖ Weekday morning eastbound traffic is congested near the Kapiolani Boulevard intersections with University Avenue and Kamoku Street due to coning on Kapiolani Boulevard coupled with traffic associated with Iolani School (employees arriving at work and students being dropped off shown in Figure 3-7) on school days.



Figure 3-7. Iolani Traffic Weekday Morning Student Drop-off



Iolani School Traffic. The school provides 3 police officers to direct traffic on Kamoku Street and a crossing guard assists with safety for students crossing the street.

- ❖ Aside from traffic congestion in the peak periods, Iolani School does not appear to have a major negative impact on parking. The school provides a parking space in their garage for every employee. Students park along the Diamondhead side of the school in the Ala Wai Neighborhood Park Annex (shared agreement-discussed in the next section). Parking on the Diamondhead side of Kamoku Street is used by residents after restricted hours. Parents were observed parking along Kamoku Street to attend sporting events at Iolani school in the late afternoon and early evening hours on school days.
- ❖ Individuals were viewed moving their vehicles from Kapiolani Boulevard to the Ala Wai Neighborhood Park parking lot in the early morning weekday hours, to avoid towing, then later returning to pick up their vehicle to presumably go to work or other day activities or to return to Kapiolani Boulevard after coning. The vehicles parked for a few hours at the park lot did not appear to impact capacity.

Discussions with residents provided mixed opinions regarding the need for a Restricted Permit Parking Zone (RPZ). Individuals thought some of the parking problems mauka of Kapiolani Boulevard were due to not enough available parking in the large condominium and apartment buildings forcing people to park their vehicles on-street. A permit zone that excluded the large condominiums was favorably viewed. However, another point of view was “why did residents have to apply for and potentially purchase a permit to park on the street by their homes?” It was mentioned that any permit cost should be borne by the buildings and/or the City for allowing insufficient parking.

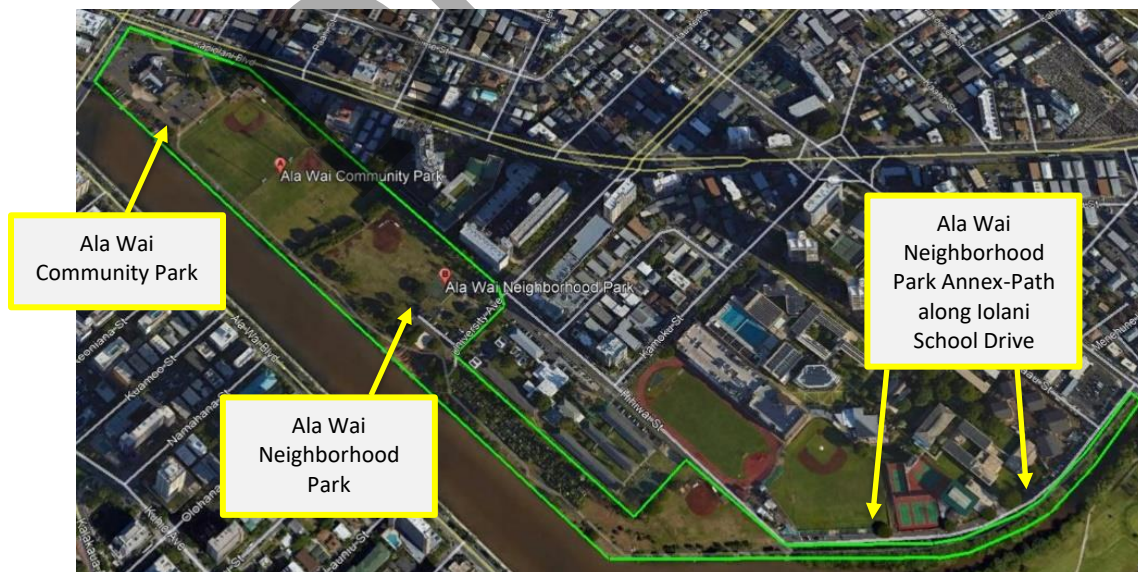


3.2 Park Parking

The mauka landing of the Ala Wai Bridge touches down in the Ala Wai Neighborhood Park. The Ala Wai Community Park and Neighborhood Park complex is a combined 29.8-acre area that features facilities for many different recreational activities for people of all ages. The mauka (mountainside) landing of the future pedestrian bridge will create a safe corridor within the heart of this vast recreational area, providing the greater community with more access to these facilities, including the ‘Lei of Parks’ trail system. This large park complex is divided into three distinct areas: Ala Wai Neighborhood Park, Ala Wai Community Park, and Ala Wai Neighborhood Park Annex.

The City Department of Parks and Recreation (DPR) operates two parking lots for park users as part of the Ala Wai Community Park and Ala Wai Neighborhood Park and shares parking with Iolani School as the Ala Wai Neighborhood Park Annex shown in Figure 3-8. In a shared parking agreement between Iolani School and DPR, the school maintains the parking area and adjacent pedestrian/bicycle path for the exclusive use of parking during school days and special school events. Park users may use this parking when it is not being used by the school

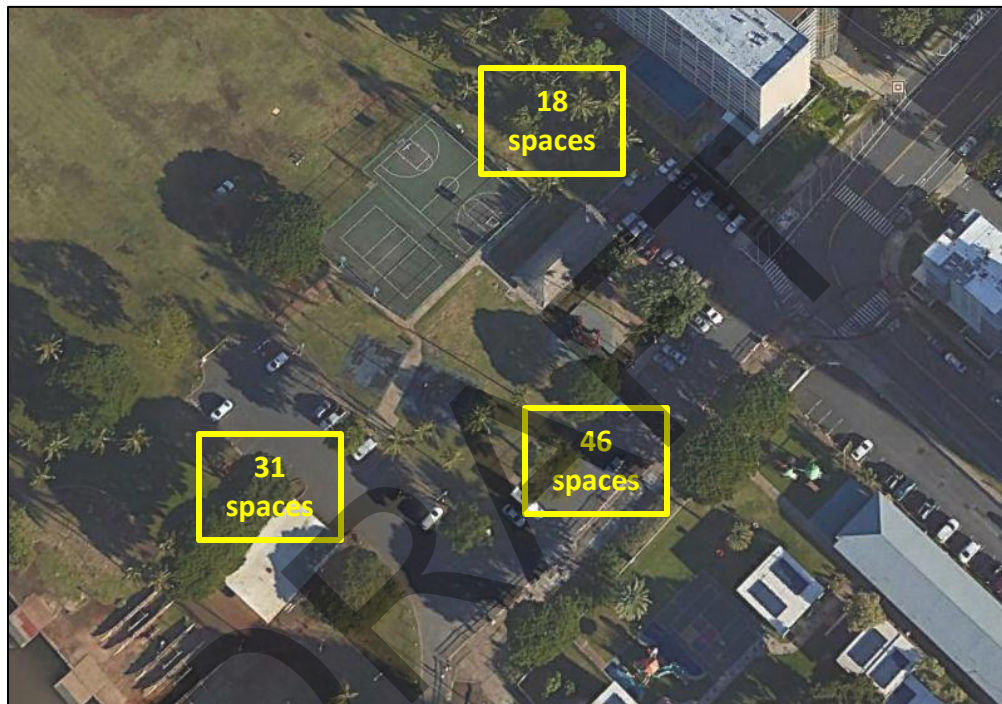
Figure 3-8. Combined Park Complex



The Ala Wai Community and Neighborhood Parks areas, as well as the path along the Iolani School Drive, are outlined in green. The Park complex runs along the mauka banks of the Ala Wai Canal and the smaller Manoa-Palolo Canal in the lower right of the figure.

Ala Wai Neighborhood Park. Ala Wai Neighborhood Park shown in Figure 3-9 is located at the makai end of University Avenue. The park is bounded by the Ala Wai Canal on the makai side, Ala Wai Elementary School and Community Garden on the Diamond Head side, University Avenue and condominiums on the mauka side, and Ala Wai Community Park on the Ewa side. The park has 95 marked parking spaces in three distinct sections, shown in Figure 3-9. The upper lot closest to the park entrance has 18 marked spaces which are frequently full; the middle section has 46 spaces; and the section by the canoe halau has 31 spaces. Park hours are between 5:00 AM and 10:00 PM. At the time of the data collection, a portion of the park was closed for the Department of Land and Natural Resources' Ala Wai Canal Dredging and Improvements Project.

Figure 3-9. Parking Areas in Ala Wai Neighborhood Park



There are chains by the two entrances to the parking areas. However, the survey team did not observe the chains locked even after park closure at 10:00 PM. The team did observe vehicles in the parking lot after 10:00 PM although few – maximum seven vehicles observed.



Figure 3-10. Ala Wai Neighborhood Park

Ala Wai Neighborhood Park amenities include bathrooms, a covered recreation area, play structure, enclosed sport court, sports fields, canoe halau and launch sites, as well as access to the Ala Wai Community Garden, Ala Wai Dog Park, and the Ala Wai Park Trail. Ala Wai Elementary School is southeast of the entrance to the park.



Ala Wai Elementary School to the left and Park entrance.



Park-goers partaking in Tai Chi under the portico, off the restrooms.

At the time of observation, the Department of Land & Natural Resources' Ala Wai Canal Dredging and Improvements project was underway. During the work week roughly 10 to 15 vehicles associated with the project are parked for the duration of the work shift, about 7 to 8 hours. Ala Wai Neighborhood Park is adjacent to an elementary school unlike Ala Wai Community Park. Ala Wai Neighborhood Park parking lot sees a surge of activity around school drop-off and pick-up times. In the afternoon, the majority of vehicles stay briefly in the park for the parents or care givers to pick up the children. Other vehicles were parked longer for children to use parks facilities, such as the playground after school hours. This was observed on both weekdays.



Work vehicles associated with the Ala Wai Canal Dredging and Improvements Project, at the end of the rear parking lot.

The Ala Wai Community Garden is located makai of the Ala Wai Elementary School, on the banks of the Ala Wai canal. It is the largest of the ten community gardens on Oahu with a total of 153 12x15-foot plots. Members of the community can rent these plots for a low annual rate and grow fresh produce for their families. Located southwest of the Ala Wai Community Garden, down the Ala Wai Park Trail is the Ala Wai Dog Park. About 15 percent of those parked, in the late afternoon and early evening hours were observed parking for short, 1 to 2 hour stays to use the community garden and dog park.



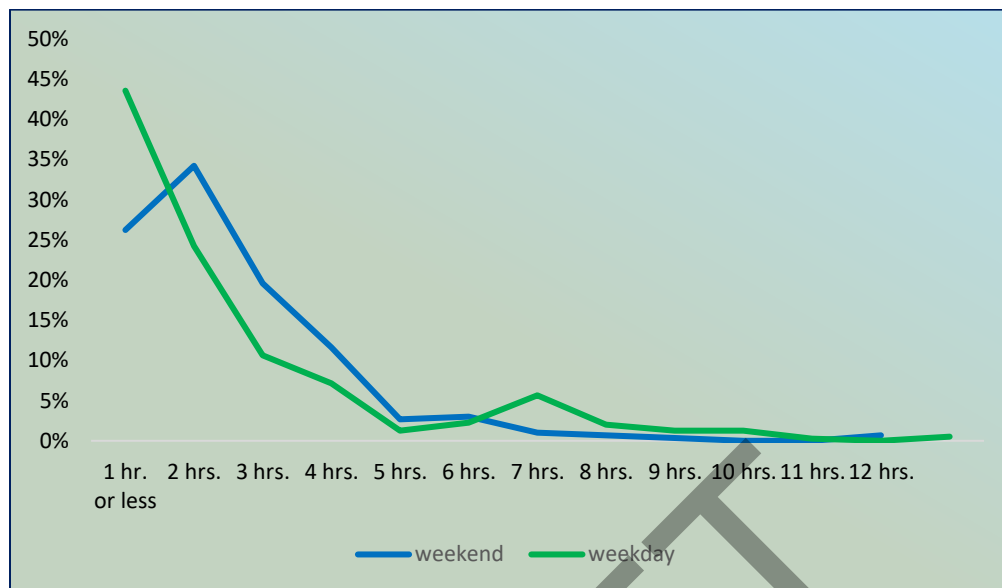
The Ala Wai Community Garden

Figures 3-11 and 3-12 together show how many vehicles are using the parking lot and when, and how long they are staying. As with the Ala Wai Community Park, most people (80% on weekends and 78% on weekdays) are parked at the park for 3-hours or less, shown in Figure 3-11. The amount of vehicles parking in the 4 to 6 hour range (17% on weekends and 11% on weekdays) is less than at the Ala Wai Community Park. Due to the Ala Wai Canal Dredging and Improvements project and the worker parking associated with that project, weekdays see a higher number of vehicles parked for 7 or more hours than weekends (3% on weekends and 11% on weekdays).

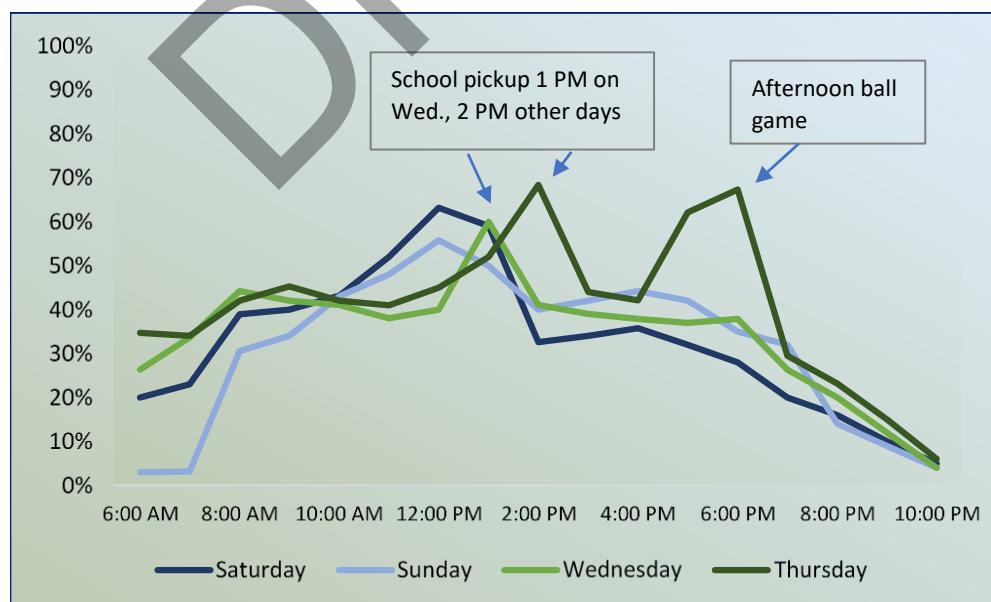
The highest use observed at the Ala Wai Neighborhood park was 68% at 2:00 PM on a Thursday (January 23, 2020) when an influx of vehicles used the lot for student pick-up and after-school play, shown in Figure 3-12. Workers from the dredging project were still parked. Even with that activity there were 30 spaces unfilled, although the waiting cars for the students filled the roadway making access to open parking difficult.



The Ala Wai Park Trail is a part of the Lei of Parks network of trails

Figure 3-11. Ala Wai Neighborhood Park Average Parking Duration

That same day an increase in parking was observed associated with an afternoon softball game. The fields in this portion of the complex are not stadium-lit; therefore, games do not go as late as at the Ala Wai Community Park. The number of vehicles parked declines earlier in the evening. Later in the evening most activity is from nearby residents coming to use the sport court and children's play area, although vehicles were parked that appeared to be from nearby residences not using the park.

Figure 3-12. Ala Wai Neighborhood Parking Use

Ala Wai Community Park is bordered by the Ala Wai Canal, McCully Street to the northwest and Kapi'olani Avenue to the northeast. The entrance to the park is 365-feet southeast of the McCully Street and Kapiolani Avenue intersection. The park provides 95 parking stalls, contained in three interconnected areas. The three parking areas include 4 spaces in the front, 49 spaces in the Ewa lot, and 42 spaces in the Diamondhead lot by the bathrooms and fields. Park features include an illuminated sports field, canoe storage and launch areas, a play structure, bathrooms, access to the Ala Wai Park Trail (part of the Lei of Parks network) and the Ala Wai Recreation Center. The parking is posted for use while using the park only and closed between 11:00 PM and 5:00 AM, daily.



A high school outrigger canoe crew coming into dock along the banks of the Ala Wai Canal at the Ala Wai Community Park



Middle school-aged kids playing soccer on the stadium-lit sports field before the evening's adult baseball game at the Ala Wai Community Park.

The Ala Wai Community Park is well used by community members of all ages for different activities. Throughout the day, canoeing appears to be one of the most popular recreational activities at the park as there are canoe storage and launch sites. Community members were observed exercising in the morning by using the path for walking, running, or cycling, and seniors were gathered in the community center playing card games. On the weekday evenings, the park saw its greatest use with a combination of after-school canoe clubs and sporting events such as soccer and baseball were observed taking place in the stadium-lit sports field.

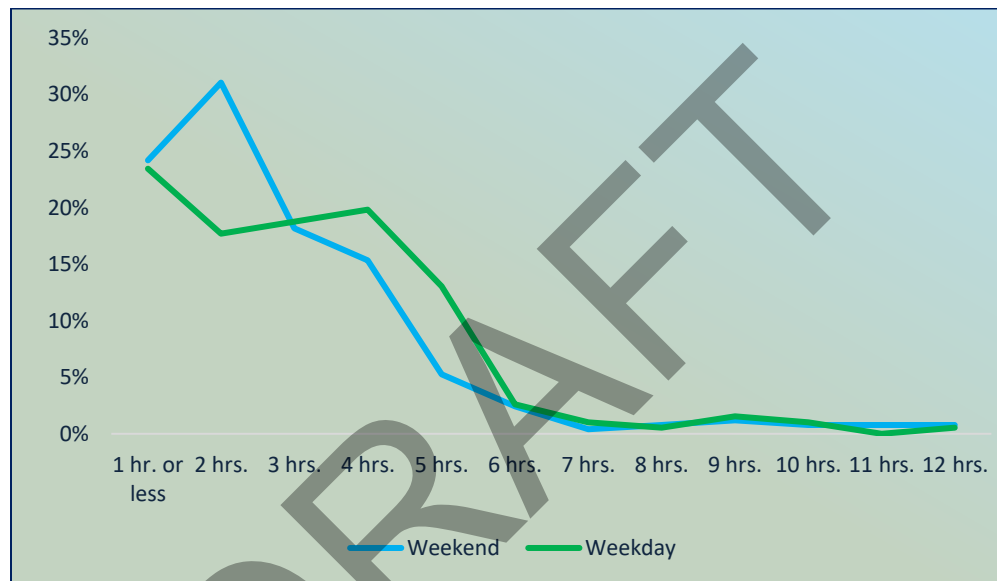


Seniors engaged in card games within the main room of the Ala Wai Recreation Center, pictured above.

The Ala Wai Community Park, being immediately adjacent to one of the major gateways to Waikiki, McCully Street, provides an example of the potential future impacts of increased access to the Ala Wai Neighborhood Park with the construction of the pedestrian/bicycle bridge.

Figures 3-13 and 3-14 show how many vehicles are using the parking lot and when, and how long they are staying. Most people (73% on weekends and 60% on weekdays) are parked at the park for 3-hours or less as shown in Figure 2-13. There is a slight increase in those parked at the park on weekdays for 4 to 6-hours (23% on weekends and 35% on weekdays). There is a consistent 5% parking, five vehicles, at the park for 7 or more hours, on both weekends and weekdays. It is presumed that drivers of these vehicles are parking and walking to nearby businesses and potentially into Waikiki to work.

Figure 3-13. Ala Wai Community Park Average Parking Duration



The highest observed parking use of 87%, occurred on a Wednesday evening between 5:00 PM and 7:00 PM (January 22, 2020) when many different activities occurred, including a school-aged outrigger canoe meet, two back-to-back uses of the field, one for soccer practice and the other a baseball game, as well as others using the park for skateboarding, picnicing, and accessing the Ala Wai Park trail.

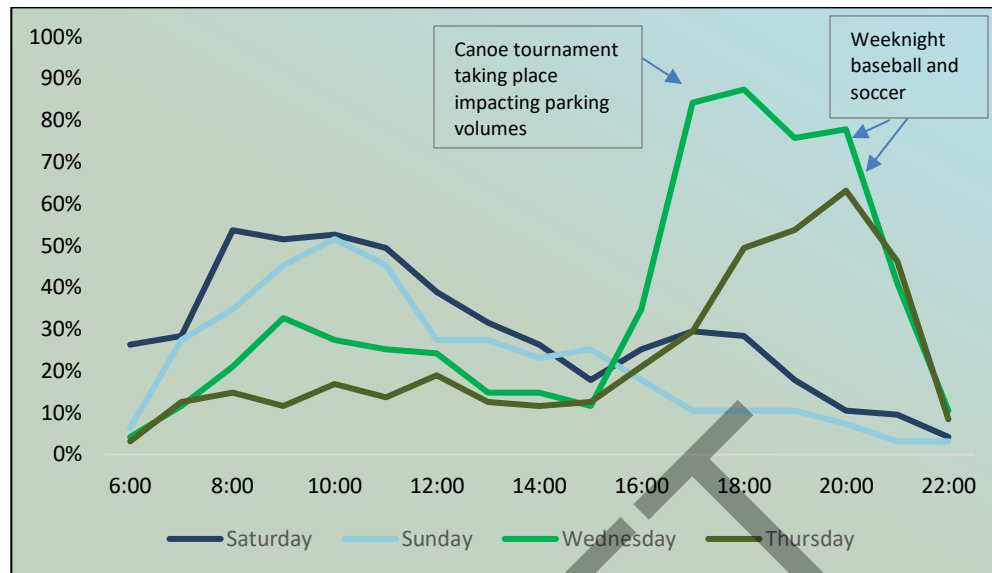


The Ewa lot was filled with parents positioning to pick up their kids, and the Diamondhead lot was filled with parents and coaches of the soccer and then later baseball players.



Cars were doubled parked for a short period of time causing gridlock. This congestion cleared in about one hour.

Youth pulling a canoe out of the water.

Figure 3-14. Ala Wai Community Park Parking Use

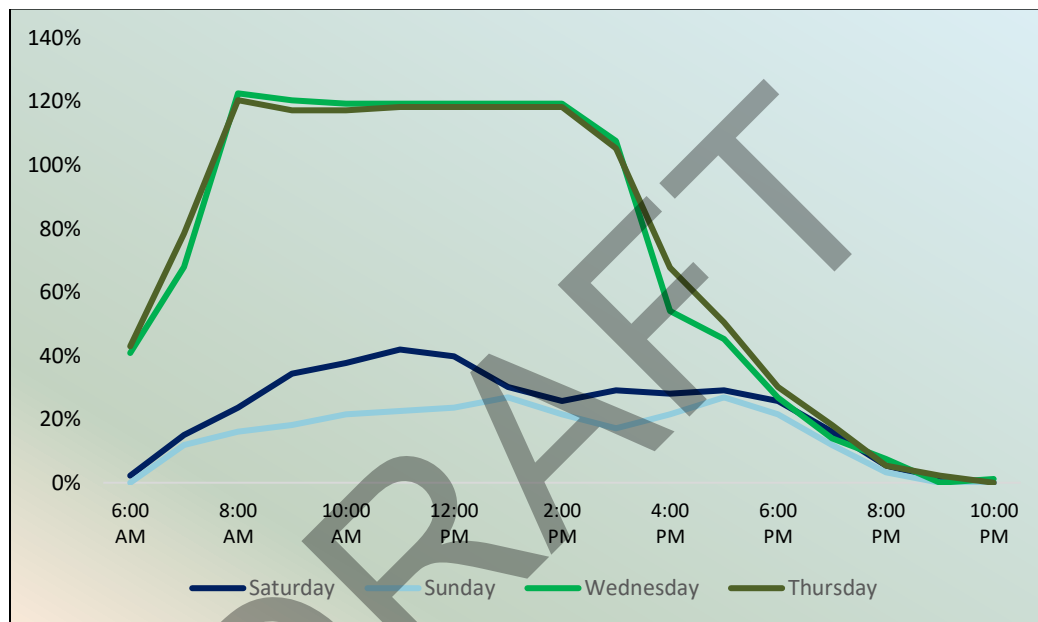
Ala Wai Neighborhood Park Annex is bordered by the Iolani School campus and Manoa-Palolo Canal on the Diamondhead side. Access is via a one-way road with parking along the Iolani School side. There are gates at the entrance to the park on Laau Street and the exit onto Hiihawai Street. Both gates are locked between 10:00 PM and 5:00 AM daily. The Iolani School is directly adjacent to the northwest of the parking lot and manages this lot in partnership with the City and County of Honolulu Department of Parks and Recreation. The Iolani School uses this lot for student and guest parking during school hours. The general public is not allowed to park from 6:30 – 8:30 AM and 1:00 – 3:30 PM when it is used by the school on school days.



The maximum observed use of 123% percent was observed on a school day morning during school drop-off hours. The school allows students to park outside of the 93 marked stalls and so the lot is regularly above marked capacity during school hours, as shown in Figure 3-15.

After school hours, parking use drastically decreases with the maximum observed non-school day use being 42% at 11:00 AM on Saturday (January 18, 2020). Most vehicles observed parking outside of school hours were associated with people accessing the Ala Wai Dog Park or the Ala Wai Park Trail.

Figure 3-15. Ala Wai Neighborhood Park Annex/Iolani School Parking Use



Park Parking Observations

- ❖ Parking supply exceeds observed demand for park use with very few exceptions.
 - On Wednesday evening, January 22, 2020, a canoe meet was finishing as soccer and baseball were starting at the Ala Wai Community Park. The congestion in the Ewa lot cleared after 60 minutes decreasing occupancy levels to 25 percent at 7:00 PM and decreasing further through the evening.
 - At the Ala Wai Neighborhood Park when Ala Wai Elementary School releases students and parents are picking up the children, congestion in the travel lane and short-term parking occur. While there were 30 spaces available for parking at its peak use, the congestion in the travel lane made it extremely difficult to get to the parking.
 - The Ala Wai Neighborhood Park Annex parking is completely full during Iolani School hours but is lightly used on the weekends and after school hours with the notable exceptions of major school functions.

- ❖ Contracted security vehicle was seen several times during the data collection driving through both parking lots.
- ❖ There did appear to be people parking at the Ala Wai Community Park lot and accessing work sites nearby. On any given day up to five vehicles were parked seven or more hours. These vehicles did not impact parking availability.
- ❖ Parking at the Ala Wai Neighborhood Park is used by nearby residents for short- and mid-term vehicle storage. Repair and maintenance vehicles were also parked in the lot short-term, for one to two hours, with the drivers going to nearby buildings. These activities did not impact parking availability.
- ❖ The upper 18-space lot at Ala Wai Neighborhood Park was frequently full, however, the other two sections offered plenty of parking for park users (even with the construction workers using up to 15 spaces).

- ❖ The Ala Wai Neighborhood Park Annex parking is underused and appears to be a hidden gem. With 93 marked spaces and additional parking against the trail, it provides an alternative to park after school hours and on the weekends. This lack of use may be due to limited information. The entry gate may seem ominous for some. This lot is ideal for parking for the dog park and accessing the walking paths. An information campaign is advisable especially as construction commences.



- ❖ All three parks have a Biki station near the entrance. However, bike racks for personal bikes are lacking.
- ❖ The Ala Wai Neighborhood Park users, mostly traveling on foot, predominantly come from nearby residential areas. The sport court and children's play area were used consistently from afternoon to evening hours.

3.3 On-Street Parking Makai of the Ala Wai Canal

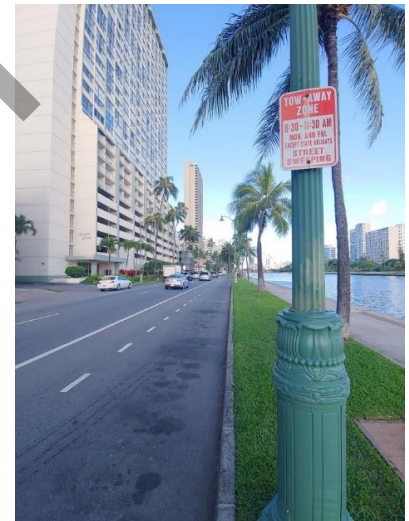
The makai landing of the bridge touches down into the residential section of Waikiki at Kalaimoku Street. The makai study area included Ala Wai Boulevard to Kuhio Avenue from Keoniana Street in the northwest to Seaside Avenue in the southeast. This portion of Waikiki is largely residential with a wide mix of buildings including many low and high-rise condominiums, apartments, and hotels, as well as some single-family homes. There are also many restaurants and shops on the ground and second floors of buildings, especially towards Kuhio Street, Lewers Street and Seaside Avenue.

The study area was observed over a 16-hour period (6:00 AM to 10:00 PM) over two typical weekdays and two typical weekend days. Table 3-4 shows a similar number of legal parking spaces as the study area on the mauka side of the canal, though hundreds of more vehicles per day are parking within those spaces, with greater vehicle turnover per space on the makai side of the canal and a much shorter average duration. Similar to mauka on-street parking, the overall parking occupancy is high with less than two percent difference between weekday and weekend use. Overall, there are fewer vehicles parked on weekends with slightly less turnover and a slightly longer average duration.

Table 3-4. On-Street Parking Use Summary for Identified Streets Makai of Ala Wai Canal

Day	On-Street Number of Parking Spaces	Number of Parked Vehicles	Average Vehicle Turnover Per Space	Average Duration (Hours Parked)	Overall Occupancy
Weekday	263	856	3.3	4.4	90%
Weekend	263	764	2.9	4.9	88%

The Ala Wai Boulevard, normally full of parked cars on the right, is pictured on a Friday morning when cars are cleared for street sweeping.



The street parking within the makai study area fell into three distinct groups: marked and metered (6:00 AM to 10:00 PM, \$3/hour, 2 hours maximum); marked and unmetered; and unmarked and unmetered parking. The combined total of legal spaces is approximately 263 or 264, depending on how many cars can fit in the different sections along the Ala Wai Boulevard.

The Ala Wai Boulevard, which runs along the Ala Wai Canal, was the only segment in the study area which had both unmarked and unmetered parking. This is also the only section of the study area that is a tow-away zone every Monday and Friday morning for weekly street sweeping. This measure helps to keep streets clear of coconut tree debris and forces turnover of valuable unmetered parking spaces in Waikiki.

The streets which are metered and marked are the streets closest to the commercial zone of Waikiki and include Olohana Street, Kalaimoku Street, Launiu Street, Kaiolu Street, Lewers Street, Aloha Drive, Royal Hawaiian Avenue and Seaside Avenue. The streets which are marked and unmetered are farther away from the heart of Waikiki and more residential in nature and include Keoniana Street, Kuamoo Street and Namahana Street.

Tables 3-5 and 3-6 show the on-street parking use in the study area makai of the Ala Wai Canal for weekdays and weekends. Overall, as shown in Table 3-6, the use numbers are not remarkably different for weekdays versus weekends. Since Waikiki is a tourist destination, open 7 days a week and largely service industry based, there is similar activity all week as compared to typical residential areas. While some residents commute outside of the area Monday-Friday, 8:00 AM to 5:00 PM jobs, there are also service employees commuting into Waikiki, as well as tourists using area accommodations and shops.

Table 3-5. Weekday On-Street Parking Use for Identified Streets Makai of Ala Wai Canal

Street	Between		Number of Parking Spaces	Number of Parked Vehicles	Average Vehicles Turnover Per Space	Average Duration (Hours Parked)	Overall Occupancy
Marked and Unmetered Streets							
Keoniana St. - DH	Kuhio St.	Ala Wai Blvd.	12	31	2.6	6.7	108%
Keoniana St. - Ewa	Kuhio St.	Ala Wai Blvd.	11	27	2.5	6.1	94%
Kuamoo St. - DH	Kuhio St.	Ala Wai Blvd.	13	26	2.0	8.2	102%
Kuamoo St. - Ewa	Kuhio St.	Ala Wai Blvd.	5	7	1.4	11.0	96%
Namahana St. - DH	Kuhio St.	Ala Wai Blvd.	3	23	7.7	7.3	352%
Namahana St. - Ewa	Kuhio St.	Ala Wai Blvd.	4	15	3.8	6.5	153%
Marked and Metered Streets							
Olohana St. - DH	Kuhio St.	Ala Wai Blvd.	12	47	3.9	2.8	68%
Olohana St. - Ewa	Kuhio St.	Ala Wai Blvd.	8	35	4.4	2.0	54%
Kalaimoku St. - DH	Kuhio St.	Ala Wai Blvd.	11	27	2.5	5.3	81%
Kalaimoku St. - Ewa	Kuhio St.	Ala Wai Blvd.	8	32	4.0	2.7	67%
Launiu St. - DH	Kuhio St.	Ala Wai Blvd.	17	56	3.3	2.6	53%
Launiu St. - Ewa	Kuhio St.	Ala Wai Blvd.	10	31	3.1	2.7	53%
Kaiolu St. - DH	Kuhio St.	Ala Wai Blvd.	12	47	3.9	3.0	74%
Kaiolu St. - Ewa	Kuhio St.	Ala Wai Blvd.	12	34	2.8	4.3	76%
Lewers St. - DH	Kuhio St.	Ala Wai Blvd.	3	24	8.0	3.1	156%
Lewers St. - Ewa	Kuhio St.	Ala Wai Blvd.	3	19	6.3	2.3	92%
Aloha Dr. - Mauka	Lewers St.	R. Hawaiian Ave.	5	26	5.2	2.8	91%
Aloha Dr. - Makai	Lewers St.	R. Hawaiian Ave.	5	19	3.8	3.1	74%
Aloha Dr. - Mauka	R. Hawaiian Ave.	Seaside Ave.	3	14	4.7	3.1	92%
Aloha Dr. - Makai	R. Hawaiian Ave.	Seaside Ave.	6	31	5.2	2.7	89%
R. Hawaiian Ave. - DH	Aloha Dr.	Kuhio St.	3	17	5.7	2.9	102%
R. Hawaiian Ave. - Ewa	Aloha Dr.	Kuhio St.	4	16	4.0	2.6	64%
Seaside Ave. - DH	Kuhio St.	Ala Wai Blvd.	6	34	5.7	2.4	85%
Seaside Ave. - Ewa	Kuhio St.	Ala Wai Blvd.	5	19	3.8	3.8	90%
Unmarked and Unmetered Streets							
Ala Wai Blvd. - Mauka	Keoniana St.	Kuamoo St.	8	17	2.1	7.1	95%
Ala Wai Blvd. - Mauka	Kuamoo St.	Namahana St.	8	21	2.6	6.1	100%
Ala Wai Blvd. - Mauka	Namahana St.	Olohana St.	7	14	2.0	8.0	100%
Ala Wai Blvd. - Mauka	Olohana St.	Kalaimoku St.	8	18	2.6	5.8	94%
Ala Wai Blvd. - Mauka	Kalaimoku St.	Launiu St.	6	14	2.3	6.1	90%
Ala Wai Blvd. - Mauka	Launiu St.	Kaiolu St.	9	19	2.4	6.5	96%
Ala Wai Blvd. - Mauka	Kaiolu St.	Lewers St.	12	32	2.7	5.9	98%
Ala Wai Blvd. - Mauka	Lewers St.	Seaside Ave.	25	64	2.5	6.4	98%

Table 3-6. Weekend On-Street Parking Use for Identified Streets Makai of Ala Wai Canal

Street	Between		Number of Parking Spaces	Number of Parked Vehicles	Average Vehicles Turnover Per Space	Average Duration (Hours Parked)	Overall Occupancy
Marked and Unmetered Streets							
Keoniana St. - DH	Kuhio St.	Ala Wai Blvd.	12	28	2.3	7.3	106%
Keoniana St. - Ewa	Kuhio St.	Ala Wai Blvd.	11	20	1.8	8.4	95%
Kuamoo St. - DH	Kuhio St.	Ala Wai Blvd.	13	30	2.3	7.5	108%
Kuamoo St. - Ewa	Kuhio St.	Ala Wai Blvd.	5	10	2.0	9.9	124%
Namahana St. - DH	Kuhio St.	Ala Wai Blvd.	3	24	8.0	6.4	319%
Namahana St. - Ewa	Kuhio St.	Ala Wai Blvd.	4	15	3.8	5.8	136%
Marked and Metered Streets							
Olohana St. - DH	Kuhio St.	Ala Wai Blvd.	12	38	3.2	2.5	49%
Olohana St. - Ewa	Kuhio St.	Ala Wai Blvd.	8	27	3.4	2.1	44%
Kalaimoku St. - DH	Kuhio St.	Ala Wai Blvd.	11	21	1.9	6.3	76%
Kalaimoku St. - Ewa	Kuhio St.	Ala Wai Blvd.	8	22	2.8	3.7	64%
Launiu St. - DH	Kuhio St.	Ala Wai Blvd.	17	66	3.9	2.7	66%
Launiu St. - Ewa	Kuhio St.	Ala Wai Blvd.	10	23	2.3	3.8	55%
Kaiolu St. - DH	Kuhio St.	Ala Wai Blvd.	12	41	3.4	3.8	80%
Kaiolu St. - Ewa	Kuhio St.	Ala Wai Blvd.	12	36	3.0	3.9	72%
Lewers St. - DH	Kuhio St.	Ala Wai Blvd.	3	21	7.0	3.3	146%
Lewers St. - Ewa	Kuhio St.	Ala Wai Blvd.	3	17	5.7	2.8	100%
Aloha Dr. - Mauka	Lewers St.	R. Hawaiian Ave.	5	23	4.6	2.7	83%
Aloha Dr. - Makai	Lewers St.	R. Hawaiian Ave.	5	17	3.4	3.2	68%
Aloha Dr. - Mauka	R. Hawaiian Ave.	Seaside Ave.	3	15	5.0	2.7	83%
Aloha Dr. - Makai	R. Hawaiian Ave.	Seaside Ave.	6	19	3.2	3.8	76%
R. Hawaiian Ave. - DH	Aloha Dr.	Kuhio St.	3	17	5.7	1.9	69%
R. Hawaiian Ave. - Ewa	Aloha Dr.	Kuhio St.	4	17	4.3	3.3	88%
Seaside Ave. - DH	Kuhio St.	Ala Wai Blvd.	6	24	4.0	3.5	86%
Seaside Ave. - Ewa	Kuhio St.	Ala Wai Blvd.	5	21	4.2	3.4	89%
Unmarked and Unmetered Streets							
Ala Wai Blvd. - Mauka	Keoniana St.	Kuamoo St.	8	14	1.8	8.9	98%
Ala Wai Blvd. - Mauka	Kuamoo St.	Namahana St.	8	19	2.4	6.7	100%
Ala Wai Blvd. - Mauka	Namahana St.	Olohana St.	7	18	2.6	6.0	96%
Ala Wai Blvd. - Mauka	Olohana St.	Kalaimoku St.	8	17	2.1	6.3	84%
Ala Wai Blvd. - Mauka	Kalaimoku St.	Launiu St.	6	11	1.8	7.9	91%
Ala Wai Blvd. - Mauka	Launiu St.	Kaiolu St.	9	15	1.7	9.6	100%
Ala Wai Blvd. - Mauka	Kaiolu St.	Lewers St.	12	23	1.9	8.1	97%
Ala Wai Blvd. - Mauka	Lewers St.	Seaside Ave.	25	55	2.2	6.9	95%

The streets in the tables are laid out sequentially, northwest to southeast, and by group, based on whether the street is metered and/or marked. Within each of these categories there are some trends as well as anomalies. In general, the streets that are unmetered have much less turnover, and vehicles parked for longer duration than the streets that are metered. Some streets that are marked tend to see over-occupancy with vehicles parking outside of marked spaces. Ala Wai Boulevard, being the only street that is unmarked and unmetered, has the most consistently high occupancy.

A few streets regularly had vehicles parked outside of marked stalls, leading to occupancy rates higher than 100 percent. This was particularly prevalent in the unmetered area, especially on Namahana Street. This is partly due to many smaller-sized spaces created by driveways and tree-plantings that do not fit the standard parking space length, and so are not marked as such, but opportunistic parkers will take a chance.



Namahana Street: Several non-commercial vehicles parked inside a large freight-loading zone on the right; A tree planter creates a parking obstacle on the left.

It is notable that the first few streets listed in the “Marked and Metered Streets” section (Olohana, Kalaimoku, Launiu and Kaiolu) had much lower overall occupancy than the following streets in that section. Those first streets are comprised of more residential buildings that have adequate parking, so there is less demand in that area. The streets listed farther down in the section contain higher density residential complexes, more commercial stores and services, as well as hotels leading to an overall higher demand for parking. As the cost of metered street parking is high (\$3/hour for 16 hours/day), people try to avoid parking on those streets if possible.



A vehicle parked outside of a marked stall within the makai study area; an offense which goes largely unenforced.

Commercial loading zone space in the unmetered area was also regularly taken by the parking public outside of allowable hours. These two factors led to high occupancy rates for both weekdays and weekends on Namahana Street.



Royal Hawaiian Avenue: Five cars parked in three spaces on the left, and a taxi loitering without paying on the right.

A high number of vehicles were observed not paying in the metered section of the study area. This could be because the cost of street parking (\$48/day) can easily exceed the cost of a parking ticket (\$35) and the fact that enforcement is sporadic and infrequent. Enforcement was observed only on weekday mornings. Parking over the two-hour limit did not appear to be enforced.

Lewers Street is the only street in the marked and metered section observed to regularly experience over-occupancy. This is due to several factors including a limited number of spaces, delivery vehicles accessing establishments, ABC Store patrons, patrons of nearby restaurants, and vehicles parked longer than the two-hour posted time limit.

Many vehicles (65 percent) were observed parking outside of the two-hour marked time limit without enforcement. A high number of vehicles also had disabled placards or were electric vehicles, which were both eligible for free City and County of Honolulu parking for 2.5 hours or the posted maximum time limit, whichever is longer. (Note: Since the data collection, Hawaii State Act 168 providing free parking for electric vehicles sunset on June 30, 2020.) Many vehicles with disabled placards or electric vehicles were observed parking for several hours over the 2-hour limit. Some were in the same parking spot on all days of the data collection, without paying. Posted parking time limits were not enforced if the vehicles were in legal parking spots.



Kalaimoku Street: An electric vehicle is seen ticketed for parking outside of a marked stall.

While parking payment data were not part of this study, such a high rate of unpaid meters was noticed during the study data collection that it was imperative to collect data on meter payment. It was observed that only about 20-30% of people were paying for parking at meters, whether they were eligible to receive free parking. Kalaimoku had numerous issues with unpaid parking. Three of the meters were missing, so vehicles parked for free. The same vehicles were observed in the same spaces on both weekdays and weekends, even though there is a two-hour parking limit. A fourth metered space was occupied by heavy equipment which appeared to have been abandoned.



Figures 3-16 and 3-17 show the parking use trends amongst the different street groupings for both weekday and weekends. With unmarked spaces, full capacity on Ala Wai Boulevard was worked out by the parkers. Though the street did see some turnover, available spaces were taken quickly.

Figure 3-16. Average Weekday Parking Use by Hour and Group, Makai Parking

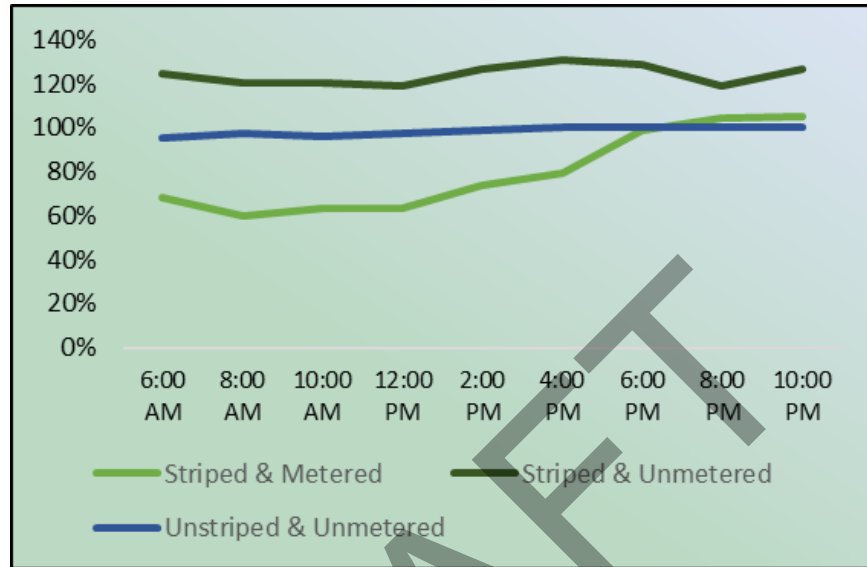
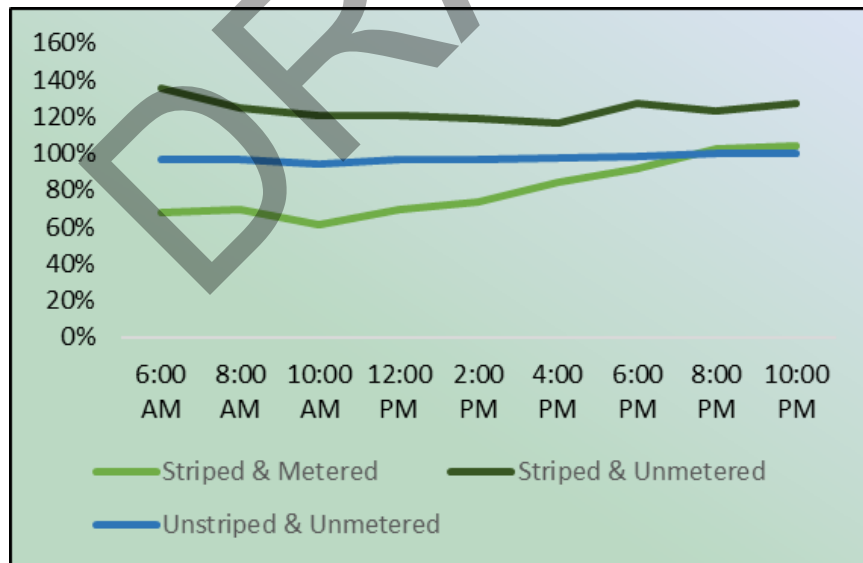


Figure 3-17. Average Weekend Parking Use by Hour and Group, Makai Parking



The three streets in the marked and unmetered group, farthest away from the heart of Waikiki, regularly experienced over-occupancy, as many vehicles were parked illegally, outside of marked spaces.

The eight streets in the marked and paid section also experienced similar trends for both weekdays and weekends. The lowest occupancy was observed in the late morning hours and gradually increased to full capacity in the evening as residents and others arrive for the evening. The more residential streets (Olohana, Kalaimoku, Launiu and Kaiolu) tended to have lower occupancy in the morning than streets closer to the heart of Waikiki (Lewers, Aloha Drive, Royal Hawaiian and Seaside), which were busy with workers, delivery people, taxis, residents, and tourists.



Launiu Street: Plenty of parking available on a weekday morning on this marked and metered residential street, on which most buildings provide parking garages.

While many buildings have parking available for residents, the data collection team spoke with several residents who do not have parking and must use the street. Many expressed difficulties finding parking near their homes and found the cost of street parking to be a major expense. Frustration was also expressed by residents who noticed the culture of many not paying for on-street parking. Some knew they may not always get a ticket but were concerned. Residents wondered why Waikiki had such a long time period (up to 10:00 PM) for paid parking while other areas of the City do not.

Figures 3-18 and 3-19 show the average parking duration trends by street grouping. The unmetered streets follow similar patterns of spikes in parking duration.

Figure 3-18. Average Weekday Parking Duration by Parking Type, Makai Parking

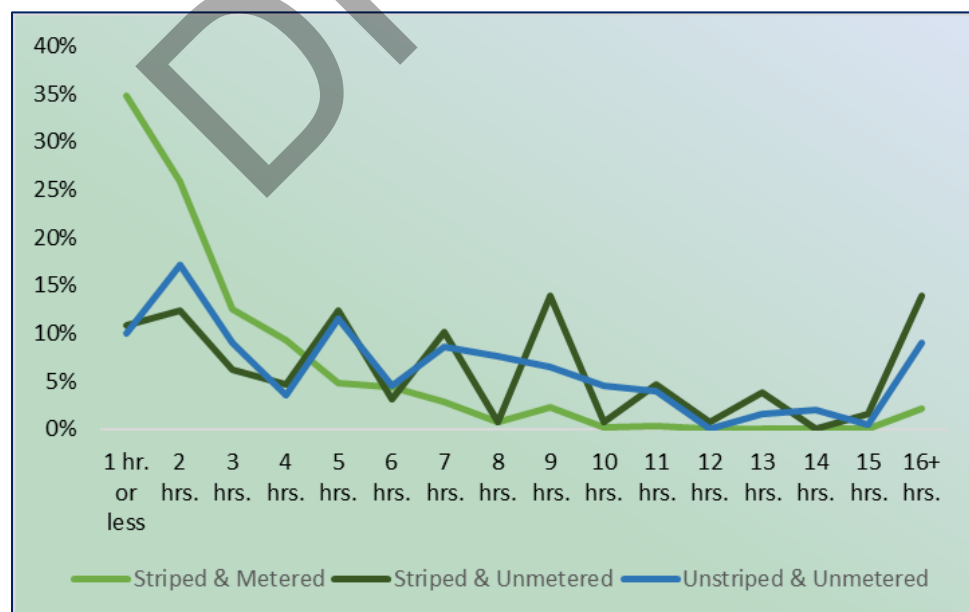
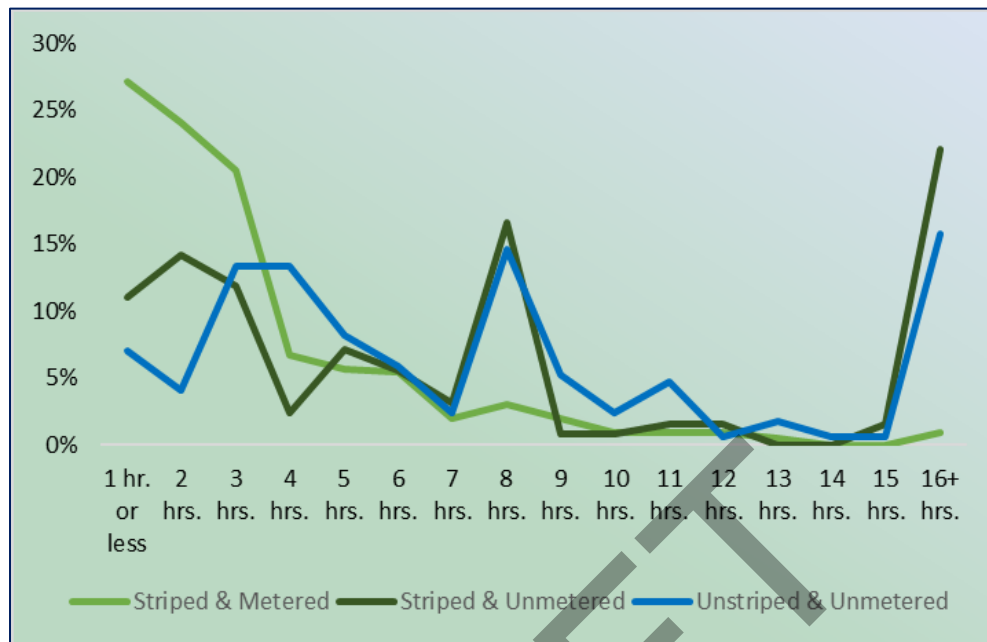


Figure 3-19. Average Weekend Parking Duration by Parking Type, Makai Parking

The parking duration trend for the marked and metered streets is similar on weekdays and weekends with most of the vehicles parked for one and two hours with a steep drop off. These streets have a two-hour parking time limit, or 2.5 hours for disabled permittees. About 61 percent of vehicles on weekdays and 51 percent of vehicles on weekends are parked for one to two hours, the remainder are parking longer than posted times.

On-Street Parking Observations Makai of Canal

- ❖ Free parking is at a premium in Waikiki. When a space is found, the parker tends to keep it for as long as possible.
- ❖ The unmetered parking streets are the most coveted by people who work and live in the area. A couple of turnover periods were observed in the morning and afternoon when residents leave for work and workers enter the area to go to work.
- ❖ Metered parking with the 2-hour time limits is not regularly enforced. Vehicles with disabled placards were witnessed parked for days in the same spot.
- ❖ The few remaining unmetered and marked streets were located on mostly residential streets. Discussions with residents pointed to three cars on one street that were owned by nearby businesses and not residents. As a resident explained, the car/business owners had employees switch out the cars maintaining control of the spaces.



- ❖ Residents on the unmetered mauka/makai streets noted places where people parked that were not legal spaces.
- ❖ Metered streets had few paying for parking (20 to 30 percent depending on day or street). On just about every metered street, spaces were used by people without paying.
- ❖ Taxis, transportation network company (TNC) vehicles (e.g., UBER, Lyft), limousines, and tour vehicles were observed idling in this section and not paying.
- ❖ Searching for parking adds to congestion.
- ❖ Overall, parking supply does not meet demand.
- ❖ Adding to the pressure of a limited parking supply is the habit of blocking spaces for maintenance, construction, etc. These spaces have notices that they are for construction; yet the spaces are unused.



3.4 Kuhio-Kaiolu Public Parking Lot

The Kuhio-Kaiolu Parking Lot is owned and operated by the City and was unused at the time of the data collection even though it was open. The lot reopened December 5, 2019 after being closed for several years. It was used as a staging area during the construction of the adjacent Ritz Carlton Hotel and Ritz Carlton Residences.

The 50-stall parking lot is less expensive (rate of \$1.50/hour, five hours maximum) than the metered street parking. The lot is open 24 hours a day, seven days a week.



This underused lot has 50 spaces with potential to serve the community.

Since the parking study data collection was completed DTS, in partnership with the Waikiki Transportation Management Association (WTMA), installed parking signs at the entrance to the lot to inform potential users of this vital resource within the community.

Kuhio-Kaiolu Parking Lot Observations

- ❖ The newly reopened Kuhio-Kaiolu Parking Lot at \$1.50 per hour should be well used and would take pressure from on-street spaces. However, this has not been the case since reopening.
- ❖ Payment is via meters accepting quarters only which is a deterrent to parking at this lot.
- ❖ Access may be confusing as it is through part of the Ritz complex. The entrance to the lot is through the loading dock structure of the Ritz Carlton. The access road is a continuation of Kaiolu Street although that is not readily apparent. The parking lot is not visible from the entrance. The “Dead End” sign posted at the entrance does not convince potential parkers that a parking lot is nearby, although a parking sign has recently been installed on the “Dead End” sign.



The entrance to the Kaiolu parking lot off of Kuhio Street is misleading.

4.0 Ala Wai Bridge Project Parking Impacts

Parking was identified as the largest community concern during the AA. The figure to the right shows that parking is the highest listed out of 14 categories. These concerns were mostly received from people from the mauka side of the Ala Wai Canal. Area residents and park users have expressed concern that the Ala Wai Bridge will make it easier for living or working in Waikiki to park on the mauka side of the canal and use the new bridge to access their homes or work locations.

The AA reported that:

Ala Pono crossing is unlikely to make a perceptible difference to nearby on-street parking demand.

The following discusses the expected parking impacts of the Ala Wai Bridge. Construction impacts on parking will be temporary and intermittent.



4.1 Parking Impacts Mauka of the Ala Wai Canal

Origin and destination trip data were collected and analyzed during the Alternatives Analysis phase of the project¹². The data found approximately 29,000 car or motorcycle trips identified as “short-trips” were made to Waikiki using the McCully Avenue Bridge and Kapahulu Avenue for access. Short trips were defined as those trips within two miles or a 20-minute travel zone from origin to destination. These short trips included those with one-trip end in the McCully/Moiliili neighborhoods. Analysis further revealed that with the addition of the bridge 1,200 to 2,850 existing pedestrian and bicycle trips would shift to using the new crossing partly because it would provide a safer travel environment. In addition, between 100 to 1,500 trips would shift from current auto or motorcycle travel to pedestrian or bicycle trips. The range of trips using the new crossing is due to “conservative, moderate, and optimistic” estimates resulting from the analyses. These pedestrian and bicycle trips would help alleviate traffic congestion.

The addition of the bridge is not expected to have a major impact on on-street parking demand mauka of the canal. On-street parking is at capacity, and some streets exceed capacity. The data collection suggests parking is mostly from adjacent residences. Even with projected trips shifting from driving to walking or cycling, the seemingly residential vehicles will remain parked along these streets. University Avenue and Hihiwai Street, closest to Ala Wai Neighborhood Park, rarely have an open space for parking. Streets mauka of Kapiolani Boulevard are further away from the site and have few open spaces. Therefore, potential out-of-area parkers would rarely find available parking on the mauka streets.

Impacts to parking on these streets is not expected during construction of the bridge.

¹² Ala Wai Alternatives Analysis; Appendix C Bridge Use Forecast; May 7, 2019.

4.2 Parking Impacts to Ala Wai Neighborhood Park

The design for the Ala Wai Neighborhood Park landing and connection to University Avenue includes a modest increase in parking spaces within the park. The data collection found that the park had substantial capacity even during sporting and canoe events. The highest recorded use of the parking lot was 68 percent during afternoon student pick-up from Ala Wai Elementary School.

The study observed the Ala Wai Community Park parking lot to ascertain if people parked their vehicles for extended periods of time at that lot and walked into Waikiki or adjacent business areas. Given that the Community Park parking lot is adjacent to McCully bridge with direct pedestrian access into Waikiki, the observations can be used to forecast parking impacts to Ala Wai Neighborhood Park because of the Ala Wai bridge project. The data found that at most five vehicles were parked for seven or more hours at that lot. It is therefore expected that the addition of the Ala Wai Bridge is unlikely to impact parking availability within the Ala Wai Neighborhood Park. It is expected, however, that more people will use the park with this new, direct connection from Waikiki.

Parking availability during construction of the bridge will be impacted. The parking lot will be redesigned so parking will be unavailable during portions of construction. These will be detailed in the construction documents and the Environmental Assessment. It is the intent of the City that parking disruption will be minimized during construction.

4.3 Parking Impacts to Waikiki

There will be parking loss along the Ala Wai Canal for the Waikiki landing of the bridge. Approximately 6 to 8 currently unmetered parking spaces will be permanently lost between Kalaimoku and Launiu Streets on Ala Wai Boulevard. This loss is considered minor. Discussed in Section 4.1 is the expectation that 100 to 1,500 new pedestrian and bicycle trips will be shifted from current driving trips. These numbers alone would mitigate the loss of 6 to 8 parking spaces. However, recommendations have been developed due to the inconsistent manner of how public parking is being managed in Waikiki to provide more of a systems approach versus a street by street approach to parking.

There will be parking disruption during construction of the bridge. Details are contained in the design documents and will be further defined in the construction documents. There will be times when portions of Ala Wai Boulevard closest to the construction site will be closed, and therefore, parking will be unavailable.

Appendix F – Draft Section 4(f) *De minimis* Evaluation for Ala Wai Neighborhood Park

Section 4(f) *De Minimis* Impact Determination
23 CFR § 774

Date:	March 15, 2021
Lead Agency:	City and County of Honolulu, Department of Transportation Services
Project Number:	Federal-Aid Project No. TAP-0300 (159)
Project:	Ala Wai Bridge Project
Project Description:	The proposed project involves construction of a new pedestrian and bicycle bridge that would connect the Waikiki, McCully, and Moiliili neighborhoods; businesses; parks; schools; and recreational activities. The proposed bridge would span the historic Ala Wai Canal.
Section 4(f) Resource:	Ala Wai Neighborhood Park
Type of 4(f) Resource:	<input checked="" type="checkbox"/> Public Park or Recreational Area <input type="checkbox"/> National-Register Eligible Historic Site <input type="checkbox"/> Publicly-owned Wildlife or Waterfowl Sanctuary
Size of the <i>de minimis</i> use of the 4(f) Resource (in acres):	3.2 acres temporarily used and 2.3 acres permanently used of a 24 acres park
Primary Purpose/Function:	Ala Wai Neighborhood Park has a covered rest area, bathroom, basketball court, tennis court, baseball field, playground, multiuse path, canoe hale, canoe boat launch pads, and parking lot.
Official with Jurisdiction:	Board of Land and Natural Resources (BLNR)/Department of Land and Natural Resources (DLNR) and City and County of Honolulu (CCH) Department of Parks and Recreation (DPR)

De minimis Documentation

- 1. Describe the Section 4(f) property and the attributes and features that qualify it for Section 4(f) protection, attach a map which shows the boundaries of the resource, the locations of key features (e.g. ball fields, structures) and the area to be used;*

The Ala Wai Neighborhood Park is approximately 24 acres and is managed by the CCH DPR and owned by the BLNR. The park is located at the end of University Avenue on the mauka side of the Ala Wai Canal. The Ala Wai Neighborhood Park offers boat launches, a canoe halau, playgrounds, picnic tables, bicycle and walking paths, baseball/softball fields, a basketball court, covered recreation areas, restroom facilities, and parking. The Ala Wai Park Trail, which is a multiuse path, runs through the Ala Wai Neighborhood Park along the mauka bank of the Ala Wai Canal. The multiuse path starts at McCully Street and travels southeast along the Ala Wai Canal past University Avenue. The path is approximately 1.1 mile long and provides access to Ala Wai Community Park, Ala Wai Neighborhood Park, Ala Wai Community Garden, Ala Wai Dog Park, Iolani School, and the McCully neighborhood. The project area does not encompass the entire Ala Wai Neighborhood Park boundaries or the length of the multiuse path. Exhibit 1a shows the boundaries of the Ala Wai Community and Neighborhood Parks and Exhibit 1b shows the existing facilities at the Ala Wai Neighborhood Park that are within the project area.

The Ala Wai Neighborhood Park would be used temporarily and permanently as a result of construction of the proposed bridge. Some areas of temporary use would be restored after construction is complete, while some areas would be permanently used for the new bridge structure and associated facilities. Exhibit 2 shows the proposed temporary use areas and reasons for use. Table 1 lists the proposed temporary use areas and the approximate area (acres) of use. Approximately 13% of the park would be used temporarily during the anticipated 24-month construction period. Exhibit 3 shows the proposed permanent use areas and reasons for use. Table 2 lists the proposed permanent use areas and the approximate area (acres) of use. Approximately 10% of the park would be used permanently after the proposed project is constructed.

Table 1

Temporary Use Areas	Acreage
Precast yard/Stockpile Area	1.20
Keiki Park Relocation	0.12
Parking area – that may be temporarily closed due to construction	0.40
Trail detour	0.30
Construction Area at tower	0.70
Temporary Parking lot	0.45
Total	3.17 acres

Table 2

Permanent Use Areas	Acreage
Keiki Park	0.20
New parking surface	1.00
Landscaped area at bridge tower	0.64
Community Garden Driveway	0.03
New pedestrian/bicycle connection to University	0.20
New trail alignment and connections to bridge	0.14
Relocated boat launch pad	0.03
Relocated shower	0.06
Total	2.30 acres

2. Describe the impacts to the Section 4(f) property, and any avoidance, minimization and mitigation or enhancement measures, and why they are considered de minimis as defined in 23 CFR § 774.17;

Short-term, moderate, adverse effects on the Ala Wai Neighborhood Park are anticipated from construction activities and would result from temporary closures of portions of the park and facilities, the Ala Wai Park Trail detour, and parking relocations. As described above, the proposed project would result in approximately 3.2 acres of temporary use within Ala Wai Neighborhood Park (Exhibit 2). Staging areas for bridge construction would be located in the existing parking lot for the Ala Wai Neighborhood Park and in the open area adjacent to the bridge touchdown on the mauka side of the canal. Two construction methods are being proposed for the bridge deck segments – precast and cast-in-place. For either construction method a precast yard/stockpile area would be needed on the mauka bank of the Ala Wai Canal for efficient access to the bridge alignment. The proposed area for the precast yard/stockpile area is shown in Exhibit 2. If the cast-in-place construction method is selected, the precast yard/stockpile area would be potentially smaller, but for the purposes of this analysis, the estimated acreages of temporary use include the larger precast yard for the precast construction method.

A Construction Traffic Control Plan, which includes measures for the temporary park parking lot closures and controlled construction access through the park parking lot, would be developed and implemented by the contractor. An accessible detour for the Ala Wai Park Trail would also be constructed to maintain connectivity between recreational facilities on the mauka side of the canal, including the Ala Wai Community Park and Ala Wai Dog Park. Parking for the Ala Wai Neighborhood Park would be relocated in advance of the proposed construction activities. The Ala Wai Neighborhood Park would be restored to preconstruction conditions to the greatest practicable extent upon completion of construction activities.

The existing boat launch located furthest diamond head and adjacent to the proposed mauka bridge landing would be removed and relocated as shown in Exhibit 2. The other three existing boat launches would remain in place and in use for the majority of the construction duration to accommodate canoes and kayaks. The Ala Wai Canal would be briefly closed for the movement of each bridge deck segment from the precast yard on the mauka shore to the proposed bridge

alignment construction area. Each segment would be transported via a flexifloat pontoon barge and would take approximately 1 hour for transport. Therefore, at the beginning of each week of bridge deck segment construction, there would be a brief closure of a larger area of the Ala Wai Canal for this movement. The exact brief closure area of the canal for the barge transport would be determined by the contractor. As the bridge deck construction progresses from mauka to makai, the barge transport would have to traverse a larger area of the canal and thus a larger area would be briefly closed during this time for safety purposes. This would briefly interrupt recreational activities on the Ala Wai Canal that may launch from the canoe halau and existing boat launches.

Long-term, minor, adverse effects on the Ala Wai Neighborhood Park could occur because of permanent changes to the features and amenities within the area. The proposed project would result in approximately 2.3 acres of permanent use within Ala Wai Neighborhood Park (Exhibit 3). The bridge tower located on the mauka bank of the canal, would be a permanent addition to the Ala Wai Neighborhood Park. Further changes would involve removal and relocation of existing parking stalls and potential conversion of park areas to new parking stalls to accommodate the parking demand.

The new bridge crossing would attract more recreational users to the area and provide increased connectivity between the recreational opportunities in Waikiki and Moiliili. Pedestrians and bicyclists traveling between the mauka and makai sides of the canal would no longer need to travel to the McCully Street Bridge to do so. Ala Wai Neighborhood Park, Ala Wai Community Park, Ala Wai Community Garden, Ala Wai Dog Park, and the Ala Wai Park Trail would become more accessible to tourists and residents who reside on the makai side of the canal. The planned construction of additional pedestrian and bicycle facilities, which would connect the proposed bridge with pedestrian and bicycle facilities along University Avenue, would further improve connectivity and comply with the goals and objectives of several regional plans to provide access and recreational facilities in Waikiki and Moiliili.

Avoidance and minimization measures have been implemented during the planning and design of the proposed project to maintain access to the recreational facilities within Ala Wai Neighborhood Park such as the canoe halau and boat launches, tennis court, basketball court, baseball field, trail, restrooms, and the Ala Wai Community Garden as described above. Specifically, a detour would be established for the Ala Wai Park Trail before construction starts, and a construction traffic control plan would be developed and implemented by the contractor. Additional measures include:

- Coordination with schools, paddling teams, community event organizers, and other agencies with jurisdiction over affected parks regarding possible temporary closures or changed access to recreational facilities.
- Coordination with agencies overseeing other projects in the vicinity of the proposed bridge construction to minimize effects on parks and recreational facilities by preventing the simultaneous occurrence of multiple projects in one area.
- Public notification of any recreational facility closures, detours, or relocations through public notices, bulletins, signs, and memoranda.

In conclusion, the transportation use of the Ala Wai Neighborhood Park Section 4(f) resource, together with any impact avoidance, minimization, and mitigation or enhancement measures incorporated into the project, would not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f).

3. For parks, recreational facilities, and wildlife and waterfowl sanctuaries:

a. Describe the Public Outreach that has been or is being conducted (leave blank for historic sites);

Project Development started with a technical scoping meeting held on site on September 7, 2017. The parties presented below were invited to participate. Comments were received from HECO, neighborhood board members, CCH DPR, DTS, DPP, DDC, HDOT, and OahuMPO.

Name	Agency
Susan Lebo	State Historic Preservation Division
Crystal Van Beelen	Department of Emergency Management
Keith Kalani	CCH DDC
Michael Wyatt	USACE
Kelly Akasaki/Mike Packard/Erron Redoble/ Chris Sayers	CCH DTS
Jeanne Ishikawa	CCH DPR
Gayson Ching	DLNR
Tim Streitz Andrew Tang	CCH DPP
Ryan Tam	Honolulu Authority for Rapid Transportation
Amy Ford-Wagner Kiana Otsuka	OahuMPO
Meesa Otani	FHWA
Ross Hironaka	HDOT - DD
Kevin McMorro	HDOT - ENV
Iris Oda	BWS
Jayson Shibata	HECO

In April 2018, DTS in cooperation with the OahuMPO prepared an Advanced Project Planning Report (APPR) for the potential improvements to Route No. 7710, Ala Wai Boulevard from the Waikiki, Ala Moana, and the McCully/Moiliili neighborhoods in Honolulu. The APPR is a preliminary evaluation conducted within the study area to identify the potential benefits, impacts, and areas of concern to the human and natural environment for new transportation infrastructure, including a pedestrian-bicycle bridge. The purpose of the APPR was to satisfy the HDOT Concept Definition Report from the Project Development Manual and to document technical scoping in preparation for an Alternatives Analysis. The APPR states that the Alternatives Analysis will assess options

for the pedestrian-bicycle bridge, over the Ala Wai Canal. Interagency meetings took place during the preparation of the Draft and Final APPR.

As a part of the Hawaii Revised Statutes (HRS) Chapter 343 pre-consultation process, community meetings and presentations were conducted in order to involve the community in the planning and development of the Ala Wai Bridge Project. Public meetings were held on September 22nd and 24th 2018. Over 200 people attended both meetings. Each meeting consisted of a short presentation and open-house for discussions.

Several agencies and organizations were contacted as part of the pre-consultation process and prior to preparation of the Draft Environmental Assessment (EA). The agencies and organizations received preliminary project information and were asked to provide comments relative to specific environmental compliance (such as National Historic Preservation Act [NHPA] Section 106 and Endangered Species Act Section 7) or for general assistance in preparing the Draft EA. 26 responses were received from agencies, organizations, and elected officials.

Additional Stakeholder Outreach has also occurred to solicit information and obtain input from key community groups on relevant issues or concerns that should be considered in the preparation of the EA.

Stakeholders	Date
CCH Department of Urban Forestry (DUF)	August 15, 2019
Community Garden Group	October 3, 2019
Department of Parks and Recreation (DPR) – Ala Wai Neighborhood Park	October 14, 2019
McCully/ Moiliili Neighborhood Board	July 2, 2020
Canoe Clubs - Waikiki Surf Club University Halau Canoe Clubs	July 8, 2020
Waikiki Neighborhood Board	July 14, 2020
Historic Hawaii Foundation (HHF)	August 5, 2020
Ala Moana-Kakaako Neighborhood Board	August 20, 2020
Condo Association	August 26, 2020
OHCRA	September 14, 2020
Waikiki Surf Club	September 30, 2020
Diamond Head – Kapahulu Neighborhood Board	October 8, 2020
Iolani	October 26, 2020
Ala Wai Elementary	November 12, 2020
Ala Wai Elementary	January 8, 2021

Consultation with Native Hawaiian Organizations and the State Historic Preservation Division regarding historic properties is required and ongoing as part of compliance with

NHPA Section 106 and HRS Chapter 6E. Coordination is also occurring with USACE, DLNR, and the City and County of Honolulu DPR, ENV, and DFM for the project design.

Additional public outreach will also take place as part of the HRS Chapter 343/National Environmental Policy Act (NEPA) Draft EA. It is anticipated that the Draft EA public meeting will be held in early 2021.

b. Include written concurrence of the official with jurisdiction over to 4(f) resource with the de minimis determination;

This de minimis evaluation is included in the Draft EA and will be circulated for public review and comment and consultation with the officials with jurisdiction. Therefore, final documentation and concurrence is pending and will be provided in the Final EA.

4. For historic resources, attach Section 106 Documentation (Include SHPO concurrence in project-level findings (DOEs and or FOEs) and Programmatic Agreement Memos for archaeological resources); and

N/A – the Ala Wai Neighborhood Park is being evaluated for a Section 4(f) use in this document and the park is not itself a historic property.

Request for Approval

Based upon this analysis we request FHWA approval that the use of the Section 4(f) resource described above is *de minimis* as defined in 23 CFR 774.17.

Name, Position
Hawai'i Department of Transportation

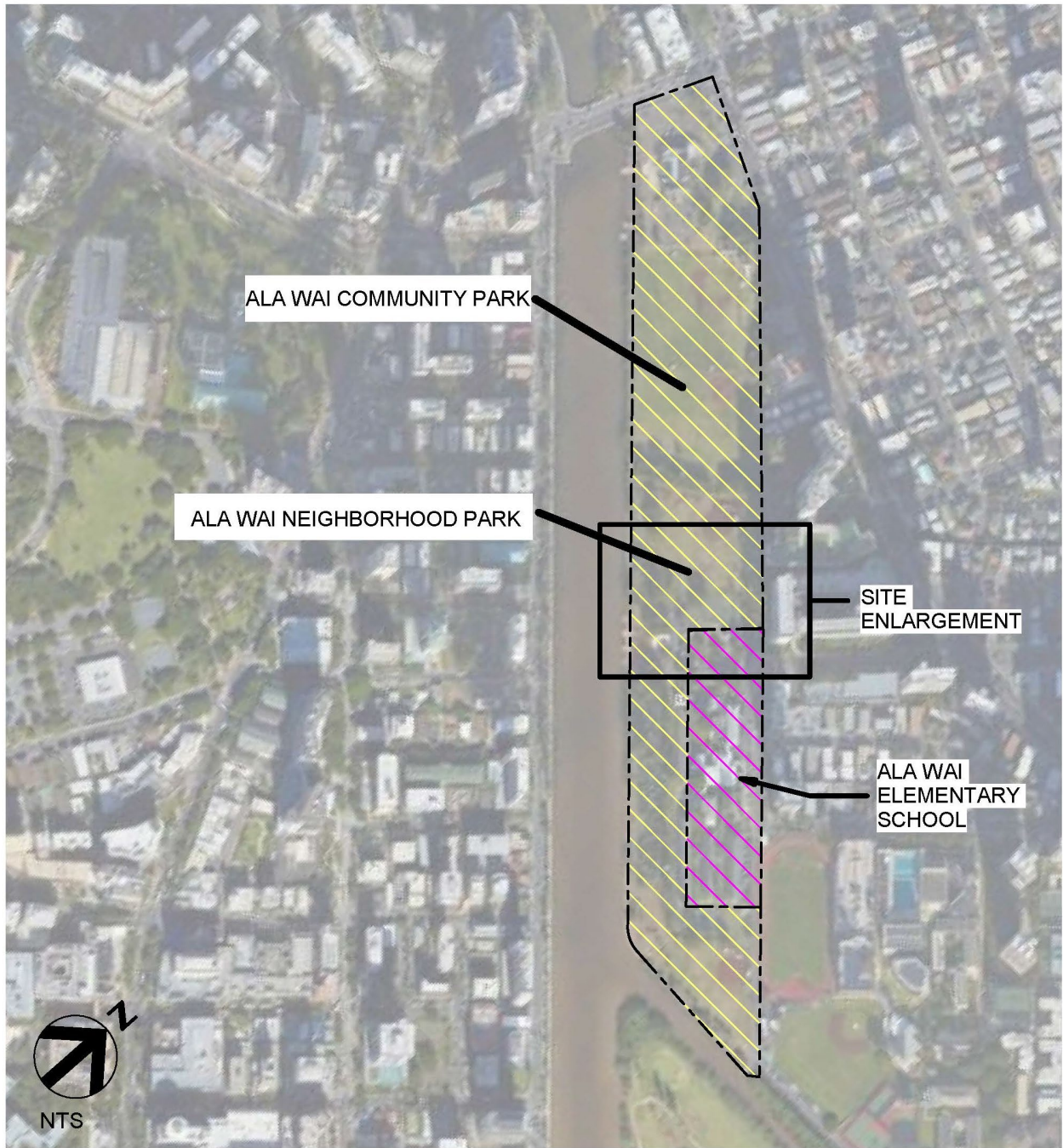
Date

FHWA Approval

Name, Title
FHWA Hawaii Division

Date

Exhibit 1a – Ala Wai Community and Neighborhood Parks Boundaries and Existing Facilities



SITE OVERVIEW KEY



ALA WAI COMMUNITY PARK
ALA WAI NEIGHBORHOOD PARK

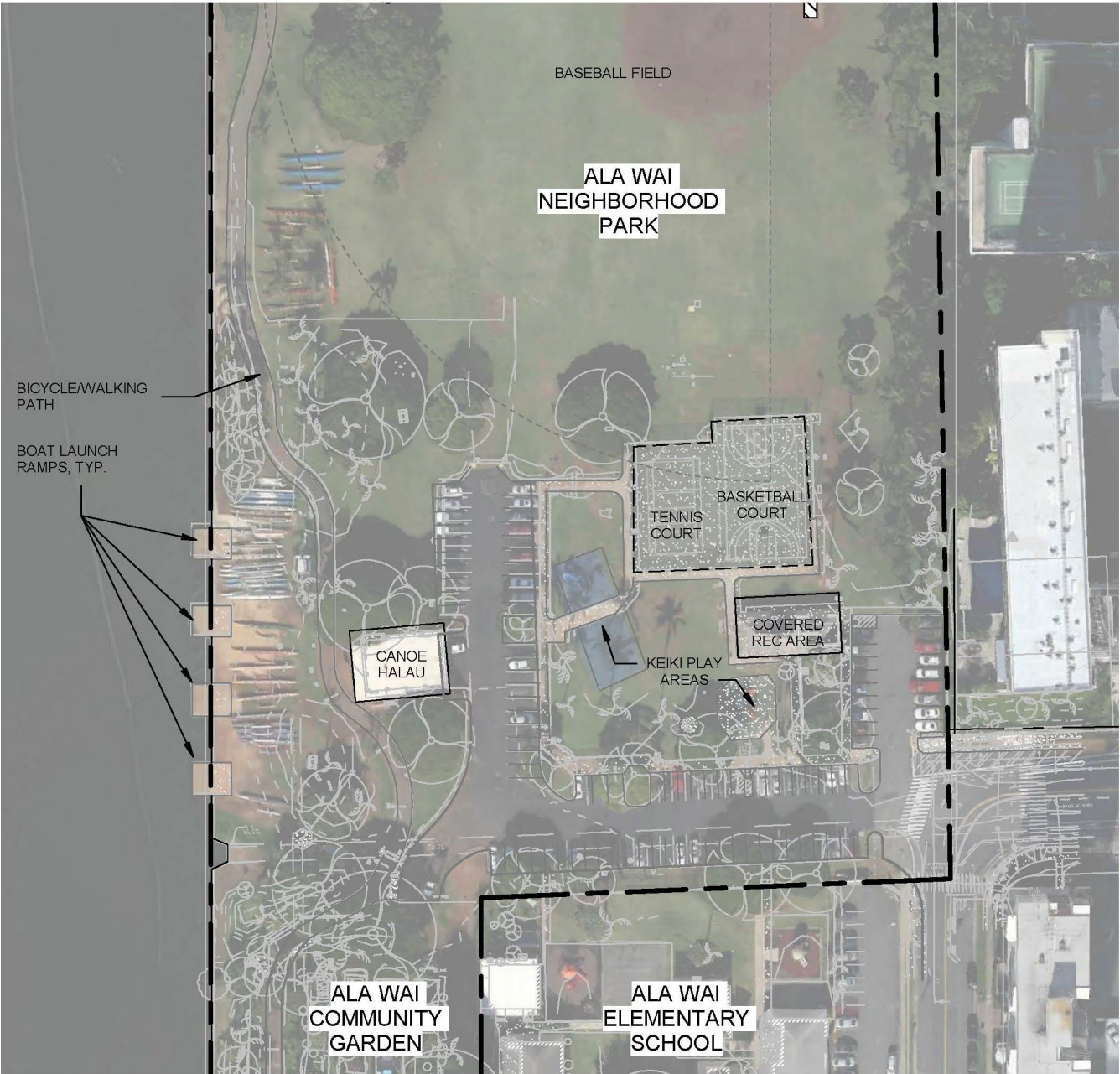


ALA WAI ELEMENTARY SCHOOL



SITE ENLARGEMENT

Exhibit 1b – Ala Wai Neighborhood Parks Existing Facilities



SITE ENLARGEMENT KEY

— — — — — PROPERTY BOUNDARY

Exhibit 2 – Ala Wai Neighborhood Park Temporary Use Areas

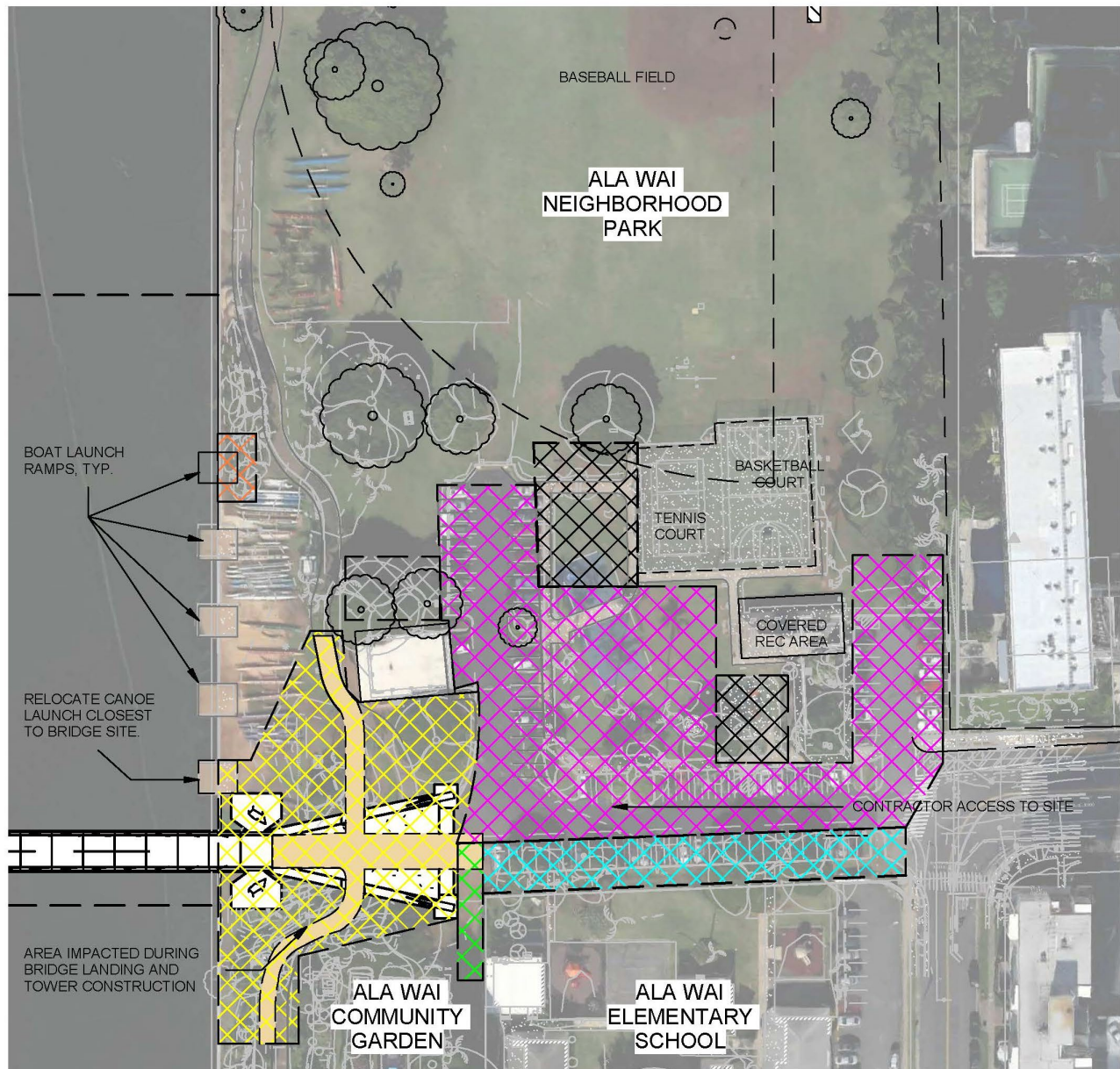


TEMPORARY USE LEGEND

	KEIKI PARK RELOCATION APPROX. 5100 SQFT = 0.12 ACRES		MAX AREA IDENTIFIED FOR PRECAST YARD AND STOCKPILE APPROX. 52000 SQFT = 1.2 ACRES
	TEMPORARY PARKING LOT APPROX. 19400 SQFT = 0.45 ACRES		PARKING AREA REQUIRING TEMPORARY CLOSURE DURING CONSTRUCTION. APPROX. 17000 SQFT = 0.4 ACRES
	CONSTRUCTION AREA AT TOWER APPROX. 30000 SQFT = 0.7 ACRES		TRAIL DETOUR APPROX. 12000 SQFT = 0.3 ACRES

APPROX. TOTAL = 3.2 ACRES
(ROUNDED UP)

Exhibit 3 – Ala Wai Neighborhood Park Permanent Use Areas



PERMANENT USE LEGEND

	KEIKI PARK APPROX. 8500 SQFT = 0.2 ACRES		COMMUNITY GARDEN DRIVEWAY APPROX. 1400 SQFT = 0.03 ACRES		RELOCATED BOAT LAUNCH APPROX. 1100 SQFT = 0.03 ACRES
	NEW PARKING SURFACE APPROX. 43500 SQFT = 1 ACRES		PED/BIKE CONNECTION APPROX. 8500 SQFT = 0.2 ACRES		RELOCATED SHOWER/PATH APPROX. 2500 SQFT = 0.06 ACRES
	LANDSCAPED AREA AT TOWER APPROX. 27800 SQFT = 0.64 ACRES		TRAIL ALIGNMENT AND CONNECTIONS APPROX. 6000 SQFT = 0.14 ACRES		

APPROX. TOTAL = 2.3 ACRES
(ROUNDED UP)

Introduction

The City and County of Honolulu (CCH) Department of Transportation Services (DTS), in partnership with the State of Hawaii Department of Transportation (HDOT) and the Federal Highway Administration (FHWA), are proposing a new pedestrian and bicycle bridge over the Ala Wai Canal on the Island of Oahu. With FHWA as the lead federal agency, the project must comply with Section 4(f) of the U.S. Department of Transportation Act of 1966 (49 United States Code [USC] 303), hereinafter referred to as Section 4(f). Section 4(f) provides protection to parks and recreation areas, wildlife and waterfowl refuges, and historic resources.

The Ala Wai Bridge Project would provide a safe and reliable point of access for people traveling by foot or by bicycle across the Ala Wai Canal and would support numerous regional and area plans.

The proposed project involves construction of a new pedestrian and bicycle bridge that would connect the Waikiki, McCully, and Moiliili neighborhoods; businesses; parks; schools; and recreational activities. The proposed bridge would span the historic Ala Wai Canal, which was added to the Hawaii Register of Historic Places in 1992, and the bridge landing would be partially within the Ala Wai Neighborhood Park. The project also includes a pedestrian and bicycle connection to University Avenue and improvements to a parking lot mauka of the canal. The project area is shown in Figure 1 (white outline), as well as the possible limits of temporary closure of the Ala Wai Canal during construction of the bridge deck. The site plan, which includes the project area and project components, is provided in Figure 2. The design of the bridge is a cable-stayed design with an asymmetric configuration that uses a main concrete tower sited on the mauka side of the canal. Lighting would be incorporated on the bridge deck, cables, and bridge features. The tower would include facets designed to reduce wind loads and create shadows based on the time of year and atmospheric condition. The proposed bridge would be approximately 20 feet wide to accommodate people walking and bicycling. A rendering of the bridge from an aerial view is presented in Figure 3. The bridge plan is provided in Figure 4.

Analysis of the project impacts on the Ala Wai Neighborhood Park, a Section 4(f) property, can be found on subsequent pages of this attachment.

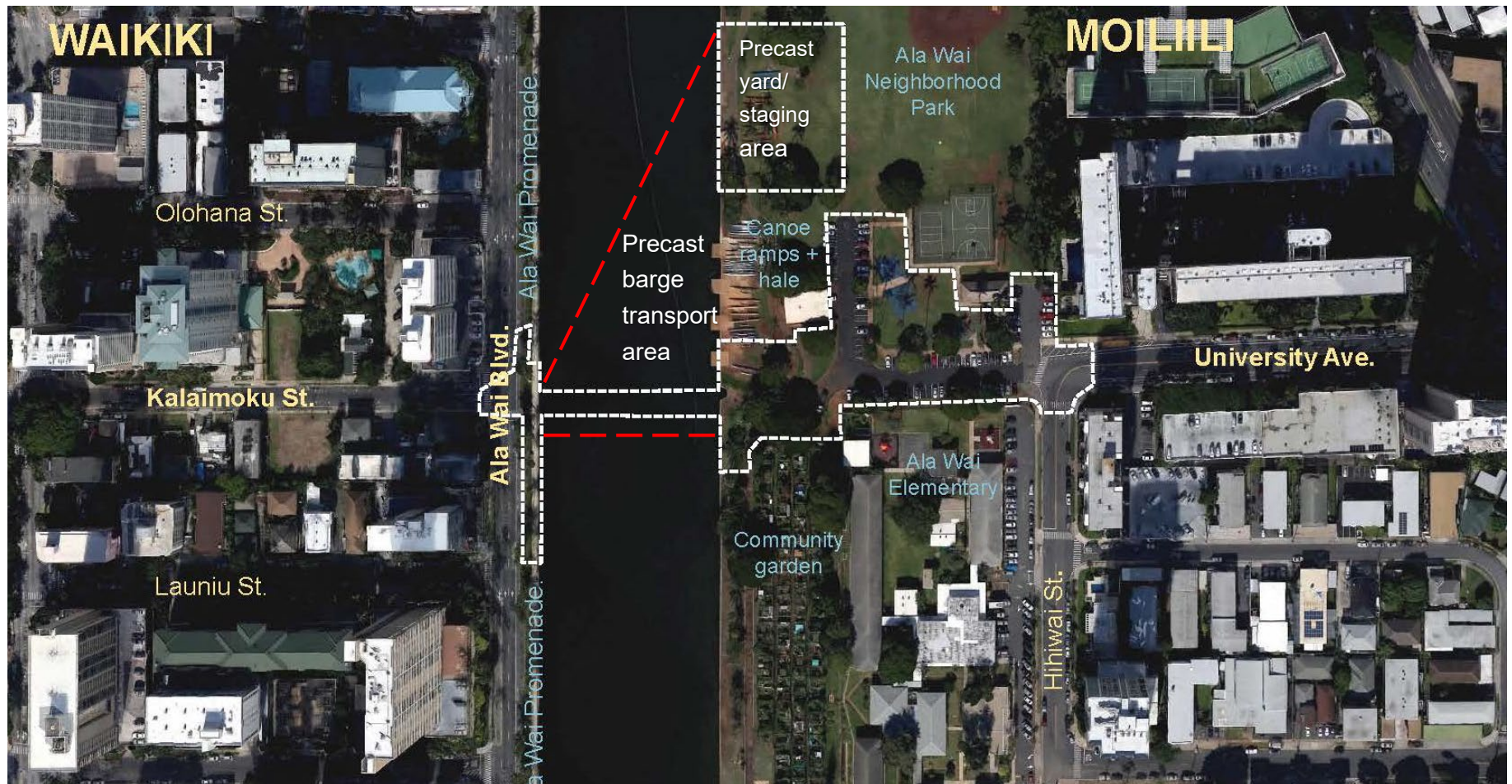


Figure 1

Project Area (outlined in white)

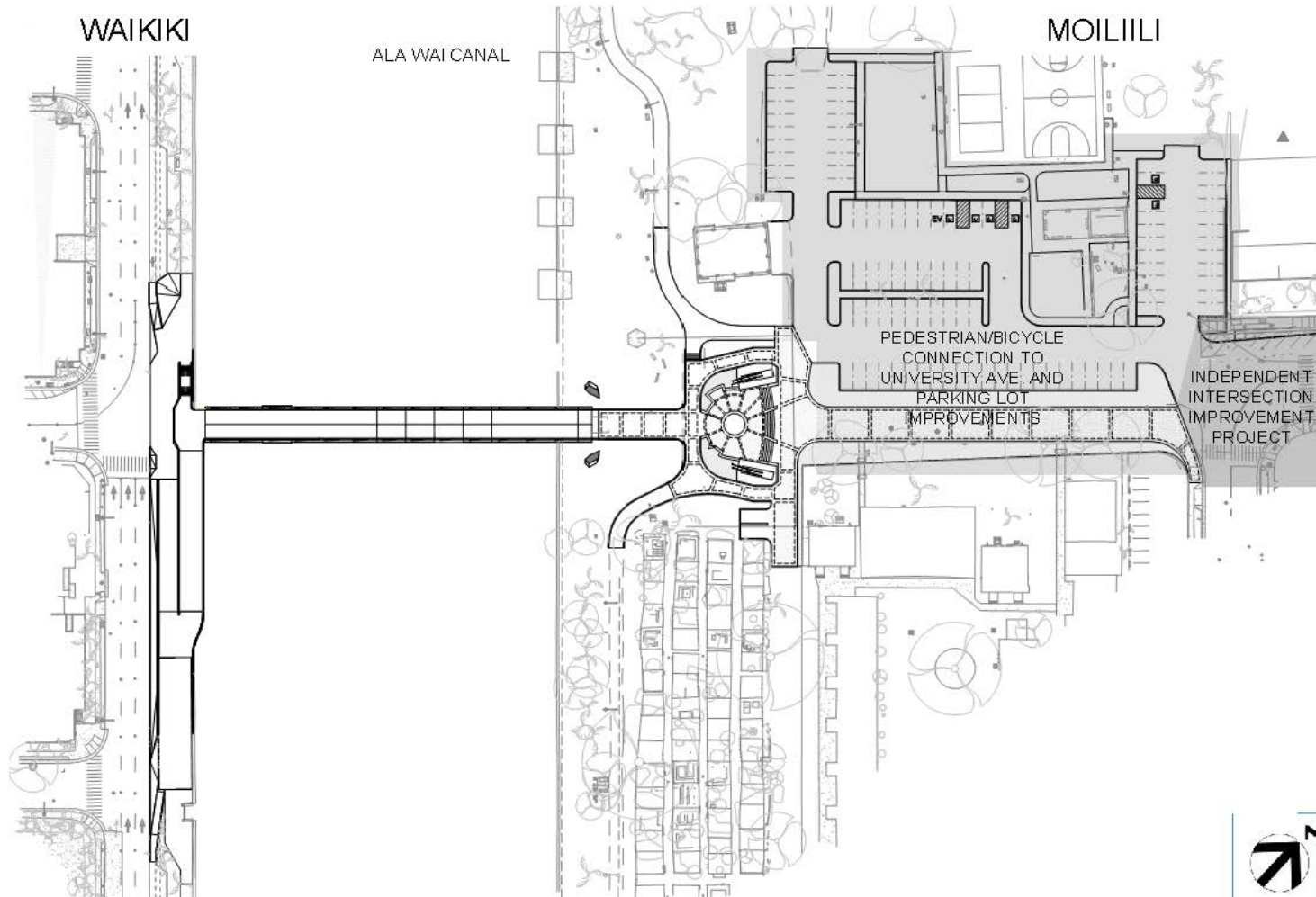


Figure 2
Site Plan

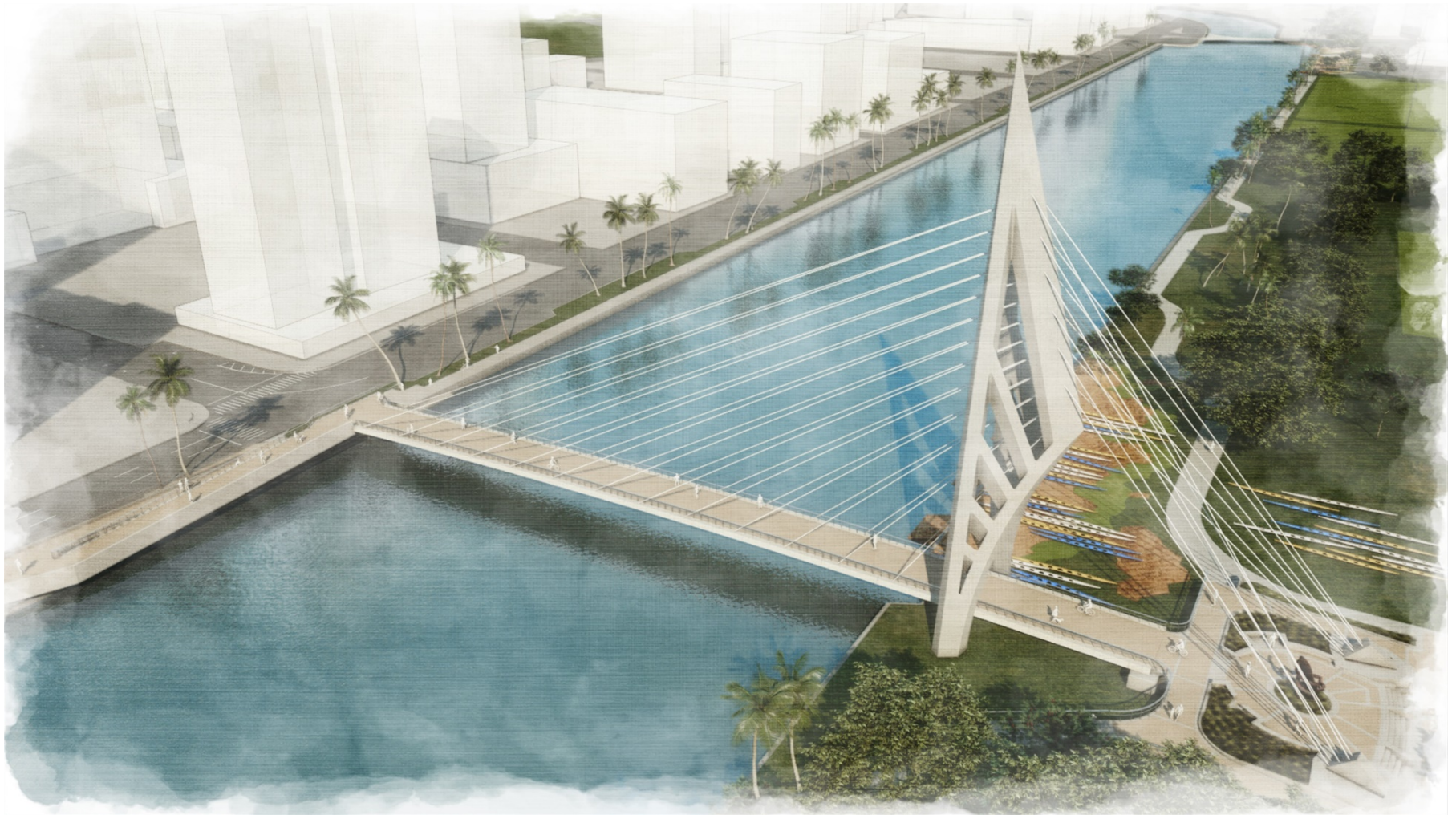


Figure 3

Aerial View of Bridge

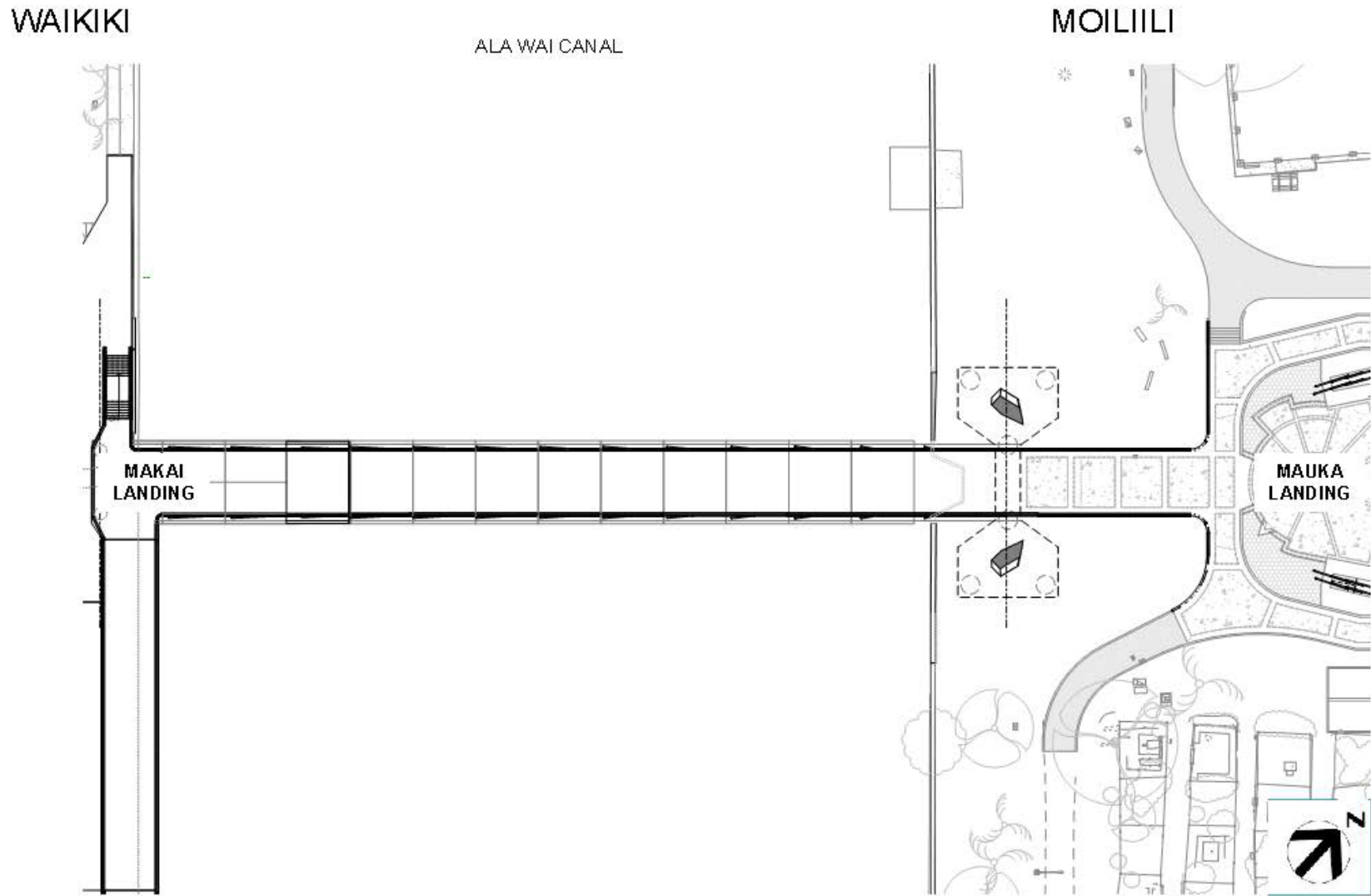


Figure 4
Bridge Plan

Legal and Regulatory Context

Section 4(f) prohibits the use of land of significant¹ publicly owned public parks, recreation areas, land of a historic site, or wildlife and waterfowl refuges for transportation projects unless U.S. DOT determines either:

- There is no feasible and prudent avoidance alternative and the action includes all possible planning to minimize harm to the property resulting from such use.
- The use of the property, including any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) would have a *de minimis* impact.

The FHWA's Section 4(f) regulations, entitled *Parks, Recreation Areas, Wildlife and Waterfowl Refuges, and Historic Sites*, are codified at 23 Code of Federal Regulations (CFR) Part 774; further guidance is found in FHWA's *Section 4(f) Policy Paper* (FHWA, 2012).

Section 4(f) requires consideration of the following:

- Parks and recreational areas of national, state, or local significance that are both publicly owned and open to the public. Recreation areas include trails that are designated or functioning primarily for recreation.
- Publicly owned wildlife and waterfowl refuges of national, state, or local significance that are open to the public to the extent that public access does not interfere with the primary purpose of the refuge.
- Historic sites of national, state, or local significance in public or private ownership regardless of whether they are open to the public. Historic sites are defined as historic properties that are included in or eligible for inclusion in the National Register of Historic Places (NRHP).

When private institutions, organizations, or individuals own parks, recreational areas or wildlife and waterfowl refuges, Section 4(f) does not apply, even if such areas are open to the public. However, if a governmental body has a permanent proprietary interest in the land (such as a permanent easement, or in some circumstances, a long-term lease), federal, state and local officials with jurisdiction (OWJs) would determine on a case-by-case basis whether the particular property should be considered publicly owned and, thus, if Section 4(f) applies. Section 4(f) also applies to all historic sites that are listed, or eligible for inclusion, in the NRHP at the local, state, or national level of significance regardless of whether or not the historic site is publicly or privately owned or open to the public. Resources which meet the definitions above are presumed to be significant unless the official with jurisdiction over the site concludes that the entire site is not significant.

¹ With regard to Section 4(f) properties, significant means that in comparing the availability and function of the park, recreation area or wildlife and waterfowl refuge with the park, recreation or refuge objectives of the agency, community or authority, the property in question plays an important role in meeting those objectives (FHWA, 2012).

A use of Section 4(f) property occurs:

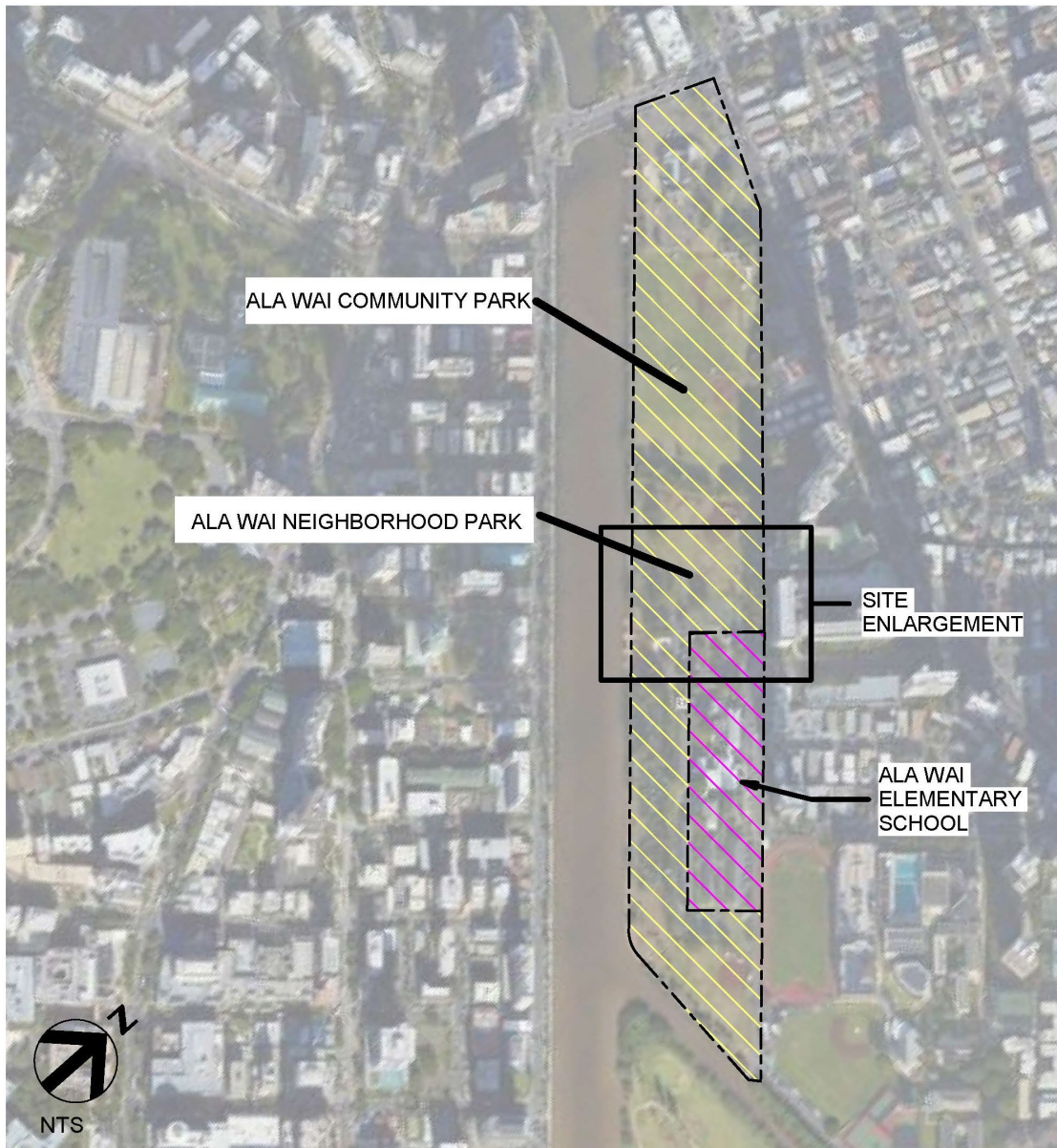
1. When land from a Section 4(f) property is permanently incorporated into a transportation facility. The property is either purchased outright as transportation right of way, or acquisition of a property interest that allows permanent access onto the property such as a permanent easement for maintenance or other transportation-related purpose.
2. When there is a temporary occupancy of land for project construction-related activities. The property is not permanently incorporated into a transportation facility, but is used on a temporary basis through a temporary easement. Temporary occupancy can be adverse in terms of the statute's preservation purpose; or so minimal as to not constitute a use within the meaning of Section 4(f). Temporary occupancies of land that are so minimal as to not constitute a use within the meaning of Section 4(f) must satisfy all of the following conditions:
 - a. Duration must be temporary, that is, less than the time needed for construction of the project, and there should be no change in ownership of the land.
 - b. Scope of the work must be minor, that is, both the nature and the magnitude of the changes to the Section 4(f) property are minimal.
 - c. There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis.
 - d. The land being used must be fully restored, that is, the property must be returned to a condition which is at least as good as that which existed prior to the project.
 - e. There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) property regarding the above conditions.
3. When there is a constructive use of a Section 4(f) property. A constructive use involves no actual physical use of the Section 4(f) property via permanent incorporation or temporary occupancy of land into a transportation facility. A constructive use occurs when a project's proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired and the resource can no longer perform its designated function (49 USC 303). Constructive use occurs when:
 - a. The projected noise level increase attributable to the project substantially interferes with the use and enjoyment of a noise-sensitive facility of a property protected by Section 4(f).
 - b. The proximity of the proposed project substantially impairs esthetic features or attributes of a property protected by Section 4(f).

- c. The project results in a restriction of access which substantially diminishes the utility of a significant publicly owned park, recreation area, or a historic site (either publicly or privately owned).
- d. The vibration impact from construction or operation of the project substantially impairs the use of a Section 4(f) property.
- e. The ecological intrusion of the project substantially diminishes the value of wildlife habitat in a wildlife and waterfowl refuge adjacent to the project, substantially interferes with the access to a wildlife and waterfowl refuge when such access is necessary for established wildlife migration or critical life cycle processes, or substantially reduces the wildlife use of a wildlife and waterfowl refuge.

Ala Wai Neighborhood Park

The Ala Wai Neighborhood Park is approximately 24 acres and is managed by the CCH Department of Parks and Recreation (DPR) and owned by the Board of Land and Natural Resources (BLNR). The Ala Wai Neighborhood Park offers boat launches, a canoe halau, playgrounds, picnic tables, bicycle and walking paths, baseball/softball fields, a basketball court, covered recreation areas, restroom facilities, and parking. The Ala Wai Park Trail, which is a multiuse path, runs through the Ala Wai Neighborhood Park along the mauka bank of the Ala Wai Canal. The multiuse path starts at McCully Street and travels southeast along the Ala Wai Canal past University Avenue. The path is approximately 1.1-mile-long and provides access to Ala Wai Community Park, Ala Wai Neighborhood Park, Ala Wai Community Garden, Ala Wai Dog Park, Iolani School, and the McCully neighborhood. The project area does not encompass the entire Ala Wai Neighborhood Park boundaries or the length of the multiuse path. Figure 5a shows the boundaries of the Ala Wai Community and Neighborhood Parks and Figure 5b shows the existing facilities at the Ala Wai Neighborhood Park that are within the project area.

The Ala Wai Neighborhood Park would be used temporarily and permanently as a result of construction of the proposed bridge. Some areas of temporary use would be restored after construction is complete, while some areas would be permanently used for the new bridge structure and associated facilities. Figure 6 shows the proposed temporary use areas and reasons for use. Table 1 lists the proposed temporary use areas and the approximate area (acreages) of use. Approximately 13% of the park would be used temporarily during the anticipated 24-month construction period. Figure 7 shows the proposed permanent use areas and reasons for use. Table 2 lists the proposed permanent use areas and the approximate area (acreages) of use. Approximately 10% of the park would be used permanently after the proposed project is constructed.

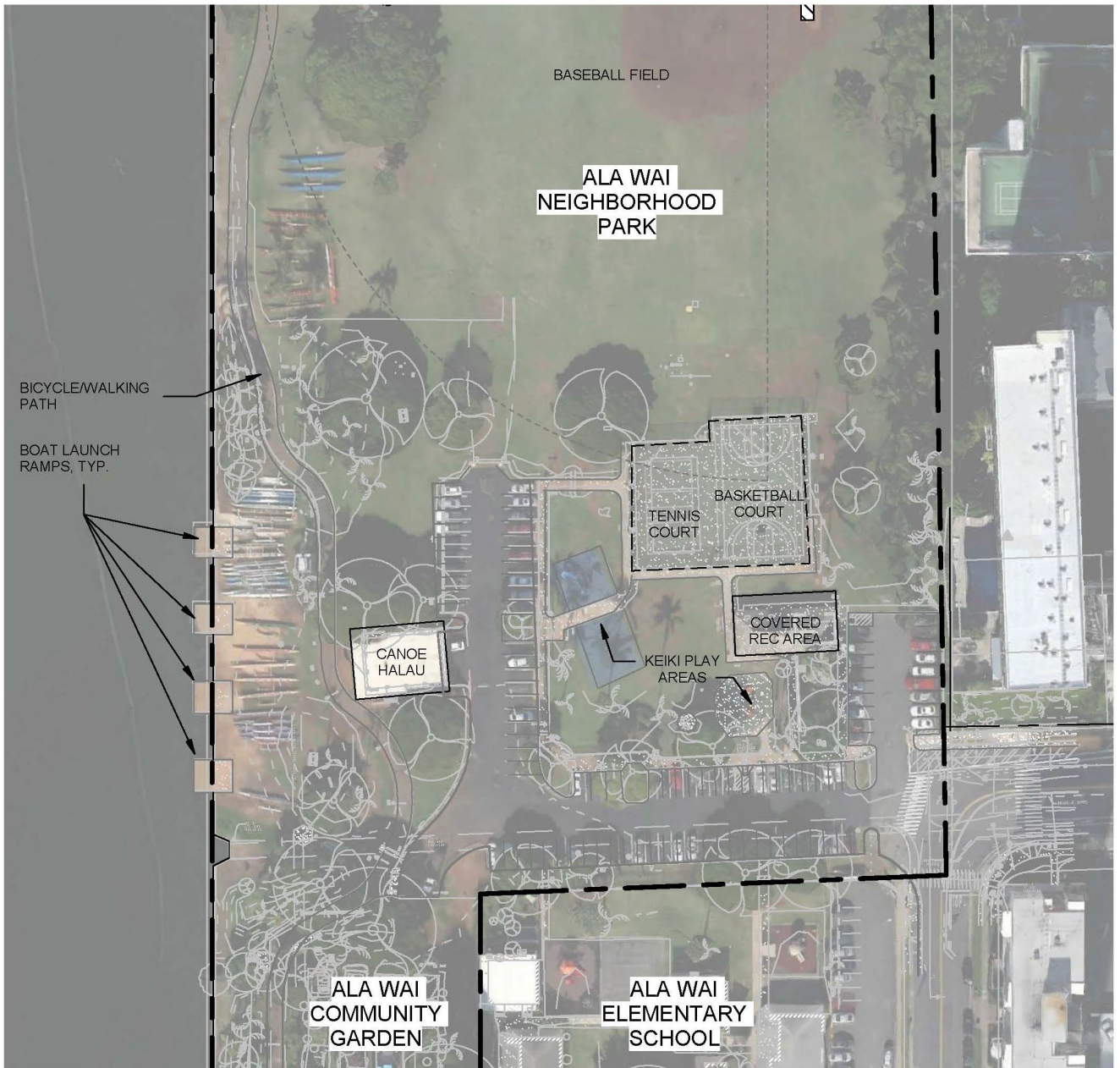


SITE OVERVIEW KEY



Figure 5a

Ala Wai Community and Neighborhood Parks Boundaries and Existing Facilities



SITE ENLARGEMENT KEY
— — — — — PROPERTY BOUNDARY

Figure 5b
Ala Wai Neighborhood Park Existing Facilities



TEMPORARY USE LEGEND







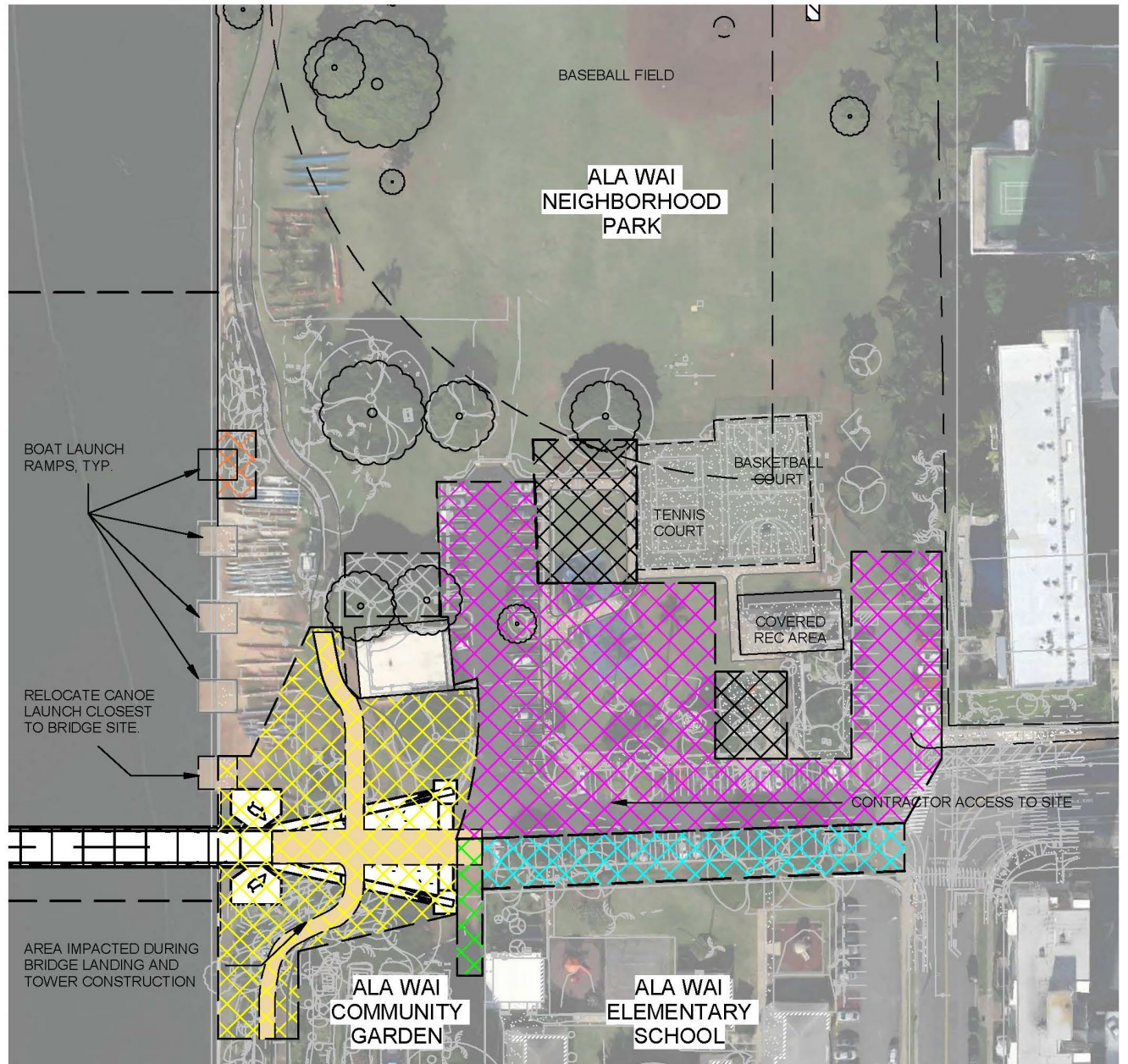
	KEIKI PARK RELOCATION APPROX. 5100 SQFT = 0.12 ACRES		MAX AREA IDENTIFIED FOR PRECAST YARD AND STOCKPILE APPROX. 52000 SQFT = 1.2 ACRES
	TEMPORARY PARKING LOT APPROX. 19400 SQFT = 0.45 ACRES		PARKING AREA REQUIRING TEMPORARY CLOSURE DURING CONSTRUCTION. APPROX. 17000 SQFT = 0.4 ACRES
	CONSTRUCTION AREA AT TOWER APPROX. 30000 SQFT = 0.7 ACRES		TRAIL DETOUR APPROX. 12000 SQFT = 0.3 ACRES
APPROX. TOTAL (ROUNDED UP) = 3.2 ACRES			

Figure 6
Ala Wai Neighborhood Park Temporary Use Areas



PERMANENT USE LEGEND

	KEIKI PARK APPROX. 8500 SQFT = 0.2 ACRES		COMMUNITY GARDEN DRIVEWAY APPROX. 1400 SQFT = 0.03 ACRES		RELOCATED BOAT LAUNCH APPROX. 1100 SQFT = 0.03 ACRES
	NEW PARKING SURFACE APPROX. 43500 SQFT = 1 ACRES		PED/BIKE CONNECTION APPROX. 8500 SQFT = 0.2 ACRES		RELOCATED SHOWER/PATH APPROX. 2500 SQFT = 0.06 ACRES
	LANDSCAPED AREA AT TOWER APPROX. 27800 SQFT = 0.64 ACRES		TRAIL ALIGNMENT AND CONNECTIONS APPROX. 6000 SQFT = 0.14 ACRES		

APPROX. TOTAL = 2.3 ACRES
(ROUNDED UP)

Figure 7
Ala Wai Neighborhood Park Permanent Use Areas

Table 1

Temporary Use Areas	Acreage
Precast yard/Stockpile Area	1.20
Keiki Park Relocation	0.12
Parking area – that may be temporarily closed due to construction	0.40
Trail detour	0.30
Construction Area at tower	0.70
Temporary Parking lot	0.45
Total	3.17 acres

Table 2

Permanent Use Areas	Acreage
Keiki Park	0.20
New parking surface	1.00
Landscaped area at bridge tower	0.64
Community Garden Driveway	0.03
New pedestrian/bicycle connection to University	0.20
New trail alignment and connections to bridge	0.14
Relocated boat launch pad	0.03
Relocated shower	0.06
Total	2.30 acres

Short-term, moderate, adverse effects on the Ala Wai Neighborhood Park are anticipated from construction activities and would result from temporary closures of portions of the park and facilities, the Ala Wai Park Trail detour, and parking relocations. As described above, the proposed project would result in approximately 3.2 acres of temporary use within Ala Wai Neighborhood Park (Figure 6). Staging areas for bridge construction would be located in the existing parking lot for the Ala Wai Neighborhood Park and in the open area adjacent to the bridge touchdown on the mauka side of the canal. Two construction methods are being proposed for the bridge deck segments – precast and cast-in-place. For either construction method a precast yard/stockpile area would be needed on the mauka bank of the Ala Wai Canal for efficient access to the bridge alignment. The proposed area for the precast yard/stockpile area is shown in Figure 6. If the cast-in-place construction method is selected, the precast yard/stockpile area would be potentially smaller, but for the purposes of this analysis, the estimated acreages of temporary use include the larger precast yard for the precast construction method.

A Construction Traffic Control Plan, which includes measures for the temporary park parking lot closures and controlled construction access through the park parking lot, would be developed and implemented by the contractor. Temporary gravel parking lots would be provided for park users. After construction of the bridge is completed, the parking lot would be reopened and improved through the addition of parking stalls and replacement of wheel stops. An accessible detour for the Ala Wai Park Trail would also be constructed to maintain connectivity between recreational facilities on the mauka side of the canal, including the Ala Wai Community Park and Ala Wai Dog Park. Parking for the Ala Wai Neighborhood Park would be relocated in advance of the proposed construction activities. The portions of the Ala Wai Neighborhood Park that would be disturbed or affected from construction activities would be restored to preconstruction conditions to the greatest practicable extent upon completion of the bridge construction.

Noise levels would temporarily increase during construction due to the presence and use of construction equipment. Upon completion of construction, there would be no long-term noise impacts as a result of the proposed bridge due to the exclusive use of the bridge by people walking and bicycling. The presence and use of construction equipment are expected to have a minor impact on recreational users in the open portions of the park.

Excavation and drilling of the shafts for the mauka landing may result in small, temporary vibration effects. Upon completion of construction, there would be no long-term vibration impacts due to the proposed bridge. The temporary vibrations during construction of the drilled shafts are expected to have a negligible impact on surrounding properties and users.

The existing boat launch located adjacent to the proposed mauka bridge landing would be removed and relocated as shown in Figure 6. The other three existing boat launches would remain in place and in use for the majority of the construction duration to accommodate canoes and kayaks. The Ala Wai Canal would be briefly closed for the movement of each bridge deck segment from the precast yard on the mauka shore to the proposed bridge alignment construction area. Each segment would be transported via a flexifloat pontoon barge and would take approximately 1 hour for transport. Therefore, at the beginning of each week of bridge deck segment construction, there would be a brief closure of a larger area of the Ala Wai Canal for this movement. The exact brief closure area of the canal for the barge transport would be determined by the contractor. As the bridge deck construction progresses from mauka to makai, the barge transport would have to traverse a larger area of the canal and thus a larger area would be briefly closed during this time for safety purposes. This would briefly interrupt recreational activities on the Ala Wai Canal that may launch from the canoe halau and existing boat launches.

Long-term, minor, adverse effects on the Ala Wai Neighborhood Park could occur because of permanent changes to the features and amenities within the area. The proposed project would result in approximately 2.3 acres of permanent use within Ala Wai Neighborhood Park (Figure 7). The bridge tower located on the mauka bank of the canal, would be a permanent addition to the Ala Wai Neighborhood Park. Further changes would involve removal and relocation of existing parking stalls and potential conversion of park areas to new parking stalls to accommodate the parking demand.

The new bridge crossing would attract more recreational users to the area and provide increased connectivity between the recreational opportunities in Waikiki and Moiliili. Pedestrians and bicyclists traveling between the mauka and makai sides of the canal would no longer need to travel to the McCully Street Bridge to do so. Ala Wai Community Park, Ala Wai Neighborhood Park, Ala Wai Community Garden, Ala Wai Dog Park, and the Ala Wai Park Trail would become more accessible to tourists and residents who reside on the makai side of the canal. The planned construction of additional pedestrian and bicycle facilities, which would connect the proposed bridge with pedestrian and bicycle facilities along University Avenue, would further improve connectivity and comply with the goals and objectives of several regional plans to provide access and recreational facilities in Waikiki and Moiliili.

Avoidance and minimization measures have been implemented during the planning and design of the proposed project to maintain access to the recreational facilities within Ala Wai Neighborhood Park such as the canoe halau and boat launches, tennis court, basketball court, baseball field, trail, restrooms, and the Ala Wai Community Garden as described above. Specifically, a detour would be established for the Ala Wai Park Trail before construction starts, and a construction traffic control plan would be developed and implemented by the contractor. Additional measures include:

- Coordination with schools, paddling teams, community event organizers, and other agencies with jurisdiction over affected parks regarding possible temporary closures or changed access to recreational facilities.
- Coordination with agencies overseeing other projects in the vicinity of the proposed bridge construction to minimize effects on parks and recreational facilities by preventing the simultaneous occurrence of multiple projects in one area.
- Public notification of any recreational facility closures, detours, or relocations through public notices, bulletins, signs, and memoranda.

The proposed project would result in a *de minimis* impact on the Ala Wai Neighborhood Park because the amount of land required for the proposed project is only 10% of the total acreage of the park. Furthermore, park facilities and access to those facilities would be maintained throughout the majority of construction, and the aforementioned measures would be implemented to avoid, minimize, or mitigate potential effects of the proposed project. In conclusion, the transportation use of the Ala Wai Neighborhood Park Section 4(f) resource, together with any impact avoidance, minimization, and mitigation or enhancement measures incorporated into the project, would not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f).

Alternatives to the proposed project have been evaluated and considered by CCH DTS. CCH DTS performed the Ala Wai Alternatives Analysis in 2019 as part of the planning phase of the project. The preliminary alternatives considered during this early analysis included the No Action Alternative, enhancement of existing crossings at three separate locations, the creation of a new crossing, and three non-bridge solutions. Based on CCH DTS's evaluation system for the preliminary alternatives analysis and public outreach, a new crossing in the vicinity of University Avenue was identified as the preferred alternative. The new crossing in the vicinity of University Avenue was superior to the other preliminary alternatives based on the other preliminary alternatives'

lack of feasibility, practicability of implementation, or lack of alignment with the project purpose and need. With the identified preferred alignment in the vicinity of University Avenue, CCH DTS continued the preliminary alternatives analysis and evaluated five different bridge types at this location. The five bridge types included a concrete beam, steel arch – network, concrete cable-stayed, concrete arch-bifurcated, and steel lenticular truss. As a result of this evaluation, three preferred bridge types, were analyzed further along with study of the bridge alignment within the University corridor to determine which bridge type would best meet the needs of the surrounding community and purpose and need of the proposed action. A comparison of these bridge type alternatives, anticipated construction methods, each bridge type alternative's ability to be a reasonable and prudent alternative including meeting the project purpose and need, and each bridge type alternative's anticipated Section 4(f) uses is presented in Table 3.

As a result of the bridge-type alternatives analysis completed in the planning and preliminary engineering phases and comparison evaluation provided in Table 3, the proposed action alternative is the only alternative that meets the project purpose and need, is a reasonable and prudent alternative, and results in minor or *de minimis* Section 4(f) uses. As a result, the proposed action alternative and the no action alternative are being carried forward in the National Environmental Policy Act (NEPA) Environmental Assessment (EA) for full analysis.

CCH DTS will work with the BLNR as the physical owner of the park and CCH DPR as the lease and manager of the park to document agreement on the project Section 4(f) finding. CCH DTS is currently working with FHWA and HDOT through the NEPA EA process. Documentation of the Section 4(f) evaluation and finding for the Ala Wai Neighborhood Park will be included in the Draft NEPA EA.

Table 3

Alternative Name and Bridge Type	Alternative Features	Construction Methods	Annual Operations & Maintenance Activities	Reasonable and Prudent Alternative (Y or N, explain other potential effects)	Section 4(f) Property use
Alternative 1 – On Alignment - symmetrical Girder with Piers	Precast girder bridge with piers in water. No overhead structure.	<p>The bridge would consist of concrete piers and superstructure. It is anticipated that there would be two piers that would need to be constructed within the Ala Wai Canal. The pier foundations would be constructed of deep foundations, consisting of drilled shafts. Each shaft would extend above mean sea level by approximately 10 ft., and would support a concrete pile cap. Precast tee beams or planks would span between the pile caps and comprise the bridge deck.</p> <p>The method of constructing the deep foundations, pile caps, and beams would include the use of flexifloat barges. The shafts would be drilled with an excavator mounted on the flexifloat. The erection of the formwork, placement of the reinforcing steel, and pouring of concrete would be conducted from the flexifloats that will be used as work platforms.</p> <p>The construction of the makai and mauka abutments will also include deep foundations. The drilling equipment can be located on dry land when constructing the shafts and abutment structures. No barges will be necessary for the construction of the two abutments.</p>	<p>Per FHWA guidelines, all vehicular and pedestrian bridges are required to be inspected every two years. The inspections would consist of a hands-on assessment of all concrete and steel surfaces, including the forestays and backstays and anchorages. Because the bridge will not be painted, no maintenance of a coating would be necessary. If the biennial inspections find deterioration in the forestays or backstays then maintenance of the cables will be required.</p> <p>The biennial bridge inspections will identify any deterioration to the concrete surfaces, such as cracking or spalling. If either of these occur then typical spall and crack repairs can be conducted.</p>	<p>- <u>No</u>: does not meet Purpose and Need; potential obstruction to drainage and flows in the Ala Wai Canal</p> <p>- Results in Adverse effect to historic property due to modifications required to the Ala Wai Canal (piers in canal and modifications to the canal walls)</p> <p>- Potential adverse change in drainage and flows. Potential for scour and debris trapping.</p>	- Temporary and permanent uses; smaller area of park would be used on the mauka side.
Alternative 2 - On Alignment - Symmetrical Truss	Steel truss bridge with clear span over the water.	<p>Concrete abutments would be constructed at each end of the bridge. The construction of the abutments would not require any in-water equipment.</p> <p>Because the one-span bridge will not include any piers in the water, the steel truss will need to be designed to be very substantial. The weight of each of the two trusses would be too heavy to lift with a crane and placed into position on the abutments. Therefore, the trusses would need to be fabricated in manageable lengths, shipped to the site and supported on falsework that would be temporarily positioned in the water along the length of the bridge. Wind bracing would then be connected between the two lower truss chords. The bridge deck would then be constructed between the two trusses. Once all of the truss assemblies were in place and connected together, the falsework could be removed.</p>	Ideally, the steel trusses would be hot dip galvanized and coated with a 3-part marine paint system. This dual protection system will provide corrosion resistance of up to 75 years. However, periodic maintenance painting would be required at typical problem areas on a steel truss bridge; namely at joints with bolted and welded connections.	<p>- <u>Yes</u>: meets the Purpose and Need</p> <p>- Would not provide open views from the bridge deck</p> <p>-Steel presents potential long-term maintenance and socio-economic costs</p> <p>-Falsework within the water of the canal during construction could result in hydrology, water quality and environmental impacts</p> <p>-Falsework within the canal would result in a full closure of the width of the canal and block recreational activities.</p>	- Temporary and permanent uses would be similar to the proposed project
Alternative 3 - On Alignment - Symmetrical Concrete Arch	Concrete arch bridge with a clear span over the water.	<p>Concrete abutments would be constructed at each end of the bridge. Because typical arch bridges result in a significant horizontal thrust being exerted on the foundations, the abutments would need to be designed with large, concrete anchorages that are heavy enough to counteract the thrust forces. The anchorages would be as much as 30 ft. deep.</p> <p>The arch rib would be cast-in-place concrete on falsework setup within the water. The falsework would extend across the entire width of the canal and would significantly block canoe traffic within the canal.</p> <p>The bridge deck would also be cast-in-place concrete or precast concrete segments placed on falsework. The deck would be post-tensioned to create a tied-arch simple span</p>	Bi-annual inspection of the hanger cables and concrete deck and arches. The inspections will identify any cracking or spalling that may occur. If either of these occur then typical spall and crack repairs can be conducted.	<p>- <u>Yes</u>: meets the Purpose and Need</p> <p>-High geotechnical and structural engineering considerations given the necessity for large concrete anchorages, deep in the ground</p> <p>-Falsework within the water of the canal during construction could result in hydrology, water quality and environmental impacts</p> <p>-Falsework within the canal would result in a full closure of the width of the canal and block recreational activities.</p>	- Temporary and permanent uses would be similar to the proposed project

Alternative Name and Bridge Type	Alternative Features	Construction Methods	Annual Operations & Maintenance Activities	Reasonable and Prudent Alternative (Y or N, explain other potential effects)	Section 4(f) Property use
		crossing of the canal as a low-maintenance structure. The post-tensioning eliminates tension and most shrinkage cracks in the deck. The post-tensioning would also serve to support the thrust forces, which up to this point in the construction has been resisted by the large anchorage structures. The hangers would utilize stay cable technology with HDPE protective pipe or stainless steel with forked ends		-Viewshed impacts due to impaired views both in the Ewa and Diamond Head directions.	
Alternative 4A - On Alignment - Symmetrical Cable Stayed	Cable-stayed bridge, aligned with centerlines of University and Kalaimoku Avenues.	<p>Concrete foundations would be constructed at each end of the bridge. The bridge spans the entire width of the Ala Wai canal with a single tower located at the mauka end of the bridge.</p> <p>The bridge deck would be constructed of either precast planks that are constructed in a segmental bridge construction method, or casting the bridge deck in place using a system of traveling forms.</p> <p>For the precast method, each precast segment would be transported to beneath the bridge on a barge and jacked up into position. The barges will require partial closure of the canal during working hours. At the end of each day, the barges will be moved back to the canal wall and the canal opened back up for canoe paddling activities. After jacking a precast deck segment into position, the segment would then be supported by a pair of forestay cables that extend back to the tower. The precast deck segments would be post-tensioned together as each segment was erected into position. This method of segmental construction would continue across the width of the canal until all deck segments are in place.</p> <p>For the cast-in-place method of construction, no barges will be required. The bridge deck would be poured in 20 ft. increments. Formwork would extend beyond the end of the latest deck section and would be supported by temporary cables that extend back to the tower. This method of construction would allow the contractor to work within the formwork while placing rebar and pouring the concrete. Once one section of deck has been poured and cured for approximately one week, the formwork would be moved outward to the next position. This procedure would continue until the entire bridge deck has been poured.</p>	<p>The stay cables require bi-annual inspection with a more extensive inspection of the cable components every 5 years such that all cables are inspected within a 20-yr period.</p> <p>The biennial bridge inspections will identify any deterioration to the concrete surfaces, such as cracking or spalling. If either of these occur then typical spall and crack repairs can be conducted.</p>	<p>- <u>Yes</u>: meets the Purpose and Need</p> <p>-Alignment would adversely affect the storm drain culvert located at the canal wall and would require its relocation</p> <p>-Tower would result in adverse impacts to the viewshed</p> <p>-Barges during construction would require partial closure of the canal during working hours, which would impact canoe traffic and paddling activities</p> <p>-Significant geotechnical and structural considerations requires a deep foundation to support a clear span crossing.</p>	- Temporary and permanent uses would be similar to the proposed project
Alternative 4B - Skewed Alignment - Symmetrical Cable Stayed	Cable-stayed bridge that is not aligned with the centerlines of University and Kalaimoku Avenues. Instead, the bridge centerline would be oriented at a skew of approximately 10 degrees.	The construction methods used for Alternative 4A are identical to how Alternative 4B would be constructed. However, a skewed alignment of the bridge would not conflict with the existing storm drain culvert.	<p>The stay cables require bi-annual inspection with a more extensive inspection of the cable components every 5 years such that all cables are inspected within a 20-yr period.</p> <p>The biennial bridge inspections will identify any deterioration to the concrete surfaces, such as cracking or spalling. If either of these occur then typical spall and crack repairs can be conducted.</p>	<p>- <u>Yes</u>: meets the Purpose and Need</p> <p>- Tower would result in adverse impacts to the viewshed</p> <p>-Barges during construction would require partial closure of the canal during working hours, which would impact canoe traffic and paddling activities</p> <p>-Significant geotechnical and structural considerations requires a deep foundation to support a clear span crossing.</p>	- Temporary and permanent uses would be similar to the proposed project

Alternative Name and Bridge Type	Alternative Features	Construction Methods	Annual Operations & Maintenance Activities	Reasonable and Prudent Alternative (Y or N, explain other potential effects)	Section 4(f) Property use
Alternative 4C - Cable Stayed Bridge On Alignment Alternative (Proposed Action Alternative)	Cable-stayed bridge. Pylon is centered on University Avenue and foundations straddle existing infrastructure at both University Avenue and Kalaimoku Street. The bridge spans the canal with a single mauka pylon.	The construction methods used for Alternative 4A are identical to how Alternative 4C would be constructed.	<p>The stay cables require bi-annual inspection with a more extensive inspection of the cable components every 5 years such that all cables are inspected within a 20-yr period.</p> <p>The biennial bridge inspections will identify any deterioration to the concrete surfaces, such as cracking or spalling. If either of these occur then typical spall and crack repairs can be conducted.</p>	<p>- <u>Yes</u>: meets the Purpose and Need</p> <p>-Alignment would not affect the storm drain culvert located at the canal wall or require its relocation</p> <p>-Tower would result in adverse impacts to the viewshed</p> <p>-Barges during construction would require partial closure of the canal during working hours, which would impact canoe traffic and paddling activities</p> <p>-Significant geotechnical and structural considerations requires a deep foundation to support a clear span crossing.</p> <p>-Fewer hydrology, water quality and environmental impacts due to no falsework within the water of the canal during construction compared to other bridge type alternatives.</p>	- Temporary and permanent uses as described in the text above.
Alternative 5A - On Alignment - Asymmetric Ring Girder	Ring Girder [aligned with centerlines on University and Kalaimoku Avenues] that uses a leaning tower and radiating stays connecting one side of the deck.	<p>The deck acts as a ring girder with compression forces developing in the bottom of the box girder and post-tensioning in the deck to form a couple that resolves the overturning effect of the single supported edge. This is a very dynamic expression, but requires careful support during construction that will require extensive falsework in the water to support the cast-in-place box and deck slab. The falsework would be need to be in position for the entire period of superstructure construction. The falsework would have a significant impact on the use of the canal by canoe clubs for an extended period of time.</p> <p>The tower will also require customized formwork that might be able to be constructed using jump-forms. However, because the tower would be designed to lean outward in a makai direction, the formwork will need to be supported by falsework. The falsework would need to have its own foundations design to support the weight of the eccentric loading of the tower in poor soil.</p>	<p>The stay cables require bi-annual inspection with a more extensive inspection of the cable components every 5 years such that all cables are inspected within a 20-yr period.</p> <p>The biennial bridge inspections will identify any deterioration to the concrete surfaces, such as cracking or spalling. If either of these occur then typical spall and crack repairs can be conducted.</p>	<p>- <u>Yes</u>: meets the Purpose and Need</p> <p>-Bridge design would require extensive false work in the water which could result in hydrology, water quality, and environmental impacts</p> <p>-Falsework within the canal would result in a full closure of the width of the canal and block recreational activities</p> <p>- The falsework would need to have its own foundations design to support the weight of the eccentric loading of the tower in poor soil.</p> <p>-Tower would result in adverse impacts to the viewshed</p> <p>- Would require extensive biennial inspections</p> <p>- Alignment would adversely affect the storm drain culvert located at the canal wall and would require its relocation</p>	- Temporary and permanent uses would be similar to the proposed project
Alternative 5B – Skewed Alignment - Asymmetric Ring Girder	Ring Girder [not aligned with centerlines of University and Kalaimoku Avenues] that uses a leaning tower and radiating stays connecting one side of the deck.	The construction methods used for Alternative 5A are identical to how Alternative 5B would be constructed. However, a skewed alignment would not conflict with the storm drain culverts.	Bi-annual inspection of the stay cables. The biennial bridge inspections will identify any deterioration to the concrete surfaces, such as cracking or spalling. If either of these occur then typical spall and crack repairs can be conducted.	<p>- <u>Yes</u>: meets the Purpose and Need</p> <p>- Bridge design would require extensive false work in the water which could result in hydrology, water quality, and environmental impacts</p>	- Temporary and permanent uses would be similar to the proposed project

Alternative Name and Bridge Type	Alternative Features	Construction Methods	Annual Operations & Maintenance Activities	Reasonable and Prudent Alternative (Y or N, explain other potential effects)	Section 4(f) Property use
	formwork that might be able to be constructed using jump-forms.			<ul style="list-style-type: none">-Falsework within the canal would result in a full closure of the width of the canal and block recreational activities- The falsework would need to have its own foundations design to support the weight of the eccentric loading of the tower in poor soil.-Tower would result in adverse impacts to the viewshed- Would require extensive biennial inspections	

Appendix G – Draft Section 4(f) Temporary Occupancy Evaluation for Ala Wai Canal

Section 4(f) Temporary Occupancy Approval (per 23 CFR 774.13(d))

Date:	March 15, 2021
Lead Agency:	City and County of Honolulu, Department of Transportation Services
Project:	Ala Wai Bridge Project
Project Description:	The proposed project involves construction of a new pedestrian and bicycle bridge that would connect the Waikiki, McCully, and Moiliili neighborhoods; businesses; parks; schools; and recreational activities. The proposed bridge would span the historic Ala Wai Canal.
Section 4(f) Resource:	Ala Wai Canal
Type of 4(f) Resource:	<input checked="" type="checkbox"/> Public Park or Recreational Area <input checked="" type="checkbox"/> National-Register Eligible Historic Site <input type="checkbox"/> Publicly-owned Wildlife or Waterfowl Sanctuary
Impact on the 4(f) Resource:	Temporary occupancy and closure of a portion of the Ala Wai Canal during construction of the proposed bridge deck. No use of the Ala Wai Canal as a historic property under Section 4(f).
Official with Jurisdiction:	SHPO and DLNR

Description of how the conditions for Temporary Occupancy are met

- 1. Duration must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land;***

The proposed project is anticipated to take approximately 18 to 24 months from start to finish. General project construction activities include construction of the makai abutment and ramp, the mauka landing, backstay anchorage, and tower, the bridge superstructure and forestays, pedestrian and bicycle improvements through the Ala Wai Neighborhood Park, parking lot improvements, multi-use path detour and restoration, and landscaping. The construction of the bridge deck would result in the need to temporarily occupy and close a

portion of the Ala Wai Canal for safety reasons. Closure of the Ala Wai Canal in the construction area would occur incrementally. The size and duration of each temporary closure increment would depend on whether the contractor constructs the bridge using precast deck planks or casts the deck in place. See Exhibit 1 for an illustration of the closure requirements for the precast construction method, and Exhibit 2 for the cast-in-place method. Temporary closure of the portion of the Ala Wai Canal would be done via a buoy and notification system. The buoys would be positioned to clearly define the areas beneath the bridge that are closed to recreational vessels, much like the lane markers in a swimming pool during race events. The closure area limits would be defined during construction in coordination with the contractor and the paddling groups. The bridge deck would be constructed in a mauka-to-makai sequence and direction. The proposed precast construction method and the cast-in-place construction method are described below. Measurements and areas provided under each construction method describe “width” in the mauka to makai direction and “length” in the diamond head direction.

Precast Construction Method

The bridge deck would be comprised of 13 precast segments, each 20 feet wide and approximately 26 feet long. Under the precast construction method, the bridge deck would be constructed in three phases. The first phase involves the erection of the first four segments of the bridge deck, beginning at the mauka end. This phase would require an area approximately 100 ft. wide by 30 ft. long, directly beneath the bridge deck within the canal, to be temporarily closed. The first four segments would take approximately four weeks to install. During this four-week period, recreational activities would be allowed in the open, approximately 150 ft. wide area of the canal that is not in the active construction area and temporarily closed – refer to exhibit 1.

At the completion of the first phase of the bridge deck construction, the second phase of bridge deck construction would begin immediately. The second phase involves the erection of the next five - 20 ft. wide segments. This phase would require an area approximately 60 ft. wide by 30 ft long, directly beneath the bridge deck within the canal, to be temporarily closed for each 20ft. segment to be installed. The 60 ft. wide by 30 ft. long closure area would shift in a makai direction as each 20 ft. segment is erected. These five segments would take approximately five weeks to install. During this five-week period, recreational activities would be allowed in the open, approximately 95 ft. wide area of the canal on either side that is not in the active construction area and temporarily closed – refer to exhibit 1.

The third and final phase of the bridge deck construction would begin immediately after the completion of the second phase. The third phase involves the erection of the last four segments to complete the bridge deck connection to the makai abutment. This phase would require an area approximately 100 ft. wide by 30 ft. long, directly beneath the bridge deck within the canal, to be temporarily closed. The last four segments would take approximately four weeks to install. During this four-week period recreational activities would be allowed in the open, approximately 150 ft. wide area of the canal that is not in the active construction area and not temporarily closed – refer to exhibit 1.

The canal would also be briefly closed for the movement of each bridge deck segment from the precast yard on the mauka shore to the proposed bridge alignment construction area. Each segment would be transported via a flexifloat pontoon barge and would take

approximately 1 hour for transport. Therefore, at the beginning of each week of bridge deck segment construction there would be a brief closure of a larger area of the Ala Wai Canal for this movement. The transport area is approximately identified on exhibit 3. The exact brief closure area of the canal for the barge transport would be determined by the contractor. As the bridge deck construction progresses from mauka to makai the barge transport would have to traverse a larger area of the canal and thus a larger area would be briefly closed during this time for safety purposes.

In total the incremental, temporary closure of the canal for the precast construction method would take approximately 3 months.

Cast-In-Place Construction Method

The cast-in-place (CIP) method of construction would not require using barges. Instead of sequentially placing precast segments into position across the canal, the CIP method would utilize what is called “traveling formwork” for casting the deck in 20 ft. sections in the mauka-makai direction. Once the first 20 ft. section is poured and cured for approximately 10 days, the formwork would slide across the proposed bridge alignment and be positioned for pouring the next 20 ft. section. Traveling formwork assembly is approximately 25 ft. wide by 30 ft. long and would extend down beneath the bridge deck for approximately 4 ft. to 6 ft. For safety reasons, an area of approximately 50 ft. wide by 30 ft. long, directly beneath the bridge construction within the canal, would be closed for recreational activities. At the end of each 10-day curing period the 50 ft. wide by 30 ft. long temporary, closure area would shift in the makai direction – refer to exhibit 2. If the CIP method of construction is used, the Ala Wai canal would have temporary partial closures for a length of 4.5 months.

In summary, the incremental, temporary closures of the canal for the precast construction method or the cast-in-place construction method would take approximately 3-4.5 months depending on the method chosen either during final design or by the contractor. This duration is much shorter than the overall project construction. Upon completion of each phase of bridge deck construction, the temporarily closed portion of the Ala Wai Canal would be reopened, and no change of ownership would occur.

2. Scope of the work must be minor, i.e., both the nature and the magnitude of the changes to the Section 4(f) property are minimal;

As described above under #1, if the precast construction method is selected by the contractor, the bridge deck would be constructed of 13 precast segments, each 20 feet wide and approximately 26 feet long. The deck segments would be cast onshore within the proposed precast yard/staging area. Flexifloat pontoon barges, or similar, would be used to transfer precast deck segments from the casting beds onshore to the proposed bridge alignment and for lifting the segments up into position. To prevent the barges from moving upstream and downstream during the lifting operation, two temporary spud columns would extend from the sides of the barge down to the mud line of the canal to maintain stability. Once construction of the bridge deck is completed the flexifloat pontoon barges would be removed and the Ala Wai Canal would be fully reopened to current recreational activities.

As described above under #1, if the CIP construction method is selected, the sequential

casting of the bridge deck would also be completed in 13 increments. The most significant difference between the two methods of construction is that the CIP would not require barges in the canal and the movement of bridge segments from the mauka shore to the proposed bridge alignment. Once construction of the CIP bridge deck is completed the traveling formwork would be removed and the Ala Wai Canal would be fully reopened to current recreational activities.

The bridge deck would be supported by 13 sets of forestay cables; one set of cables supports each 20 ft. length of deck. To balance the forces on the tower that are exerted by the forestays, six sets of backstay cables would extend down to anchorage foundations located within the mauka landing structure.

No permanent structures would be installed in the Ala Wai Canal. The scope of both the CIP and precast construction methods is minor and would have no long-term impact on the recreational uses of the canal.

3. There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis;

Temporary construction activities within the Ala Wai Canal as described above under #1 and #2 would not result in any permanent structures being installed in the canal. With the precast construction method, the spud columns would not be drilled or driven, but instead placed on the canal bottom and used to stabilize the barges only. No buried utilities would be affected by the spud columns. The flexifloat pontoon barges would connect to the spud columns and would remain on the water surface. Under either the precast or the CIP construction method there would be no adverse physical impacts to the canal or protected historic features of the canal during these temporary construction activities.

Construction activities on the banks of the Ala Wai Canal would also not permanently physically impact the Ala Wai Canal wall. Construction of the makai and mauka landings would cantilever out over the canal wall in order to avoid any impacts or weightbearing on the canal wall. The mauka tower and backstays would be constructed set back from the canal wall and therefore, also would not result in any physical impacts.

The Ala Wai Canal was originally constructed to serve as a drainage canal for the entire Ala Wai Watershed (approximately 1,358 acres). Currently the Department of Land and Natural Resources manages and operates the canal to maintain its original purpose. The proposed clear span bridge design would help maintain the canal's drainage functions and purpose and would not interfere with the canal operations. While there would be a visual effect or change in the landscape from the addition of the proposed bridge, the proposed bridge would not create a complete obstruction to the viewshed. In fact, the open cable design of the bridge would help maintain the open feeling and views through the proposed bridge to Diamond Head and the existing McCully Bridge. In addition, the proposed project would create a new vantage point for pedestrian, bicycle, and recreational users to see the canal and surrounding areas and would increase access to the Ala Wai Canal. As a result, the proposed project would not result in permanent adverse physical impacts to the Ala Wai

Canal, the canal's historic features or protected uses and activities. Furthermore, with a significant width of the canal remaining open during construction for recreational activities, no adverse physical impacts or interference with the protected activities within the canal are anticipated.

4. The land being used must be fully restored, i.e., the property must be returned to a condition which is at least as good as that which existed prior to the project; and

As stated above under #1 and #2, with the precast and CIP construction method, upon completion of the bridge deck construction all temporary construction equipment would be removed from the Ala Wai Canal. Under either the precast or the CIP construction method, use of temporary construction equipment would not result in any physical impacts to the Ala Wai Canal that would require restoration. The contractor would be required to implement standard best management practices to prohibit the release of construction materials, fuel, etc. into the Ala Wai Canal.

As stated above under the previous questions, construction of the makai and mauka landings would not physically impact the canal wall triggering the need for any restoration. The contractor would implement best management practices and techniques to ensure avoidance of the canal wall during construction of the cantilever sections.

5. There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions.

Documentation pending – to be provided in Final EA

Request for Approval

Based upon this analysis we request FHWA concurrence that this project's temporary occupancy of the Section 4(f) resource described above satisfies the conditions set forth in 23 CFR 774.13 (d) and is so minimal as to not constitute a use within the meaning of Section 4(f).

Name, Position
Department of Transportation Services, City and County of
Honolulu

Date

FHWA Approval

Name, Position
FHWA Hawaii Division

Exhibit 1

WATER CLOSURES DURING BRIDGE CONSTRUCTION - PRECAST OPTION

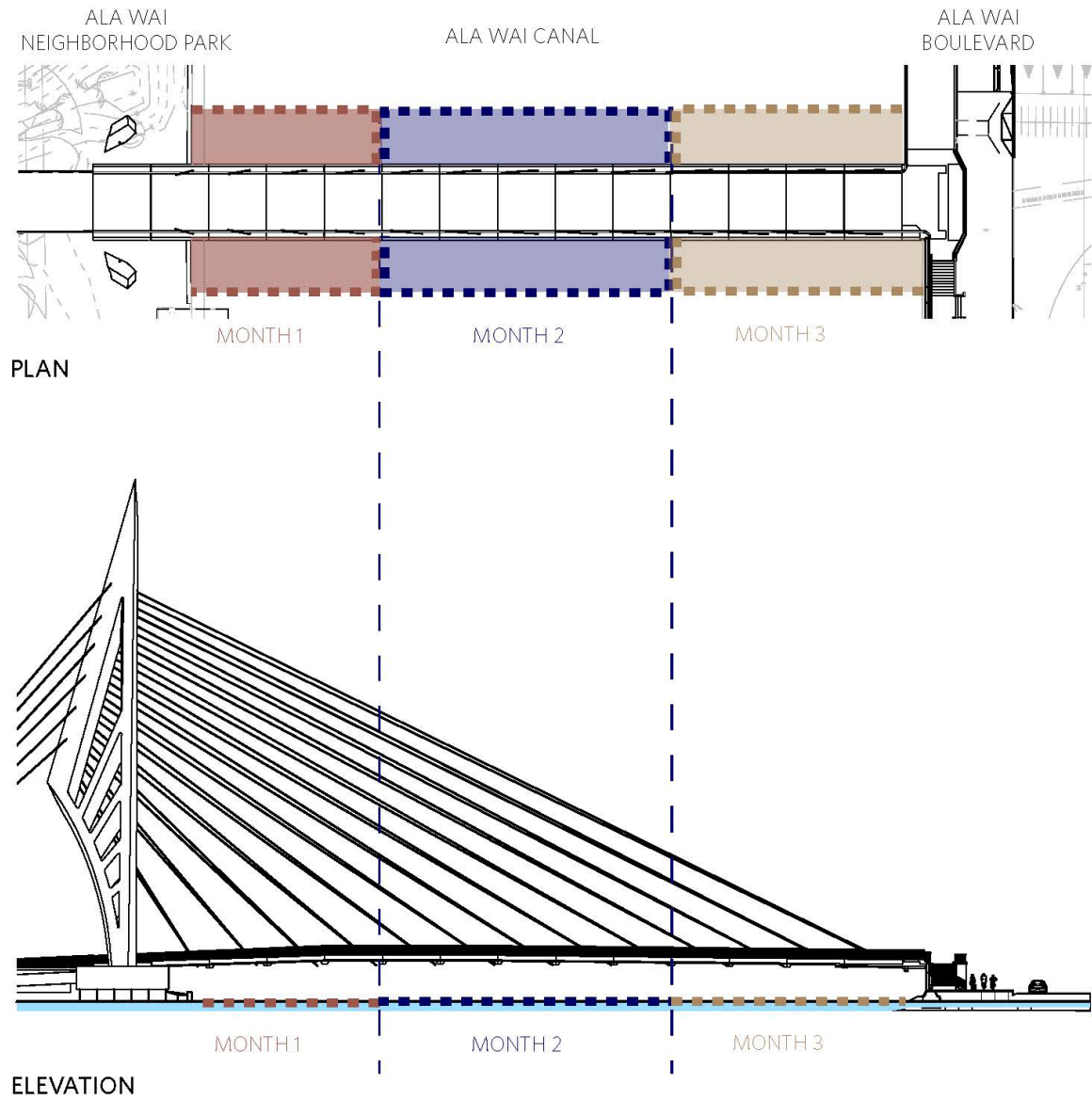
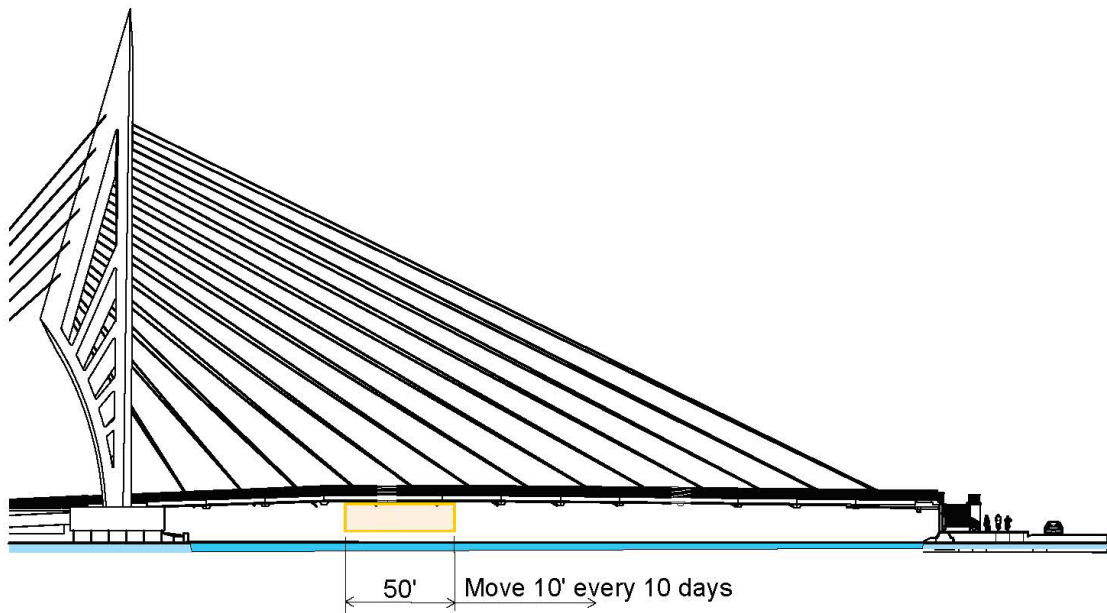


Exhibit 2

WATER CLOSURES DURING BRIDGE CONSTRUCTION - CAST IN PLACE OPTION

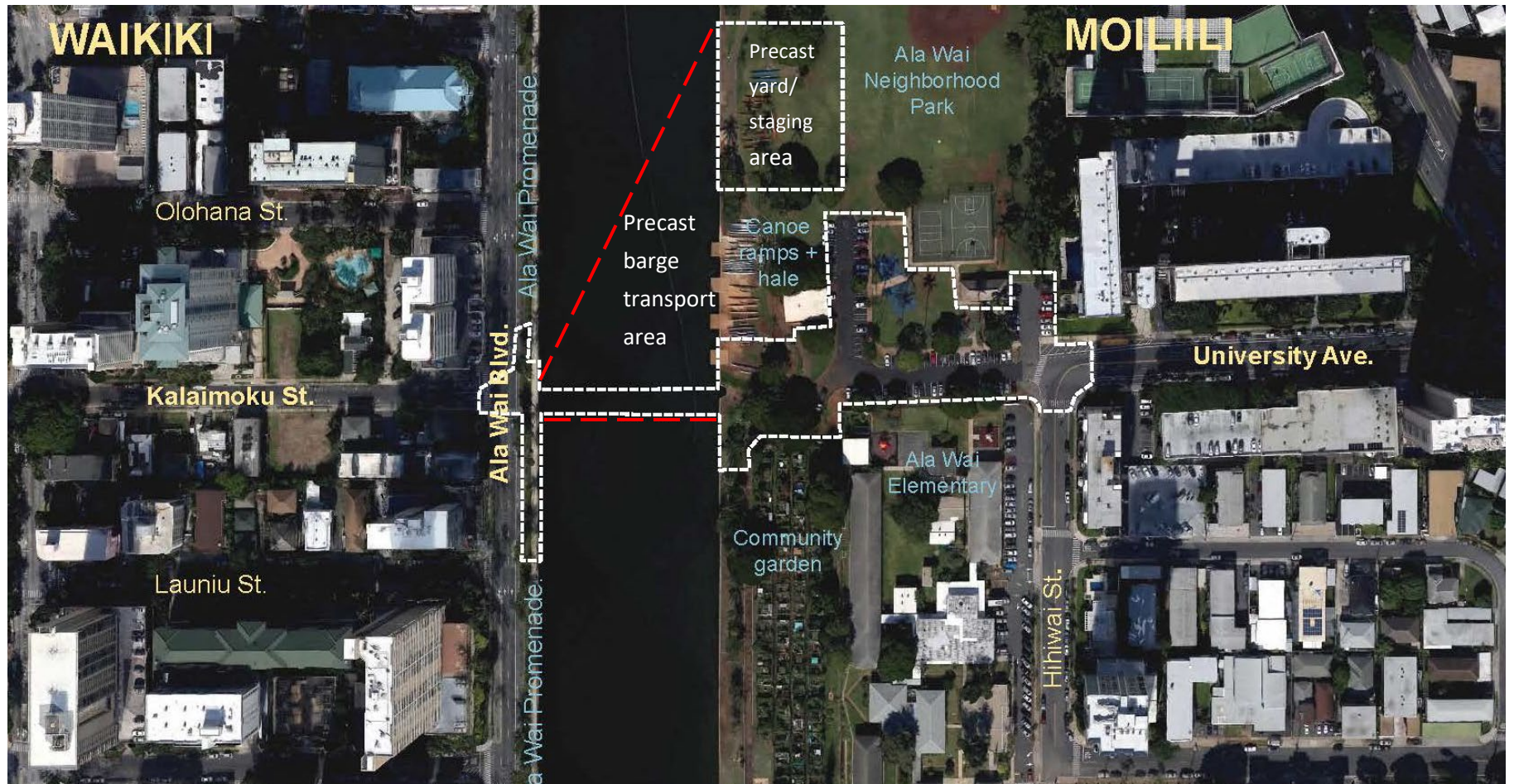


PLAN



ELEVATION

Exhibit 3



Introduction

The City and County of Honolulu (CCH) Department of Transportation Services (DTS), in partnership with the State of Hawaii Department of Transportation (HDOT) and the Federal Highway Administration (FHWA), are proposing a new pedestrian and bicycle bridge over the Ala Wai Canal on the Island of Oahu. With FHWA as the lead federal agency, the project must comply with Section 4(f) of the U.S. Department of Transportation Act of 1966 (49 United States Code [USC] 303), hereinafter referred to as Section 4(f). Section 4(f) provides protection to parks and recreation areas, wildlife and waterfowl refuges, and historic resources.

The Ala Wai Bridge Project would provide a safe and reliable point of access for people traveling by foot or by bicycle across the Ala Wai Canal and would support numerous regional and area plans.

The proposed project involves construction of a new pedestrian and bicycle bridge that would connect the Waikiki, McCully, and Moiliili neighborhoods; businesses; parks; schools; and recreational activities. The proposed bridge would span the historic Ala Wai Canal, which was added to the Hawaii Register of Historic Places in 1992, and the bridge landing would be partially within the Ala Wai Neighborhood Park. The project also includes a pedestrian and bicycle connection to University Avenue and improvements to a parking lot mauka of the canal. The project area is shown in Figure 1 (white outline), as well as the possible limits of temporary closure of the Ala Wai Canal during construction of the bridge deck. The site plan, which includes the project area and project components, is provided in Figure 2. The design of the bridge is a cable-stayed design with an asymmetric configuration that uses a main concrete tower sited on the mauka side of the canal. Lighting would be incorporated on the bridge deck, cables, and bridge features. The tower would include facets designed to reduce wind loads and create shadows based on the time of year and atmospheric condition. The proposed bridge would be approximately 20 feet wide to accommodate people walking and bicycling. A rendering of the bridge from an aerial view is presented in Figure 3. The bridge plan is provided in Figure 4.

This memo analyzes the project impacts on the historic Ala Wai Canal, which is a Section 4(f) property.

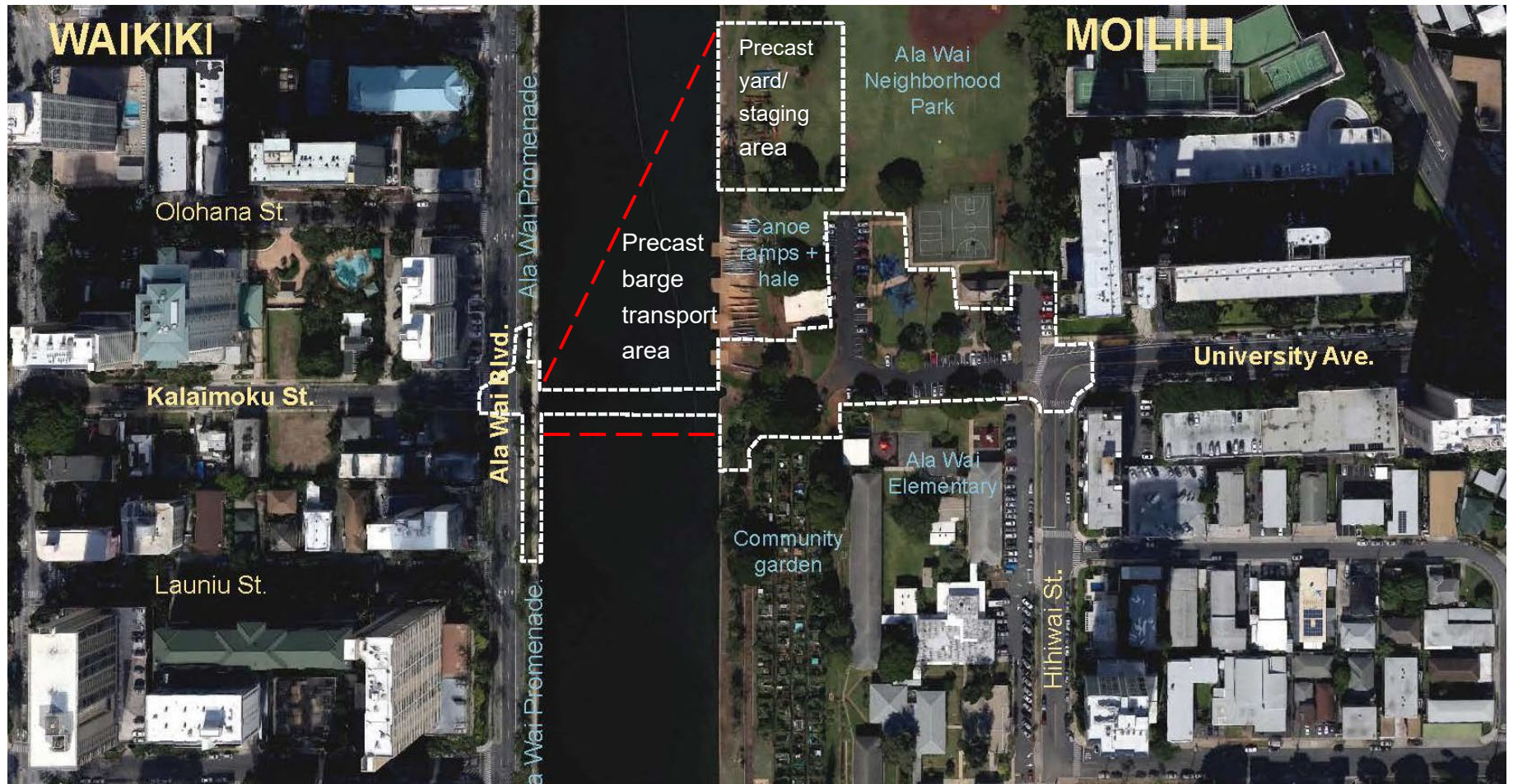


Figure 1

Project Area (outlined in white)

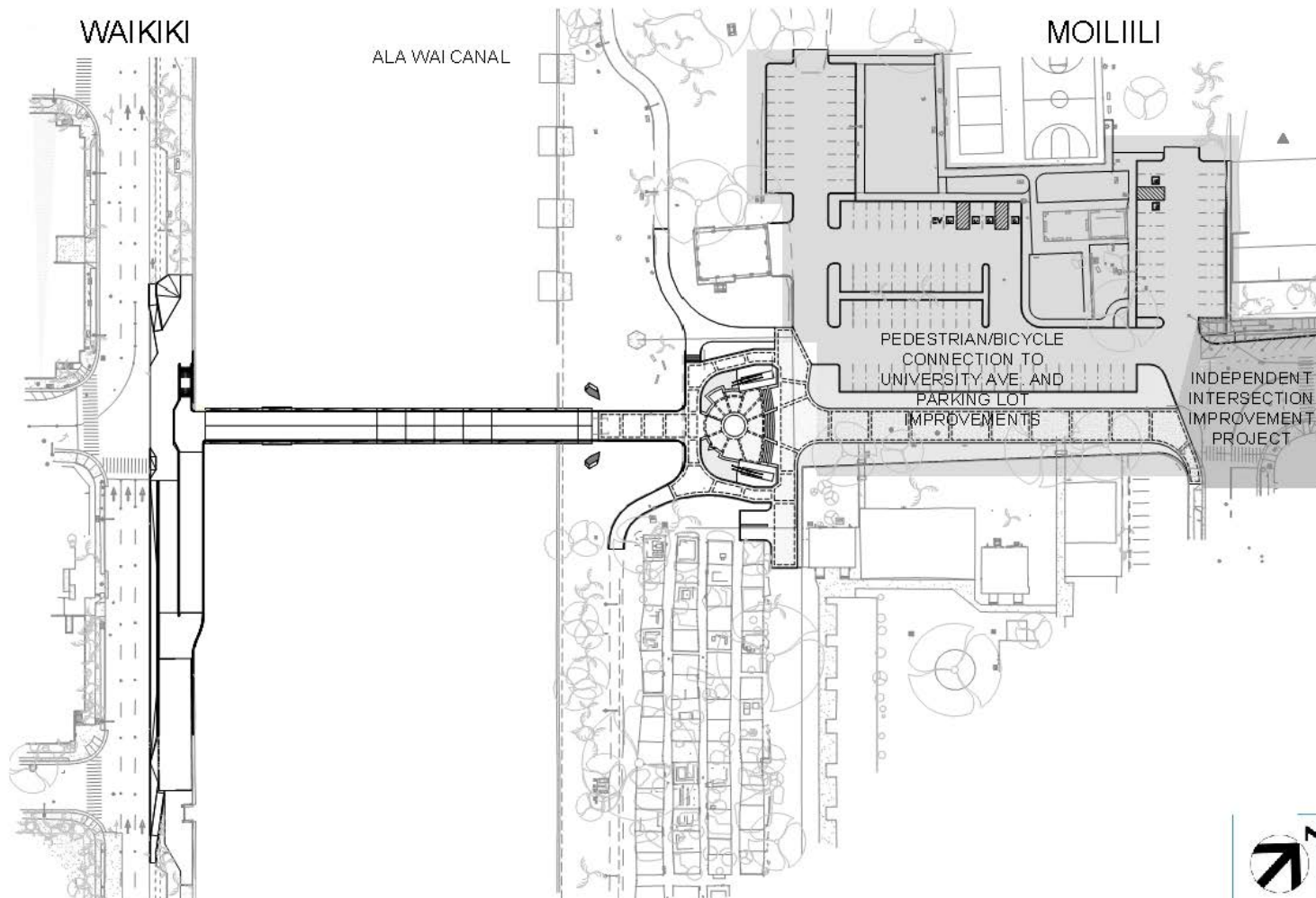


Figure 2
Site Plan

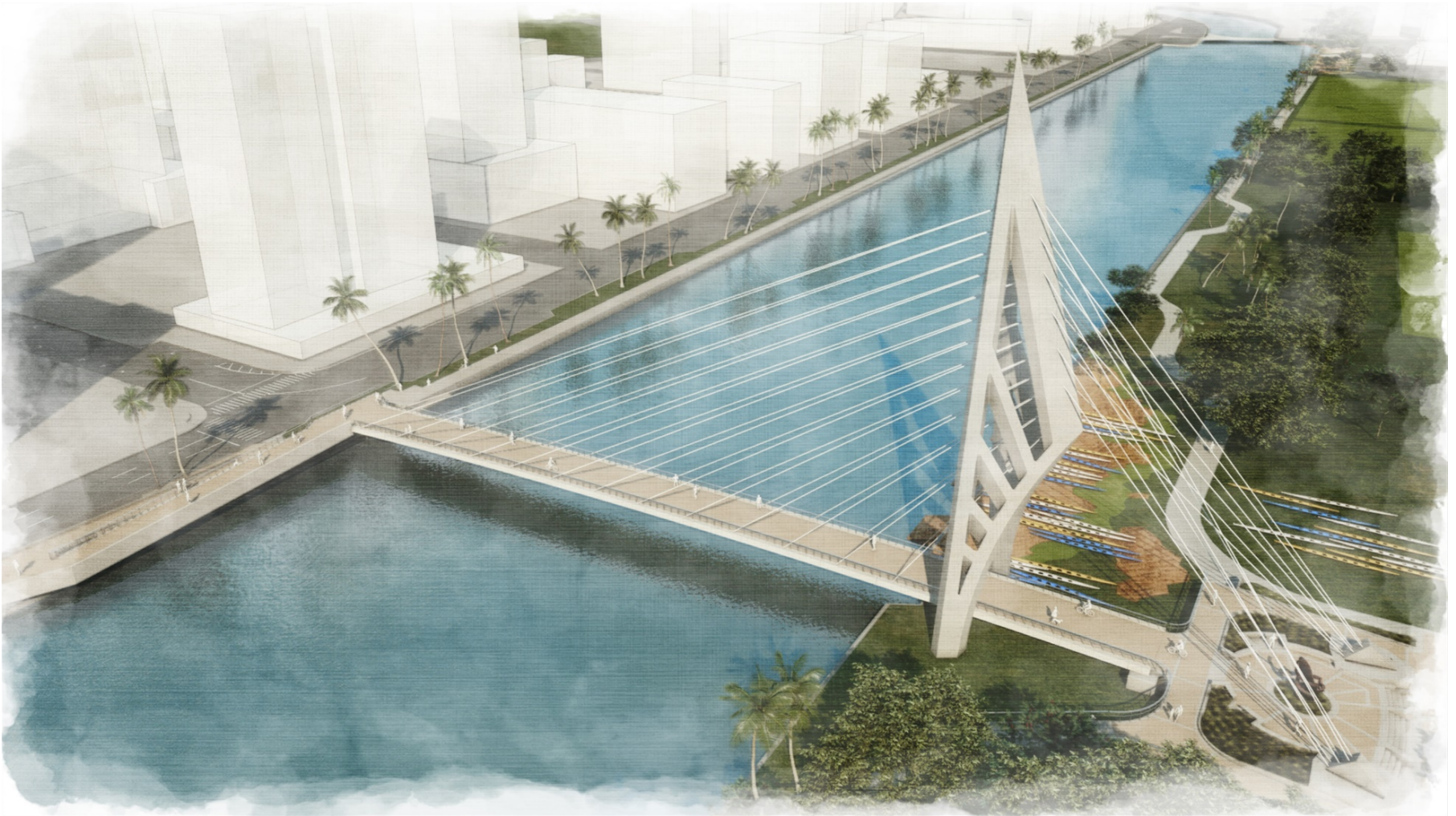


Figure 3

Aerial View of Bridge

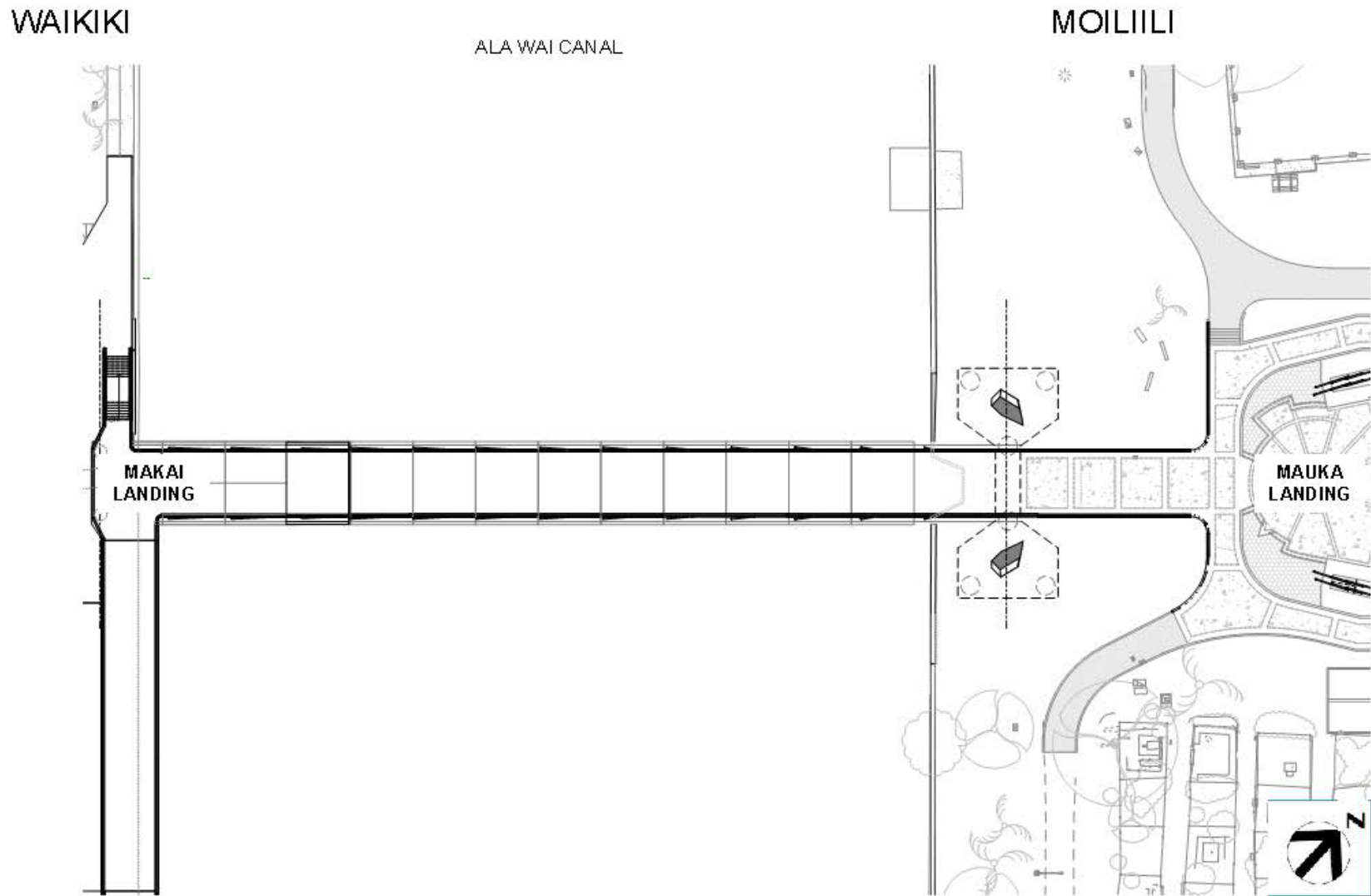


Figure 4

Bridge Plan

Legal and Regulatory Context

Section 4(f) prohibits the use of land of significant¹ publicly owned public parks, recreation areas, land of a historic site, or wildlife and waterfowl refuges for transportation projects unless U.S. DOT determines either:

- There is no feasible and prudent avoidance alternative and the action includes all possible planning to minimize harm to the property resulting from such use.
- The use of the property, including any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) would have a *de minimis* impact.

The FHWA's Section 4(f) regulations, entitled *Parks, Recreation Areas, Wildlife and Waterfowl Refuges, and Historic Sites*, are codified at 23 Code of Federal Regulations (CFR) Part 774; further guidance is found in FHWA's *Section 4(f) Policy Paper* (FHWA, 2012).

Section 4(f) requires consideration of the following:

- Parks and recreational areas of national, state, or local significance that are both publicly owned and open to the public. Recreation areas include trails that are designated or functioning primarily for recreation.
- Publicly owned wildlife and waterfowl refuges of national, state, or local significance that are open to the public to the extent that public access does not interfere with the primary purpose of the refuge.
- Historic sites of national, state, or local significance in public or private ownership regardless of whether they are open to the public. Historic sites are defined as historic properties that are included in or eligible for inclusion in the National Register of Historic Places (NRHP).

When private institutions, organizations, or individuals own parks, recreational areas or wildlife and waterfowl refuges, Section 4(f) does not apply, even if such areas are open to the public. However, if a governmental body has a permanent proprietary interest in the land (such as a permanent easement, or in some circumstances, a long-term lease), federal, state and local officials with jurisdiction (OWJs) would determine on a case-by-case basis whether the particular property should be considered publicly owned and, thus, if Section 4(f) applies. Section 4(f) also applies to all historic sites that are listed, or eligible for inclusion, in the NRHP at the local, state, or national level of significance regardless of whether or not the historic site is publicly or privately owned or open to the public. Resources which meet the definitions above are presumed to be significant unless the official with jurisdiction over the site concludes that the entire site is not significant.

¹ With regard to Section 4(f) properties, significant means that in comparing the availability and function of the park, recreation area or wildlife and waterfowl refuge with the park, recreation or refuge objectives of the agency, community or authority, the property in question plays an important role in meeting those objectives (FHWA, 2012).

A use of Section 4(f) property occurs:

1. When land from a Section 4(f) property is permanently incorporated into a transportation facility. The property is either purchased outright as transportation right of way, or acquisition of a property interest that allows permanent access onto the property such as a permanent easement for maintenance or other transportation-related purpose.
2. When there is a temporary occupancy of land for project construction-related activities. The property is not permanently incorporated into a transportation facility, but is used on a temporary basis through a temporary easement. Temporary occupancy can be adverse in terms of the statute's preservation purpose; or so minimal as to not constitute a use within the meaning of Section 4(f). Temporary occupancies of land that are so minimal as to not constitute a use within the meaning of Section 4(f) must satisfy all of the following conditions:
 - a. Duration must be temporary, that is, less than the time needed for construction of the project, and there should be no change in ownership of the land.
 - b. Scope of the work must be minor, that is, both the nature and the magnitude of the changes to the Section 4(f) property are minimal.
 - c. There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis.
 - d. The land being used must be fully restored, that is, the property must be returned to a condition which is at least as good as that which existed prior to the project.
 - e. There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) property regarding the above conditions.
3. When there is a constructive use of a Section 4(f) property. A constructive use involves no actual physical use of the Section 4(f) property via permanent incorporation or temporary occupancy of land into a transportation facility. A constructive use occurs when a project's proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired and the resource can no longer perform its designated function (49 USC 303). Constructive use occurs when:
 - a. The projected noise level increase attributable to the project substantially interferes with the use and enjoyment of a noise-sensitive facility of a property protected by Section 4(f).
 - b. The proximity of the proposed project substantially impairs esthetic features or attributes of a property protected by Section 4(f).

- c. The project results in a restriction of access which substantially diminishes the utility of a significant publicly owned park, recreation area, or a historic site (either publicly or privately owned).
- d. The vibration impact from construction or operation of the project substantially impairs the use of a Section 4(f) property.
- e. The ecological intrusion of the project substantially diminishes the value of wildlife habitat in a wildlife and waterfowl refuge adjacent to the project, substantially interferes with the access to a wildlife and waterfowl refuge when such access is necessary for established wildlife migration or critical life cycle processes, or substantially reduces the wildlife use of a wildlife and waterfowl refuge.

Ala Wai Canal

The proposed project would span the historic Ala Wai Canal, which was added to the Hawaii Register of Historic Places in 1992 and is eligible for protection under Section 4(f). The Ala Wai Canal is a human-made waterway that forms the boundary of the Waikiki district and is approximately two miles long. The Ala Wai Canal was constructed to serve as a drainage canal for the entire Ala Wai Watershed (approximately 1,358 acres). The canal separates Waikiki from the McCully, Moiliili, and Ala Moana neighborhoods. The project area is zoned Waikiki Special District, according to local zoning code. The proposed bridge alignment would span the canal, connecting to University Avenue on the mauka side of the canal and to Kalaimoku Street on the makai side of the canal.

The contractor could construct the bridge using two methods: precast deck planks or casting the deck in place. The bridge deck would be constructed in a mauka-to-makai sequence and direction. The proposed precast construction method and the cast-in-place construction method are described below. Measurements and areas provided under each construction method describe “width” in the mauka to makai direction and “length” in the diamond head direction.

Precast Construction Method

The bridge deck would be comprised of 13 – 20 ft. wide precast deck segments that under the precast construction method would be constructed in three phases. The first phase involves the erection of the first four segments of the bridge deck, beginning at the mauka end. This phase would require an area approximately 100 ft. wide by 30 ft. long directly beneath the bridge deck within the canal, to be temporarily closed. The first segments would take approximately four weeks to install. During this week period, recreational activities would be allowed in the open, approximately 150 ft. wide area of the canal that is not in the active construction area and temporarily closed. See Figure 5 for an illustration of the proposed closure requirements for the precast construction method.

At the completion of the first phase of the bridge deck construction, the second phase of bridge deck construction would begin immediately. The second phase involves the

erection of the next 5 - 20 ft. wide segments. This phase would require an area approximately 60 ft. wide by 30 ft long directly beneath the bridge deck within the canal, to be temporarily closed for each 20ft. segment to be installed. The 60 ft. wide by 30 ft. long closure area would shift in a makai direction as each 20 ft. segment is erected. These five segments would take approximately five weeks to install. During this five-week period, recreational activities would be allowed in the open, approximately 95ft. wide area of the canal on either side that is not in the active construction area and temporarily closed – refer to Figure 5.

The third and final phase of the bridge deck construction would begin immediately after the completion of the second phase. The third phase involves the erection of the last four segments to complete the bridge deck connection to the makai abutment. This phase would require an area approximately 100 ft. wide by 30 ft. long area directly beneath the bridge deck within the canal, to be temporarily closed. The last four segments would take approximately four weeks to install. During this four-week period recreational activities would be allowed in the open, approximately 150 ft. wide area of the canal that is not in the active construction area and temporarily closed – refer to Figure 5.

The canal would also be briefly closed for the movement of each bridge deck segment from the precast yard on the mauka shore to the proposed bridge alignment construction area. Each segment would be transported via a flexifloat pontoon barge and would take approximately 1 hour for transport. Therefore, at the beginning of each week of bridge deck segment construction there would be a brief closure of a larger area of the Ala Wai Canal for this movement. The transport area is approximately identified in Figure 1. The exact brief closure area of the canal for the barge transport would be determined by the contractor. As the bridge deck construction progresses from mauka to makai the barge transport would have to traverse a larger area of the canal and thus a larger area would be briefly closed during this time for safety purposes. In total the incremental, temporary closure of the canal for the precast construction method would take approximately 3 months.

Cast-In-Place Construction Method

The cast-in-place (CIP) method of construction would not require using barges. Instead of sequentially placing precast segments into position across the canal, the CIP method would utilize what is called “traveling formwork” for casting the deck in 20 ft. lengths. Once the first 20ft length is poured and cured for approximately 10 days, the formwork would slide across the proposed bridge alignment and be positioned for pouring the next 20 ft. length. Traveling formwork assembly is approximately 25 ft. long by 30 ft. wide and would extend down beneath the bridge deck for approximately 4 ft. to 6 ft. For safety reasons, an area of approximately 50 ft. wide by 30 ft. long directly beneath the bridge deck within the canal, would be closed for recreational activities. At the end of each 10-day curing period the 50 ft. wide by 30 ft. long temporary, closure area would shift in the makai direction. See Figure 6 for an illustration of the proposed closure

requirements for the CIP construction method. If the CIP method of construction is used the Ala Wai canal would have temporary partial closures for a length of 4.5 months.

In summary, the incremental, temporary closures of the canal for the precast construction method or the cast-in-place construction method would take approximately 3-4.5 months, which is a shorter duration than the overall project construction. Upon completion of each phase of bridge deck construction the temporarily closed portion of the Ala Wai Canal would be reopened and no change of ownership would occur.

Temporary closure of the portion of the Ala Wai Canal would be done via a buoy and notification system. The buoys would be positioned to clearly define the areas beneath the bridge that are closed to recreational vessels, much like the lane markers in a swimming pool during race events. The closure area limits would be defined during construction in coordination with the contractor and the paddling groups.

The partial canal closure would only occur during a portion of the time needed for overall project construction, would have a minor impact on canal users, and would not result in any physical impacts on the canal that would require restoration. Therefore, the temporary, partial closure of the Ala Wai Canal would result in a temporary occupancy.

No permanent structures would be installed in the Ala Wai Canal. Construction of the makai and mauka landings would cantilever out over the existing Ala Wai Canal walls. No physical impacts or weight bearing on the canal walls would result from the project. Furthermore, as stated above the Ala Wai Canal was originally constructed to serve as a drainage canal. Currently the Department of Land and Natural Resources manages and operates the canal to maintain its original purpose. The proposed clear span bridge design would help maintain the canal's drainage functions and purpose and would not interfere with the canal operations. Since the bridge would span the Ala Wai Canal and would not impact the canal walls or the protected features of the canal, the proposed project would not result in any direct impact on the canal or land acquisition. Therefore, there is no anticipated direct use of the Ala Wai Canal.

Since there is no direct use of the Ala Wai Canal, it was evaluated for a potential constructive use under Section 4(f) as well. As stated above, constructive use involves an indirect impact to the Section 4(f) property of such magnitude as to effectively act as a permanent incorporation. Noise levels would temporarily increase during construction due to the presence and use of construction equipment. Upon completion of construction, there would be no long-term noise impacts as a result of the proposed bridge. The presence and use of construction equipment are expected to have a negligible impact on recreational users on the canal. Therefore, anticipated noise impacts would not be so high as to reach the level of a constructive use.

Excavation and drilling of the shafts for the makai and mauka landings may result in small, temporary vibration effects. Upon completion of construction, there would be no long-term vibration impacts due to the proposed bridge. The temporary vibrations during construction of the drilled shafts are expected to have a negligible impact on surrounding properties and users.

The presence of construction equipment on the Ala Wai Canal would result in a temporary visual effect. As stated previously, upon completion of construction activities the spud columns and flexifloat pontoon barges would be removed from the canal. Permanently, the proposed project would create a new vantage point for pedestrian, bicycle, and recreational users to see the canal and surrounding areas and would increase access to the Ala Wai Canal. The canal currently provides an open and unobstructed viewplane. While there would be a visual effect or change in the landscape from the addition of the proposed bridge, the proposed bridge would not create a complete obstruction to the viewshed. In fact, the open cable design of the bridge would help maintain the open feeling and views through the proposed bridge to Diamond Head and the existing McCully Bridge.

The aforementioned noise, vibration, and visual effects of the proposed project would not result in a substantial impairment of the Ala Wai Canal. In addition, the construction of the proposed bridge spanning the canal and associated Park and parking improvements would not result in an ecological intrusion in this urban area. For these reasons, there is no anticipated constructive use of the Ala Wai Canal.

CCH DTS will work with the State Historic Preservation Officer/ State Historic Preservation Division (SHPO/SHPD) and the Department of Land and Natural Resources (DLNR) as the physical owner of the Ala Wai Canal to document agreement on the project Section 4(f) finding. CCH DTS is currently working with FHWA and HDOT through the National Historic Preservation Act (NHPA) Section 106 consultation process for potential project effects to the historic Ala Wai Canal. Formal consultation under NHPA Section 106 has been initiated and is ongoing with SHPO/SHPD and interested parties. The proposed project will potentially result in an adverse effect under Section 106 to the Ala Wai Canal. CCH DTS, FHWA, HDOT, SHPO/SHPD, and any interested parties will work together to resolve the potential project effect under the NHPA Section 106.

WATER CLOSURES DURING BRIDGE CONSTRUCTION - PRECAST OPTION

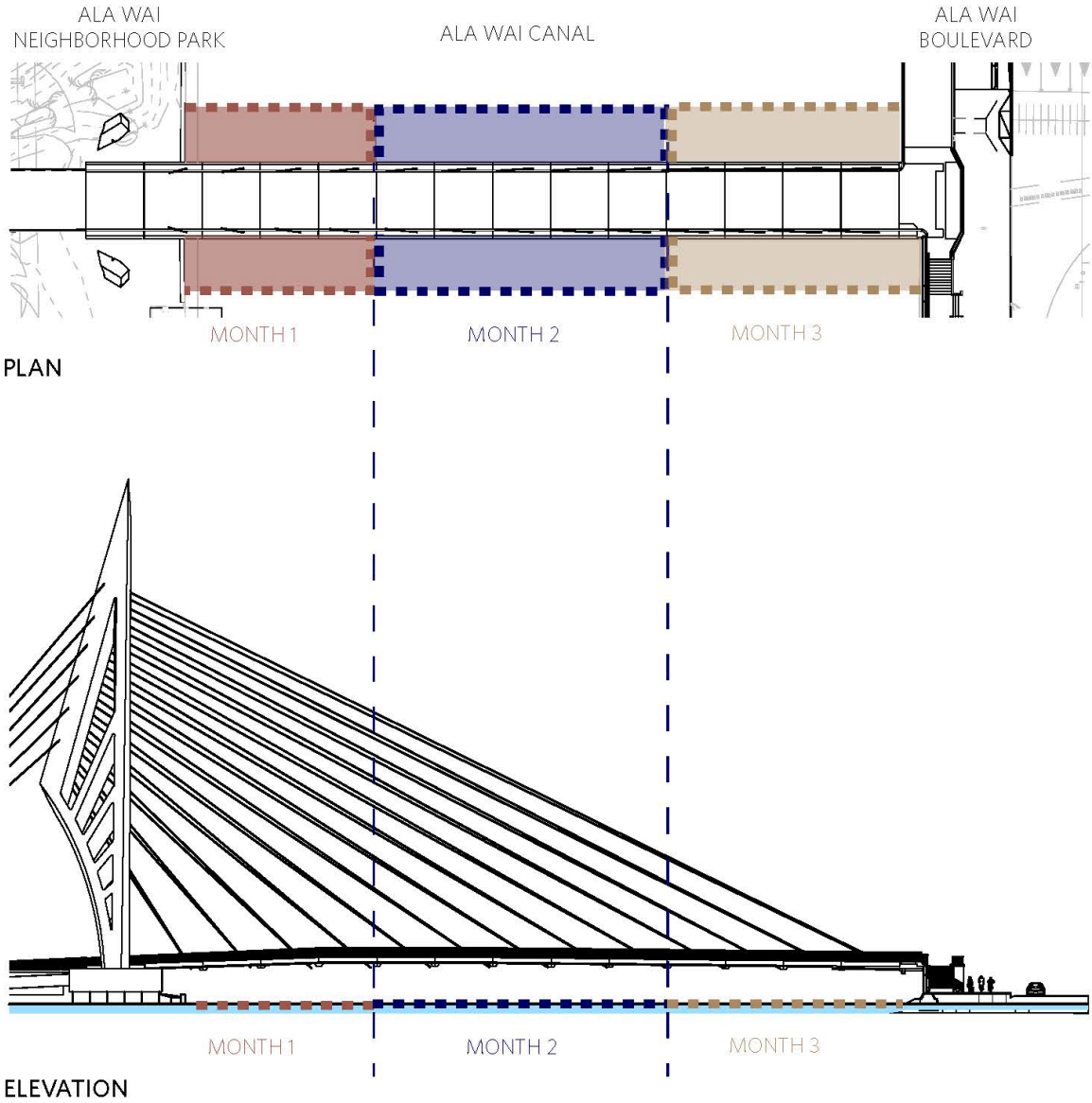


Figure 5

WATER CLOSURES DURING BRIDGE CONSTRUCTION - CAST IN PLACE OPTION

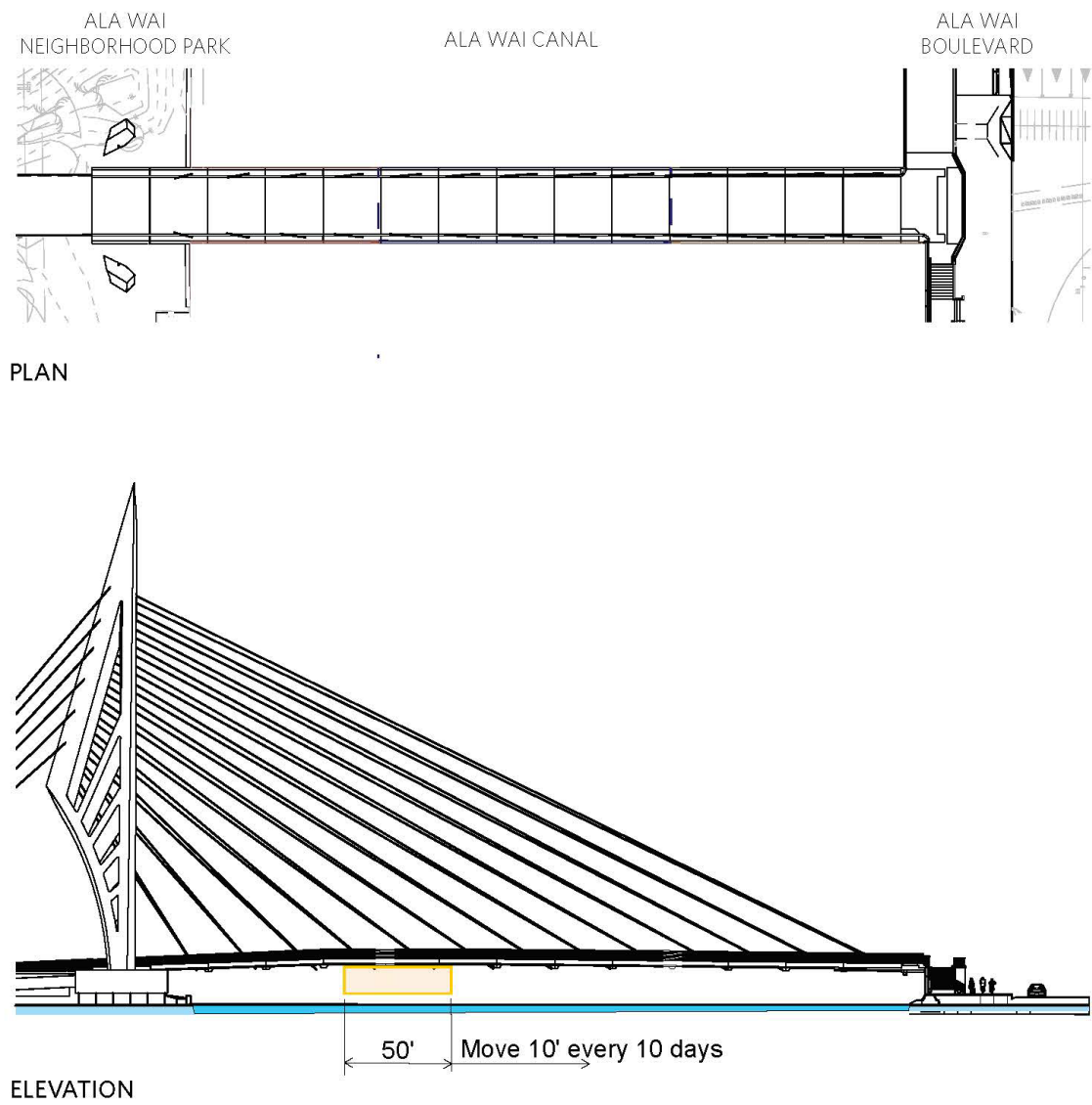


Figure 6

Appendix H – ESA Section 7 Correspondence



U.S. Department
of Transportation
**Federal Highway
Administration**

Hawaii Federal-Aid Division

September 23, 2020

300 Ala Moana Blvd, Rm 3-306
Box 50206
Honolulu, Hawaii 96850
Phone: (808) 541-2700
FHWA-Hawaii.Intake@dot.gov

In Reply Refer To:
HDA-HI

Mr. Michael Tosatto
Regional Administrator, Pacific Islands Regional Office
National Oceanic and Atmospheric Administration
NOAA Inouye Regional Center, NMFS/PIRO
1845 Wasp Boulevard, Building 176
Honolulu, HI 96818

Subject: Endangered Species Act Designation of a Non-Federal Representative
Ala Wai Bridge Project
Federal-aid Project No. TAP-0300(159)

Dear Mr. Tosatto:

The Federal Highway Administration (FHWA), in cooperation with the Hawaii Department of Transportation (HDOT), intends to fund the City and County of Honolulu, Department of Transportation Services (DTS) Ala Wai Bridge Project located in Waikiki. A project location map is enclosed.

Per the August 7, 1986 letter from the FHWA to the National Marine Fisheries Service (NMFS), the FHWA designated State highway or transportation agencies as non-Federal representatives to conduct informal consultations. Pursuant to Section 7 of the Endangered Species Act (ESA) and 50 *Code of Federal Regulations* (CFR) Part 402.08, the FHWA also designates the DTS as a non-Federal representative to conduct Section 7 consultation with the NMFS. However, the FHWA remains responsible for all findings and determinations charged to the agency during the Section 7 process.

The purpose of the Ala Wai Bridge Project is to improve multimodal connectivity and enhance public safety for people travelling by foot or by bicycle across the Ala Wai Canal between Ala Moana Boulevard and the Manoa/Palolo Stream, connecting the Waikiki, McCully, and Moiliili neighborhoods, businesses, parks, schools, and recreational activities. The proposed bridge would span the historic Ala Wai Canal. The proposed bridge is in support of numerous regional and area plans that have been developed in the last two decades, particularly fulfilling part of the broader Honolulu Complete Streets Program, which implements projects to improve safety, accessibility, and comfort for all people walking, bicycling, accessing transit, and driving.

The proposed design of the bridge is a cable-stayed design with an asymmetric configuration that utilizes a main pylon on the mauka side of the canal. Lighting would be incorporated on the

bridge deck, cables, and bridge features itself. The tower would include facets designed to create shadows and reflect light based on the time of year and atmospheric condition. The proposed bridge would be approximately 20 feet wide to accommodate people walking and bicycling. Makai of the canal, the project would involve improvements on the Ala Wai Promenade to accommodate the makai ramp, designed to meet Americans with Disabilities Act requirements. On the mauka end of the bridge, a 180-foot tower would straddle a cast-in-place deck cantilevered over the water. Requiring minimal excavation, the mauka ramp would involve tie-ins to the existing Ala Wai Neighborhood Park and existing pedestrian and bicycle path along the canal. Pedestrian and bicycle improvements would also be constructed between the mauka end of the bridge and University Avenue through the existing Ala Wai Neighborhood Park parking lot.

The HDOT project manager for the subject project is Mr. Ross Hironaka and he can be contacted at (808) 692-7575 or by email at ross.hironaka@hawaii.gov. The DTS project manager is Ms. Meredith Soniat and she can be contacted at (808) 768-6682 or by email at meredith.soniat@honolulu.gov.

If you have any questions, please feel free to contact me at (808) 541-2316 or by email at meesa.otani@dot.gov. Thank you for your assistance.

Sincerely yours,



Digitally signed by
MEESA T. OTANI
Date: 2020.09.23
14:16:43 -10'00'

Meesa Otani
Environmental Engineer

Enclosure

cc: Ross Hironaka, HDOT, HWY-DD
Misako Mimura, HDOT, HWY-DE
Meredith Soniat, DTS
Kai Nani Kraut, QRSE
Linda Fisher, HDR
James McConnell, HDR
Jessica Shimazu, HDR



Project Area
(outlined in white)



U.S. Department
of Transportation
**Federal Highway
Administration**

Hawaii Federal-Aid Division

September 23, 2020

300 Ala Moana Blvd, Rm 3-306
Box 50206
Honolulu, Hawaii 96850
Phone: (808) 541-2700
FHWA-Hawaii.Intake@dot.gov

In Reply Refer To:
HDA-HI

Ms. Katherine Mullett
Field Supervisor, Pacific Islands Fish and Wildlife Office
U.S. Fish and Wildlife Service
300 Ala Moana Blvd, Room 3-122
Honolulu, HI 96850

Subject: Endangered Species Act Designation of a Non-Federal Representative
Ala Wai Bridge Project
Federal-aid Project No. TAP-0300(159)

Dear Ms. Mullett:

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shadows and reflect light based on the time of year and atmospheric condition. The proposed bridge would be approximately 20 feet wide to accommodate people walking and bicycling. Makai of the canal, the project would involve improvements on the Ala Wai Promenade to accommodate the makai ramp, designed to meet Americans with Disabilities Act requirements. On the mauka end of the bridge, a 180-foot tower would straddle a cast-in-place deck cantilevered over the water. Requiring minimal excavation, the mauka ramp would involve tie-ins to the existing Ala Wai Neighborhood Park and existing pedestrian and bicycle path along the canal. Pedestrian and bicycle improvements would also be constructed between the mauka end of the bridge and University Avenue through the existing Ala Wai Neighborhood Park parking lot.

The HDOT project manager for the subject project is Mr. Ross Hironaka and he can be contacted at (808) 692-7575 or by email at ross.hironaka@hawaii.gov. The DTS project manager is Ms. Meredith Soniat and she can be contacted at (808) 768-6682 or by email at meredith.soniat@honolulu.gov.

If you have any questions, please feel free to contact me at (808) 541-2316 or by email at meesa.otani@dot.gov. Thank you for your assistance.

Sincerely yours,


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MEESA T. OTANI
Date: 2020.09.23
14:15:28 -10'00'

Meesa Otani
Environmental Engineer

Enclosure

cc: Ross Hironaka, HDOT, HWY-DD
Misako Mimura, HDOT, HWY-DE
Meredith Soniat, DTS
Kai Nani Kraut, QRSE
Linda Fisher, HDR
James McConnell, HDR
Jessica Shimazu, HDR



Project Area
(outlined in white)



United States Department of the Interior

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



In Reply Refer To:
01EPIF00-2021-SL-0046

December 10, 2020

Mr. Jon Nouchi
Department of Transportation Services Acting Director
City and County of Honolulu
Honolulu, Hawaii 96813

Subject: Pedestrian Bridge Construction over the Ala Wai Canal on Oahu Island, Request
for Request for Species List

Dear Mr. Nouchi:

Thank you for your letter of November 6, 2020 requesting a list of threatened or endangered species and conservation measures for the actions proposed by the City and County of Honolulu, Department of Transportation Services to construct a pedestrian bridge across the Ala Wai Canal between Ala Moana Boulevard and the Manoa Stream. This letter has been prepared under the authority of, and in accordance with, provisions of the Endangered Species Act of 1973 (ESA)(16 U.S.C. 1531 et sequentibus), as amended. A complete record of this consultation is on file at the U.S. Fish and Wildlife Service's (Service) Pacific Islands Fish and Wildlife Office in Honolulu, Hawaii. The Service's log number for this consultation is 01EPIF00-2021-SL-0046.

DESCRIPTION OF THE PROPOSED ACTION

The proposed project is the construction of a pedestrian bridge and renovations to the Ala Wai Neighborhood Park. The bridge would span the Ala Wai Canal via a cable-stayed design, and would require no permanent structures be installed in the Canal. The bridge also has several lighting components. Parking lot renovations in the Ala Wai Neighborhood Park parking lot would also take place as part of this action. Some tree removal or relocation is anticipated, and vegetated areas that are disturbed during construction will be restored and replanted after.

Construction is expected to take up to 24 months beginning in winter of 2021 or 2022. Working hours will be from 0730 to 1600 Monday through Friday, however night work may be required occasionally for specific activities.

We have reviewed the information you provided and pertinent information in our files as it pertains to listed species in accordance with section 7 of the ESA. Our data indicate the federally

INTERIOR REGION 9
COLUMBIA-PACIFIC NORTHWEST

IDAHO, MONTANA*, OREGON*, WASHINGTON

*PARTIAL

INTERIOR REGION 12
PACIFIC ISLANDS

AMERICAN SAMOA, GUAM, HAWAII, NORTHERN
MARIANA ISLANDS

listed endangered Hawaiian petrel (*Pterodroma sandwichensis*), threatened Newell's shearwater (*Puffinus auricularis newelli*), and endangered Hawaii Distinct Population Segment of the band-rumped storm petrel (*Oceanodroma castro*) collectively referred to as Hawaiian seabirds, and the endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*), may occur in, or transit through, the vicinity of the proposed action area. There is no designated critical habitat within the proposed action area.

Hawaiian seabirds

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

To avoid or minimize potential project impacts to seabirds we recommend you incorporate the following measures into your project description:

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

Listed seabirds have been documented colliding with communication towers, particularly in areas of high seabird passage rate. In general, self-supporting monopoles are the least likely to result in collisions, whereas lattice towers, particularly those that rely on guy-wires, have a greater risk.

To avoid and minimize the likelihood that towers will result in collisions by listed seabirds we recommend you incorporate the following measures into your project description:

- The profile of the tower should be as small as possible, minimize the extent of the tower that protrudes above the surrounding vegetation layer, and avoid the use of guywires.
- If the top of the tower must be lit to comply with Federal Aviation Administration regulations, use a flashing red light verses a steady-beam red or white light.
- If possible, co-locate with existing towers or facilities.

Hawaiian hoary bat

The Hawaiian hoary bat roosts in woody vegetation across all islands and will leave their young unattended in trees and shrubs when they forage. If trees or shrubs 15 feet or taller are cleared during the pupping season, June 1 through September 15, there is a risk that young bats could inadvertently be harmed or killed, since they are too young to fly or move away from disturbance. To avoid or minimize impacts to the endangered Hawaiian hoary bat we recommend you incorporate the following conservation measure into your project description:

- Do not disturb, remove, or trim woody plants greater than 15 feet tall during the bat birthing and pup rearing season (June 1 through September 15).

Best management practices regarding work in aquatic environments

To avoid or minimize project impacts to aquatic environments we recommend incorporating the following applicable measures into your project description. Best Management Practices (BMPs) include the incorporation of procedures or materials that may be used to reduce either direct or indirect negative impacts to aquatic habitats that result from project construction-related activities. These BMPs are recommended in addition to, and do not over-ride any terms, conditions, or other recommendations prepared by the Service, other federal, state or local agencies. If you have questions concerning these BMPs, please contact the Service's Aquatic Ecosystems Conservation Program at 808-792-9400.

- Authorized dredging and filling-related activities that may result in the temporary or permanent loss of aquatic habitats should be designed to avoid indirect, negative impacts to aquatic habitats beyond the planned project area.
- Dredging or filling in the marine environment should be scheduled to avoid coral spawning and recruitment periods, and sea turtle nesting and hatching periods. Because these periods are variable throughout the Pacific islands, we recommend contacting the relevant local, state, or federal fish and wildlife resource agency for site specific guidance.
- Turbidity and siltation from project-related work should be minimized and contained within the project area by silt containment devices and curtailing work during flooding or adverse tidal and weather conditions. BMPs should be maintained for the life of the construction period until turbidity and siltation within the project area is stabilized. All project construction-related debris and sediment containment devices should be removed and disposed of at an approved site.
- All project construction-related materials and equipment (dredges, vessels, backhoes, silt curtains, etc.) to be placed in an aquatic environment should be inspected for pollutants including, but not limited to; marine fouling organisms, grease, oil, etc., and cleaned to remove pollutants prior to use. Project related activities should not result in any debris disposal, non-native species introductions, or attraction of non-native pests to the affected or adjacent aquatic or terrestrial habitats. Implementing both a litter-control plan and a Hazard Analysis and Critical Control Point plan (HACCP – see <https://www.fws.gov/policy/A1750fw1.html>) can help to prevent attraction and introduction of non-native species.
- Project construction-related materials (fill, revetment rock, pipe, etc.) should not be stockpiled in, or in close proximity to aquatic habitats and should be protected from erosion (e.g., with filter fabric, etc.), to prevent materials from being carried into waters by wind, rain, or high surf.
- Fueling of project-related vehicles and equipment should take place away from the aquatic environment and a contingency plan to control petroleum products accidentally spilled during the project should be developed. The plan should be retained on site with the person responsible for compliance with the plan. Absorbent pads and containment booms should be stored on-site to facilitate the clean-up of accidental petroleum releases.

- All deliberately exposed soil or under-layer materials used in the project near water should be protected from erosion and stabilized as soon as possible with geotextile, filter fabric or native or non-invasive vegetation matting, hydro-seeding, etc.

We appreciate your efforts to conserve endangered species. We are available to meet at your convenience to discuss the proposed action and measures to avoid or minimizes effects to federally protected species. If you have any questions, please contact me at johnathon_kraska@fws.gov or by telephone at 808-792-9427.

Sincerely,

DARREN
LEBLANC

Digitally signed by
DARREN LEBLANC
Date: 2020.12.10
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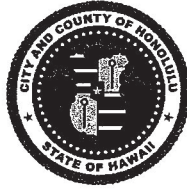
Darren LeBlanc
Planning and Consultation Team Manager

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 3RD FLOOR
HONOLULU, HAWAII 96813

Phone: (808) 768-8305 • Fax: (808) 768-4730 • web: www.honolulu.gov

RICK BLANGIARDI
MAYOR



JON Y. NOUCHI
ACTING DIRECTOR

DREANALEE KALILI
DEPUTY DIRECTOR

TP1/21-838669

January 29, 2021

SENT VIA EMAIL

Ms. Meesa Otani
Environmental Engineer
U.S. Department of Transportation, Federal Highway Administration
Hawaii Division
meesa.otani@dot.gov

SUBJECT: Section 7, Endangered Species Act Consultation
Request for Approval on Effect Determination
Ala Wai Bridge
Federal-aid Project No. TAP-0300 (159)

Dear Ms. Otani:

Based on a review of the National Marine Fisheries Service (NMFS) species list for the Hawaiian Islands, the habitat present in the project area, and the nature of the proposed work, the City and County of Honolulu, Department of Transportation Services (DTS) requests concurrence from the Federal Highway Administration that the proposed Ala Wai Bridge Project will have *no effect* on threatened or endangered species, or critical habitats within the project limits under NMFS jurisdiction.

Project Description

The proposed design of the bridge is a cable-stayed design with an asymmetric configuration that utilizes a main pylon sited on the mauka side of the canal. Lighting would be incorporated on the bridge deck, cables, and bridge features itself. The tower would include facets designed to create shadows and reflect light based on the time of year and atmospheric condition. The proposed bridge would be approximately 20 feet wide to accommodate people walking and bicycling. Makai of the canal, the project would involve improvements on the Ala Wai Promenade to accommodate the makai ramp, which would be designed to meet Americans with Disabilities Act requirements. On the mauka end of the bridge, a 180-foot tower would straddle a cast-in-place deck

that would cantilever over the water. The mauka ramp would require minimal excavation. The mauka ramp would involve tie-ins to the existing Ala Wai Neighborhood Park and existing pedestrian and bicycle path along the canal. Pedestrian and bicycle improvements would also be constructed between the mauka end of the bridge and University Avenue through the existing Ala Wai Neighborhood Park parking lot.

No permanent structures would be installed in the Ala Wai Canal. For construction of the bridge deck, two construction methods are being proposed, precast and cast-in-place. For the precast construction method, flexifloat pontoon barges would be used to transfer precast deck panels from the casting area on the mauka bank into position along the bridge deck alignment. The precast bridge deck segments would be constructed in a mauka to makai direction. In order to stabilize the barges with the tide, two temporary spud columns would extend from the side of the barge down to the mud line of the canal. Upon completion of the bridge deck construction, the flexifloat pontoon barges and spud columns would be removed from the canal. The cast-in-place construction method would not require using barges. Instead of sequentially placing precast segments into position across the canal, the cast-in-place method would utilize what is called "traveling formwork" for casting the deck in 20 foot sections in the mauka-makai direction.

The contractor would be required to prevent any debris from falling into the water. Appropriate Best Management Practices (BMPs) and a Stormwater Pollution and Prevention Plan (SWPPP) would be implemented to prevent polluted runoff from entering the canal, as well as erosion and sedimentation from construction and staging areas. Construction is estimated to start in 2022, and the estimated construction period is up to two years. Estimated work hours are from 7:30 a.m. to 4:00 p.m., Monday through Friday.

Environmental Setting

The Ala Wai Canal is located within the Ala Wai Watershed, which is on the southeastern side of Oahu. It includes Maikiki, Manoa, and Palolo streams, which all flow into the Ala Wai Canal. The Ala Wai Watershed has an area of approximately 19 square miles (12,064 acres) and reaches from the Koolau Mountains to Mamala Bay. The Ala Wai Canal is a human-made drainage canal measuring two miles in length. It was constructed in 1928 and was originally dredged to combine the flows of several streams into one outlet leading to the ocean. In the project area, the man-made canal is approximately 230 feet wide and has a variable depth of less than 10 feet.

The brackish, polluted, anoxic, and generally degraded conditions of the Ala Wai Canal make it poor quality habitat for most aquatic species. The canal bottom is composed of fine silt/mud and does not support any submerged or emergent vegetation. The canal receives stormwater and runoff from surrounding areas, resulting

in a degraded water quality that includes suspended sediment, phytoplankton growth, and trash. The project area is located approximately one mile upstream of the marine environments of the Ala Wai Harbor. The rest of the project area beyond the canal, which is the only aquatic resource in the project area, can be characterized as urban development. See Attachment A for the Project Area.

The aquatic fauna of the Ala Wai Canal is largely dominated by introduced vertebrate and invertebrate species. The walls of the canal are covered with barnacles (*Balanus* and *Chthamalus* spp.), large clumps of the introduced bryozoan (*Zoobotryon verticillatum*), and clumps of the introduced sponge *Suberites zeteki*. In the water column, introduced tilapia (*Oreochromis/Sartherodon*) are the most observed and abundant fish in the waters of the project area. Small numbers of native marine fishes have been documented in the area, including lei (*Scomberoides lysan*), juvenile giant barracuda (*Sphyrnaea barracuda*), and a small school of juvenile striped mullets (*Mugil cephalus*). The benthic zone of the canal has relatively few living organisms and anoxic conditions¹.

NMFS-Regulated Resources

According to NMFS, seven listed marine mammals, five listed sea turtles, and two listed fish species have the potential to occur in the vicinity of the Hawaiian Islands. The table below summarizes these NMFS-regulated species, along with their listing status.

Common Name	Scientific Name	ESA Listing Status
MARINE MAMMALS		
Blue Whale	<i>Balaenoptera musculus</i>	Endangered
False Killer Whale - Hawaiian Insular	<i>Pseudorca crassidens</i>	Endangered
Fin Whale	<i>Balaenoptera physalus</i>	Endangered
North Pacific Right Whale	<i>Eubalaena japonica</i>	Endangered
Sei Whale	<i>Balaenoptera borealis</i>	Endangered
Sperm Whale	<i>Physeter macrocephalus</i>	Endangered
Hawaiian Monk Seal	<i>Neomonachus schauinslandi</i>	Endangered
SEA TURTLES		
Green Turtle, Central North Pacific DPS	<i>Chelonia mydas</i>	Threatened
Hawksbill Turtle	<i>Eretmochelys imbricata</i>	Endangered
Leatherback Turtle	<i>Dermochelys coriacea</i>	Endangered

¹ Hawaiian Electric Company, Inc. 2017. Final Environmental Assessment Ala Wai 46kv Underground Cable Relocation. Prepared by Belt Collins Hawaii LLC.

Loggerhead Turtle, North Pacific DPS	<i>Caretta</i>	Endangered
Olive Ridley Turtle	<i>Lepidochelys olivacea</i>	Threatened
FISH		
Giant Manta Ray	<i>Manta birostris</i>	Threatened
Oceanic Whitetip Shark	<i>Carcharhinus longimanus</i>	Threatened

None of these species are anticipated to occur in this portion of the Ala Wai Canal due to the extremely degraded habitat quality, brackish conditions, shallow water column, absence of forage such as eelgrass, and distance of the project area from more suitable marine habitats of the harbor and beyond. The project area does not contain any designated or proposed critical habitat for threatened or endangered aquatic species, nor does it contain Essential Fish Habitat (EFH). Finally, marine mammals protected under the Marine Mammal Protection Act (MMPA) are not anticipated to be found in this portion of the canal.

Effects Analysis

The portion of the Ala Wai Canal within the project area does not provide suitable habitat for marine species under NMFS jurisdiction or protected under the MMPA. In addition, very minor in-water work is proposed as part of the project activities and includes the potential use of temporary floating barges anchored by temporary spud columns. As stated previously, a barge would be utilized to transport the precast deck segments from the casting yard to the bridge deck alignment, which spans the canal, where the segments would be jacked up into position. The barge would need to be stabilized against the incoming and outgoing tides with spud columns, which are connected to the side of the barge and lowered down to the mud line. It is anticipated that the hollow steel spud column would penetrate approximately two inches into the substrate at most, resulting in undetectable amounts of sedimentation. Once construction of the bridge deck is complete all construction equipment would be removed from the Ala Wai Canal. For these reasons, no direct effects on listed species under NMFS jurisdiction are anticipated.

The project is also not anticipated to result in indirect effects, such as a decline in water quality that could negatively impact species potentially using downstream marine environments. In addition, appropriate BMPs and a SWPPP would be implemented to manage stormwater runoff from construction and staging areas. Long-term the project would not result in any impacts to water quality since the bridge would not be used by motor vehicles, only pedestrian and cyclists. Noise and other disturbance resulting from project activities would likely result in aquatic species leaving the area.

Ms. Meesa Otani
January 29, 2021
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Conclusion

The project area does not contain suitable habitat for listed species under NMFS jurisdiction or protected under the MMPA. In addition, the project area does not contain any designated or proposed critical habitat for threatened or endangered aquatic species, nor does it contain EFH. For these reasons, the proposed project would have *no effect* on NMFS-regulated resources.

Should you have any questions, please do not hesitate to contact Meredith Soniat, of my staff, at meredith.soniat@honolulu.gov. Thank you for your assistance.

Very truly yours,



Jon Y. Nouchi
Acting Director


Attachment A: Project Location

cc: Justin Tadaki, Civil Engineer, HDOT
Kai Nani Kraut, Project Planning Phase Lead, QRSE
Linda Fisher, Environmental Team Lead, HDR
James McConnell, Project Manager, HDR
Jessica Shimazu, Deputy Project Manager, HDR

I AGREE: Date 02/26/2021

for

Division Administrator, FHWA


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T. OTANI
Date: 2021.02.26 12:41:56
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By: Meesa Otani
Environmental Engineer

Attachment A: Project Location



Appendix I – Ala Pono Community Engagement Report
Ala Wai Crossing Alternatives Analysis

ALA PONO

Community Engagement Report

Ala Wai Crossing Alternatives Analysis



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1 THE PLAN

INTRODUCTION AND CONTEXT

This document presents a draft public engagement framework for the Ala Wai Canal Bridge Alternatives Analysis (AA). It sets an engagement roadmap that the planning team and the public can follow as the AA progresses. The objective is a transparent statement of expectations for all participants and observers. It identifies key milestones when public participation will be sought, the type of information that will be sought and the corresponding level of engagement sought. It will identify the tools and the methods that will be used to achieve the desired engagement and information capture.

The Public Engagement Plan is a comprehensive public engagement strategy and schedule that includes communications, education, stakeholder meetings and presentations, community events, and means of collecting and documenting input.

Project Context

The Ala Wai Canal Bridge is a key project among several companion efforts under the Complete Streets program “umbrella” aimed to improve Oahu’s transportation system for all modes of travel. The policy framework for Complete Streets in the City and County of Honolulu is established through the Complete Streets ordinance and codified through its Complete Streets Design Manual. The Honolulu Complete Streets Ordinance Bill 26 (2012) states that the purpose of the policy is “to guide and direct more comprehensive and balanced planning, design, and construction of city transportation systems.” The policy expresses the City’s commitment to encourage the development of transportation facilities or projects that are planned, designed, operated, and maintained to provide safe mobility for all users.

In addition to the Ala Wai Canal Bridge, several planning projects that support the Complete Streets program and policies are underway, including the Oahu Bike Plan Update, and “Complete Streets” implementation projects throughout Honolulu’s urban neighborhoods. Complimentary on-going projects spearheaded by the City and County include Transit Oriented Development Plan, Bike Network 2020 initiative, as well as an Age Friendly City Initiative. Synergies with other public and private-initiated endeavors that recognize the importance of the built environment in reduction of chronic disease through healthy lifestyles, including the State of Hawaii Department of Health, Blue Zones, LLC, and the American Association of Retired People (AARP).

This project also has a federal nexus as it will be funded in part through the Federal Highway Administration and Federal Transit Administration, U.S. Department of Transportation through the Oahu Metropolitan Planning Organization (Oahu MPO).

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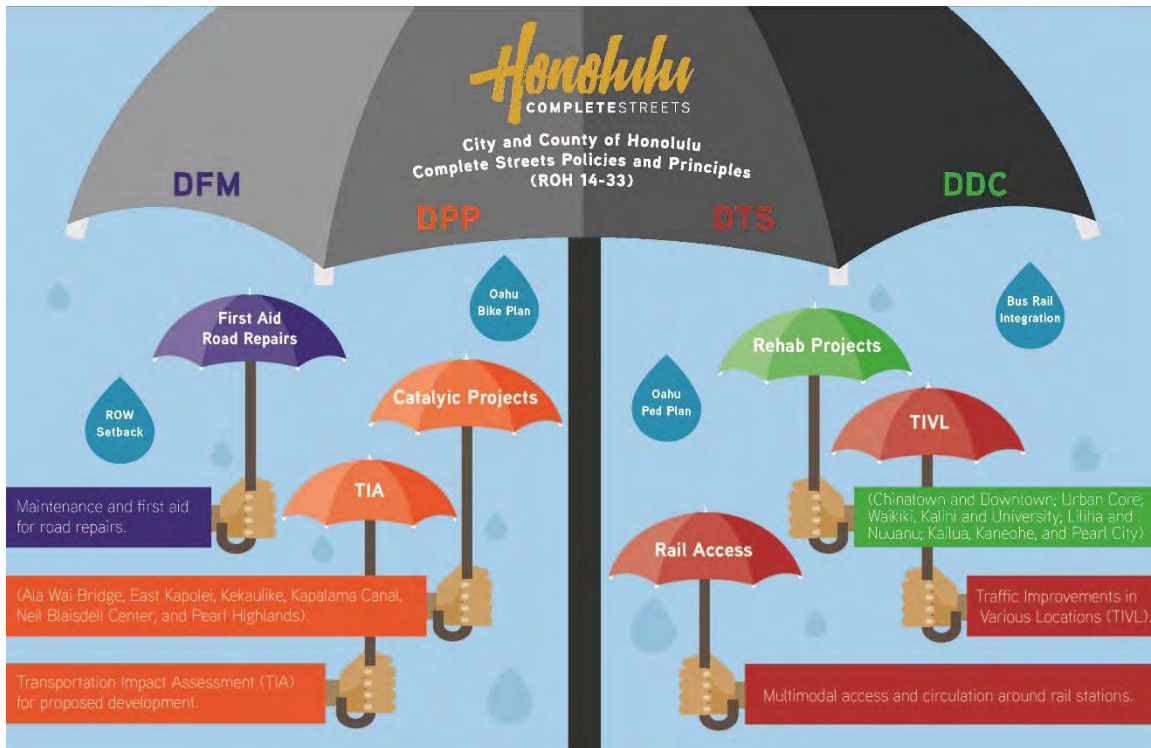


Figure 1 A Graphic Depiction of the Complete Streets Program

Public engagement in the planning process is a fundamental value. It is both expected and encouraged through adopted goals, objectives and priorities for the State and carried forward by the City and County of Honolulu. Goal three of the Hawaii State Plan reads:

In order to guarantee, for present and future generations, those elements of choice and mobility that insure that individuals and groups may approach their desired levels of self-reliance and self-determination it shall be the goal of the State to achieve physical, social and economic well-being, for individuals and families in Hawaii, that nourishes a sense of community responsibility, of caring, and of participation in community life.

The Engagement Plan is intended to provide a statement of expectations for the planning process for all participants including: County and State agencies, federal interests, Oahu residents, businesspeople, visitors, and interested observers.

Stakeholder engagement will serve both a practical purpose and should be meaningful to the community. The objectives for public engagement are:

- sharing and collecting information;
- generation of creative ideas and problem-solving;
- building trust between community groups, individuals, and the City

Key Issues (Needs)

The Ala Wai Canal is a significant barrier to inter-neighborhood circulation. With only five access points into Waikiki, out of direction travel is often necessary to move from point to point whether by personal vehicle, transit, bicycle or on foot or wheels. The project need is particularly acute in

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the neighborhoods adjacent to the canal as they have the highest percent of non-auto commute share on Oahu. City and County of Honolulu transportation planners note that additional access points to Waikiki could shorten travel distance by as much as one mile. The Advance Project Planning Report, notes the following concerns:

Department of Health (DOH) crash data for bicycles and pedestrians in the area illustrates that bicycle and pedestrian crashes occur with greater frequency along the major arterials and collector streets in both Waikiki and McCully-Moiliili, especially around current access points to Waikiki, indicating that a dedicated connection for bicycles and pedestrians is greatly needed in the area.”

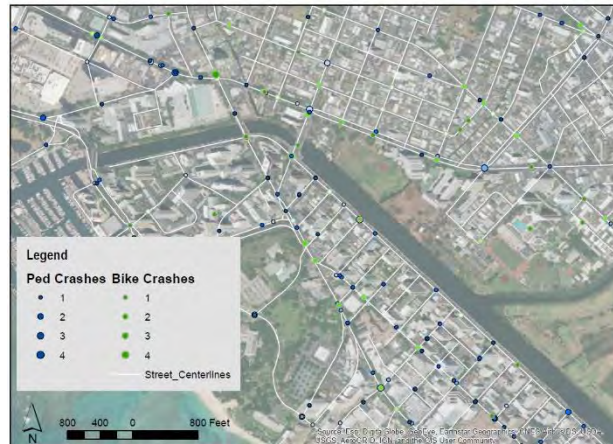


Figure 2 Crash Data Image

Bicycle Level of Traffic Stress:

“Preliminary mapping of bicycle level of traffic stress by the Hawaii Department of Transportation⁷ indicates that the Ala Wai Boulevard between Wai Nani Way and Niu Street is a high-stress (LTS 4) corridor. Similarly, current crossings over the Ala Wai are all high-stress

connections: McCully Bridge, Kalakaua Avenue, and Ala Moana Boulevard. Importantly, Kapiolani Boulevard and University Avenue from the Ala Wai to Date Street are also classified as LTS 4. The introduction of a new crossing or “segment” that is potentially bike-ped only has the potential to reduce overall LTS in the bicycle network for Waikiki and McCully-Moiliili.”



Figure 3 Bicycle Level of Stress Image

Additional emergency response and evacuation route: The bridge supports emergency response as well as evacuation if required for hurricanes, tsunamis, and likes to safety zones. Goal #7: Provide emergency evacuation for

people on foot or on bicycle; Decrease emergency response times in event of hazardous situations.

Vehicular congestion in Waikiki is well recognized and documented. Projections from the Oahu MPO forecast traffic volumes on the routes into Waikiki will increase 46% by 2040 which will further degrade level of service.

Community Support for the project is considered a key issue to the project’s success. The Ala Wai Canal is the boundary between two neighborhoods, Waikiki and McCully/Moiliili. In April 2016, the Waikiki Neighborhood Board, in consideration of the Waikiki Regional Circulator Study, acknowledged the need for a complete pedestrian and bicycle network that includes bridges over

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the Ala Wai canal. Historically, the McCully/Moiliili Neighborhood Board has been opposed to a new bridge spanning the canal. Traffic circulation around the canal also affects the adjoining neighborhoods: Ala Moana/Kakaako, Manoa, and Diamond Head/Kapahulu. Garnering support from all surrounding neighborhoods will be critical to the project's implementation.

Project Purpose

The purpose of the Ala Wai Canal Bridge Alternatives Analysis is to identify, develop, and evaluate alternatives whether and how to provide additional access over the Ala Wai Canal that will provide a connection between the Waikiki, Ala Moana, and McCully/Moiliili neighborhoods. Alternatives that will be considered in the analysis include a new bridge for pedestrians, bicycles, and emergency response; modifications or enhancements to one or more of the existing bridges; and consideration of no change.

The primary purpose is to provide additional access across the Ala Wai Canal between Ala Moana Boulevard and the Manoa/Palolo Stream. In particular, this would benefit the adjacent communities, which have the highest percentage of non-auto commute share on Oahu. Additional access points could shorten travel distance by as much as one mile, resulting in a travel time savings of 10 minutes each way by bicycle and 20 minutes on foot. Secondary purposes are to reduce car-bike collisions by providing a safer, separated facility and emergency evacuation for people on foot or bicycle. Seventeen (17) bicycle and pedestrian crashes were recorded on the existing access points to Waikiki between 2012 and 2016, a number that could be reduced through the provision of better bicycle/pedestrian facilities.

Project Objectives

Desired outcomes:

- Affordable Access:
- Complete Streets Connectivity,
- Improved Emergency Response and Public Safety,
- A Vibrant Canal, and
- Enhanced Sustainable Mobility

As described by the Advanced Project Planning Report, the objectives of the Alternatives Analysis are as follow:

Goal #1 Connectivity, Time Savings and Accessibility: Improve connectivity by providing a direct, safe and pleasant route across the Ala Wai Canal in an area with few existing low-stress crossing; options; Offer significant journey time reductions; Improve access and increase transportation options for all user by providing an accessible easy-to-use transportation link.

Goal #2 Enhance Economic Development: Improve links between residential, employment, and leisure centers, in order to support the sustainable regeneration and vibrancy of McCully, Moiliili, and University neighborhoods. Unlock economic regeneration by increasing connectivity and accessibility.

Goal #3 Equity, Sustainability, and Resilience: Provide a high-capacity, low-carbon, and zero pollution transportation link for Honolulu's growing population, offering an alternative to an overcrowded highway system; Support mobility in neighborhoods which have higher share of non-auto commuting.

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Goal #4 Better Place/Space/Design: Enhance Honolulu's cityscape and public realm, creating better places for everyone; Showcase innovative design and engineering by creating a new landmark for Waikiki.

Goal #5 Public Health and Active Transportation: Increase physical activity by enabling a shift to active travel modes through the expansion of pedestrian and bicycling infrastructure.

Goal #6 Affordability: Achieve optimal value for money (VfM); Be constructible within a desired timeframe and budget.

Goal #7 Enhance Emergency Access: Provide emergency evacuation for people on foot or on bicycle; Decrease emergency response times in event of hazardous situations.

The project will include the development of...

- Study of international best practices in pedestrian and bicycle bridge design
- Origin and Destination Analysis to better understand the multimodal travel characteristics and the common types of trips made in and out of Waikiki and McCully-Moiliili, and identify the potential impacts and benefits of a new crossing for people walking and bicycling
- Detailed study and costing of new bridge crossing locations and bridge types that make the best use of existing publicly owned right-of-way
- Screening of bridge types and crossing location alternatives with evaluation criteria to ensure the preferred alternative best addresses the project's purpose and need
- The Alternative Analysis will culminate with the selection of a preferred alternative, both crossing location and type, to move into preliminary engineering

A final report will document the project, methods of analysis, and results. The Alternatives Analysis report will be a visually robust, concise, and user-friendly document that communicates the Alternatives Analysis process and outcome to the public, stakeholders, and permitting agencies. The final report will include the following:

- Illustrative background making the case for the preferred alternative
- Best practices research
- Existing projects and programs supporting project goals and objectives
- Goals, metrics and evaluation approach
- Community engagement highlights
- Preliminary data and budget analysis
- Implementation Timeline

Community and agency stakeholder engagement is critical to the project, meriting its own plan (this document). It is expected (and desired) that input from the public will factor into the analysis portion of the project and will influence priority-setting in terms of neighborhood suitability and in consideration of facility gaps and demand. Engagement strategy and tools are the subject of the next sections of this plan.

COMMUNITY ENGAGEMENT GUIDING PRINCIPLES AND OBJECTIVES

The Community Engagement Plan sets a roadmap that the planning team can follow as the work of the Alternatives Analysis advances. It identifies key milestones when public participation will be

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sought, the type of information that will be sought, and the corresponding level of engagement sought. It will identify the tools and the methods that will be used to achieve the desired engagement and information capture. The planning team will use the International Association for Public Participation (IAP2) Spectrum as a guiding reference for determining the type of public engagement anticipated for each step of the planning process. Engagement opportunities and community feedback will be documented to inform the public on the process and outcomes of these efforts.

The guiding principles for community engagement are consistent with the Complete Streets Program:

1. **Open and Inclusive:** that the engagement process maximizes participation, inclusivity, and allows all community members a reasonable opportunity to become informed and provide input. A range of activities engage diverse participants, including traditionally underserved groups, to build relationships with stakeholders, ensuring that participants are heard.
2. **Mutual Trust and Respect:** Community is engaged in an equitable and respectful way that fosters understanding between diverse views, values, and interests.
3. **Timeliness:** Community members are engaged as early as possible so they have time to learn about the Complete Streets projects and actively participate to identify issues and have a hand in envisioning the desired outcomes.
4. **Transparent and Informative:** Stakeholders understand how their input may influence the design; level of engagement, including an explanation of constraints and options; and the outcome of the process.
5. **Integrated and Relevant:** The process allows participants an opportunity to impact decisions within the scope of the project.
6. **Coordinated Efforts:** Community engagement activities help ensure resources are used effectively and that valuable partners such as agencies, elected officials, organizations, and initiatives with complementary objectives and/or concurrent consultation processes are involved.

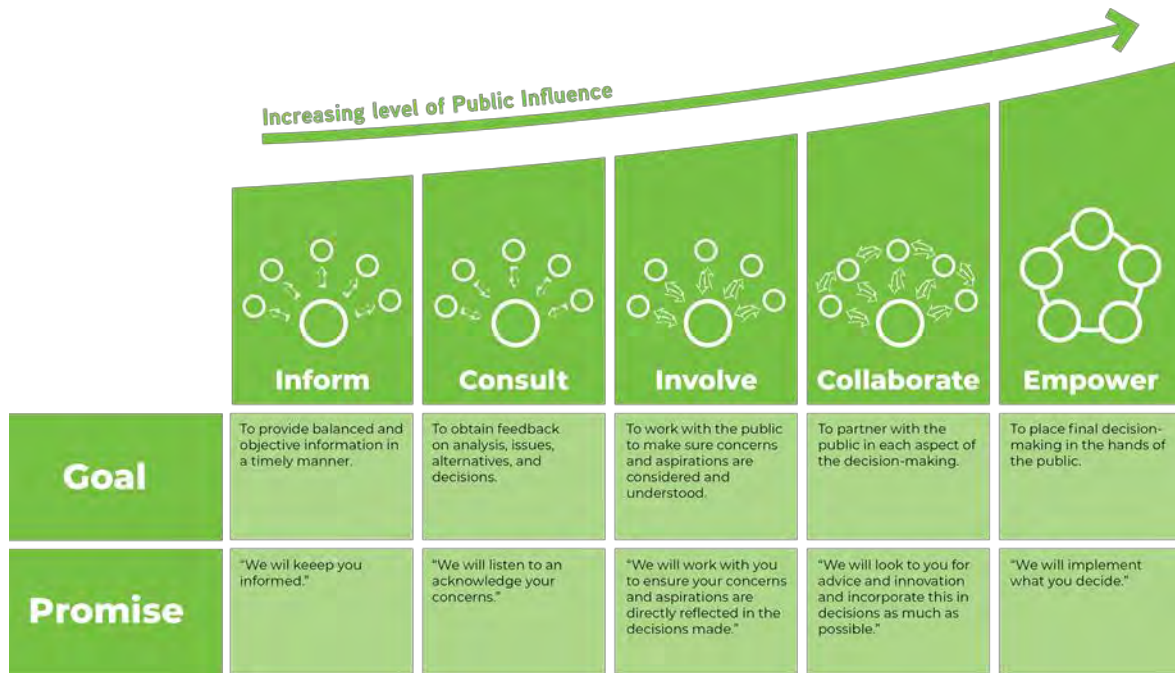
Community Engagement Objectives

To best serve the objectives of the Alternatives Analysis, the community engagement objectives are:

1. **Inform** the public of the project, the data collection, analysis, findings, and eventual concept designs.
2. **Consult** with stakeholders with specific expertise through the analysis, and in the consideration of best practices and their applicability to Oahu.
3. **Involve** the public and interested stakeholders in considering the prioritization of issues and opportunities.
4. **Collaborate** with stakeholders on recommendations for phasing improvements, and to bring carry conceptual designs forward.
5. **Empower** stakeholders to carry implementation tasks forward and to enforce programs.

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Figure 4 Community Engagement Model



Source: International Association of Public Participation (IAP2)

ENGAGEMENT MATERIALS

Recognizing that there are many demands for the community's attention and time; and that people have diverse preferences for the way they interact with community planning projects, a combination of techniques and tools will be used to capture community contribution to the Alternatives Analysis.

1. **PowerPoint Presentations:** Consultant will provide a presentation for two (2) Public Meetings to inform the community of the Alternatives Analysis and report project findings midway through the project. Translation and accessibility services will be provided as needed.
2. **Real-time keypad polling:** Consultant will use a real-time keypad polling program as part of the PowerPoint presentation to allow for real-time responses to questions.
3. **Survey:** An origin to destination public opinion survey will be conducted. The purpose of the survey is to a) better understand the multimodal travel characteristics in and out of Waikiki and McCully-Moiliili neighborhoods; b) understand the common types of trips made; and, c) help identify and evaluate the potential impacts of a crossing over the Ala Wai Canal on pedestrians, bicyclists and vehicles. Travel behavior, demographics, and public opinion regarding the various alignment options will also be assessed in the survey. Methods and survey instrument will be determined in coordination with the City, but the survey will be designed to reach the full spectrum of people that travel to and from Waikiki including island residents, visitors, and resort employees.
4. **Social media:** Social media will be used to inform the public of meeting and other community engagement opportunities, announce project milestones, and for maintaining energy and focus on this important project.
5. **Emails:** Up to six (6) email blasts will be written and distributed over the course of the project. A community and agency contacts list will be developed and maintained for this purpose.

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6. **Media Releases:** Up to four (4) draft media releases will be developed for DTS's use in informing the public of project events and/or milestones.
7. **Website:** A page will be developed on the Honolulu Complete Streets website to be a single stop for information about the project. The website is anticipated to include a project purpose statement, project timeline, meeting announcements and outcomes
8. **Pre-Assessment consultation:** To support environmental documentation, pre-assessment letters will be mailed to agencies and organizations that may have an interest in the environmental review process. Draft response letters will be developed for the City's use in development of an Environmental Assessment or Environmental Impact Statement under Chapter 343, Hawaii Revised Statutes.
9. **Project Flyers:** A graphically interesting one-page document that provides the most basic information about the Alternatives Analysis meant for distribution at Neighborhood Board Meetings, other stakeholder meetings, posting on the project website, and handouts at pop-ups.
10. **Project fact sheets:** Up to four informational fact sheets will be developed, it is anticipated that each fact sheet will highlight a different alternative considered in the Alternatives Analysis.
11. **Postcards:** Postcards will be provided as needed to notify community members of public meetings.
12. **Signage:** Meeting signage and directional signage will be developed as needed to help community members navigate the public meeting spaces and activities.
13. **Project Area Maps and Poster Boards:** Depicting existing conditions, potential future conditions, infographics, concept drawings or renderings, or other relevant data deemed necessary to communicate project purpose and need, or to consider alternative concepts and potential outcomes.

MEANS OF GATHERING AND DOCUMENTING STAKEHOLDER INPUT

The following table pairs the planning tasks of the Alternatives Analysis tasks with public engagement levels and tools.

Table 1 Planning Tasks, Level of Involvement, and Tools

Alternatives Analysis Task	Level of Involvement	Tools
Background Research (information collection)	<i>Consult</i> with stakeholders with specific expertise	<ul style="list-style-type: none"> • Website • Project Flyer • Social media • Origin to Destination Public Survey • Public Meeting #1
Origin to Destination Public Survey	<i>Involve</i> the public to best understand how the existing transportation facilities are used <i>Inform</i> the public of the outcome	<ul style="list-style-type: none"> • Survey • Public Meeting #2 • Website
Precedent Study	<i>Inform</i> the public of the study	<ul style="list-style-type: none"> • Public Meeting #2 • Final Report
Identification of General Travel Corridor and/or General Mode(s); Screening of Alternatives; and Elimination of Unreasonable Alternatives	<i>Inform</i> the public of the outcomes	<ul style="list-style-type: none"> • Website • Public Meeting #2 • Final Report
Environmental Setting Description & Preliminary Identification of Environmental Impacts	<i>Consult</i> with agencies and organizations to support the environmental documentation process consistent with Chapter 343, HRS	<ul style="list-style-type: none"> • Mailed Letter
Evacuation Modeling	<i>Consult</i> with the City and County of Honolulu, Emergency Management <i>Inform</i> the public of the outcome	<ul style="list-style-type: none"> • Public Meeting #2 • Final Report
Develop Project Timeline & Identify Permit Requirements	<i>Consult</i> with agencies and organizations to support the environmental documentation process consistent with Chapter 343, HRS	<ul style="list-style-type: none"> • Mailed Letter
Alternatives Analysis Report	<i>Inform</i> the public of findings	<ul style="list-style-type: none"> • Website • Final Report

ENGAGEMENT PROGRAM TASKS AND WORK PLAN

This section outlines the engagement activities associated with project tasks. The schedule, description, activities, team roles, and deliverables associated with each of these components is outlined below.

1. Community Engagement Strategy
 - **Schedule/Duration:** August 2018
 - **Objective:** Document the planned engagement process
 - **Activities:**
 - a. Submit draft strategy to team and DTS
 - b. Review and Comment by DTS
 - c. Incorporate revisions and finalize
 - **Team Roles:** PBR HAWAII will lead preparation of this deliverable, with review and input by Nelson\Nygaard and DTS.
 - **Deliverables:** Draft and final community engagement strategy.
2. Pre-Assessment Consultation
 - **Number:** One round of correspondence
 - **Schedule/Duration:** August-December, 2018
 - **Objective:** Initiate the Chapter 343, HRS process and gain a preliminary understanding of environmental issues of importance to agencies and organizations.
 - **Activities:**
 - a. Draft pre-assessment letters
 - b. Develop pre-assessment mailing list
 - c. Review and comment by DTS
 - d. Mail pre-assessment letters
 - e. Compile responses for environmental documentation
 - f. Prepare draft responses for DTS use in a later phase of the project development
 - **Team Roles:** PBR HAWAII will lead preparation of this deliverable, with review and input by Nelson\Nygaard and DTS.
3. Briefings to Selected Stakeholder Organizations
 - **Number:** two (2)
 - **Schedule/Duration:** August-October, 2018
 - **Objective:** Ensure key stakeholder groups are informed of the project and provided opportunity for input.
 - **Activities:**
 - a. Organize briefing
 - b. Attend briefing
 - c. Provide briefing notes
 - **Team Roles:** PBR HAWAII will play a logistical support role to DTS.
4. Planning Commission and City Council Meetings
 - **Number:** Up to three (3)
 - **Schedule/Duration:** August-duration of project
 - **Objective:** Ensure key stakeholder groups are informed of the project and provided opportunity for input.
 - **Activities:**

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- a. Organize briefing
 - b. Attend briefing
 - c. Provide briefing notes
- **Team Roles:** PBR HAWAII will play a logistical support role to DTS.
- 5. Presentations to Community Groups and Organizations
 - **Number:** Up to four (4)
 - **Schedule/Duration:** September-November
 - **Objective:** Ensure community groups are informed of the project and provided opportunity for input.
 - **Activities:**
 - a. Arrange meeting
 - b. Prepare presentation materials
 - c. Provide briefing notes
 - **Team Roles:** PBR HAWAII will play a logistical support role to DTS.
- 6. Presentations to Oahu Metropolitan Planning Organization (OahuMPO)
 - **Number:** Up to six (6)
 - **Schedule/Duration:** September-duration of AA
 - **Objective:** Ensure OahuMPO Citizen Advisory Committee, Technical Advisory Committee, and Policy Board are informed of the project's progress and have the opportunity to contribute their collective technical knowledge and experience.
 - **Activities:**
 - a. Prepare presentation materials
 - b. Provide briefing notes
 - **Team Roles:** PBR HAWAII will play a logistical support role to DTS.
- 7. Elected Official Briefings
 - **Number:** Up to two (2)
 - **Schedule/Duration:** August-duration of AA
 - **Objective:** Update elected officials of project status so that they can effectively communicate to their constituents about the project purpose and need, planning process, and status.
 - **Activities:**
 - a. Prepare presentation materials
 - b. Provide briefing notes
 - **Team Roles:** PBR HAWAII will play a logistical support role to DTS.
- 8. Community Pop-ups:
 - **Number:** Up to four (4), one of which will be DTS's responsibility without consultant support
 - **Schedule/Duration:** September-duration of AA
 - **Objective:** Provide an alternative means for one-on-one delivery of information about the AA to people who may not know of the project or may not be inclined to attend a public meeting.
 - **Activities:**
 - a. Arrange pop-up
 - b. Prepare presentation materials
 - c. Provide briefing notes

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- **Team Roles:** PBR HAWAII will lead.
9. Design Competition
- **Number:** one (1)
 - **Schedule/Duration:** September-January
 - **Objective:** Engage University of Hawaii at Manoa design community in the planning process.
 - **Activities:**
 - a. Organize and execute design competition
 - **Team Roles:** PBR HAWAII will play a lead role with input from Nelson\Nygaard and guidance from DTS.
10. Project Website
- **Number:** one (1)
 - **Schedule/Duration:** duration of project
 - **Objective:** Provide an easy to access venue for all people to learn about the project's purpose, the Alternatives Analysis process, meetings and events.
 - **Activities:**
 - a. Populate website with team-developed content
 - **Team Roles:** PBR HAWAII will play a lead role with material inputs from Nelson\Nygaard under the oversight of DTS.

2 THE RESULTS

IN THE NEIGHBORHOOD

KEY FINDINGS

- 304 people participated in three (3) public meetings
- Over half of respondents (152 of 203) preferred a new ped/bike bridge over ‘Improving existing bridges’, ‘No build’, or ‘Other alternatives’.
- Individuals who expressed opposition to a new crossing often cited important on-going community issues and the concern that the crossing may exacerbate matters relating to:
 - Parking demand, particularly on the mauka side of the canal in the blocks around Iolani School
 - Homeless individuals in Ala Wai Park
 - Crime
- Ahupuaa/kahawai ekolu (three streams), followed by paddling, and taro fields are elements that should represent cultural context in bridge design.
- While participants in the public kick-off meeting expressed a preference for a “low profile” bridge, at the report-back meeting, they responded most favorably to images of the bifurcated concrete arch over the more visually dynamic concrete cable-stayed, but also over the steel lenticular which was the lowest-profile type shown (and was the least favored image of the three).

COMMUNITY KICK-OFF MEETINGS

Two community “kick-off” meetings were held on Saturday September 22, and Monday September 24, 2018 to launch the project publicly and solicit community feedback. A weekend daytime and “workweek” evening were chosen to ensure that a people with a diversity of schedules and life-commitments could attend and participate. Over 200 people attended the combined meetings (113 on Saturday and 112 on Monday night).

Both meetings were the same format and provided the same information. The meeting included an hour long presentation followed by an hour long open house. Attendees included members of the public, elected officials, and agency/ non-profit representatives (sign in sheets attached). The presentation was delivered by DTS staff and Nelson\Nygaard, the project’s transportation consultant. The presentations covered general information about the Ala Pono project, purpose and goals, background, existing conditions, funding, and data gathered to date.

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Meeting participants then were asked to engage with the presentation through the use of live cell phone polling. Those who could not or did not wish to participate in electronic polling were provided a hard copy of the polling questions to complete and turn them in at the September 24th meeting. Participants were asked where they lived, what modes of transportation they primarily use, how often they cross the Ala Wai Canal and if they favored a new crossing, or other alternative. Both meetings were broadcast on Facebook Live and remote viewers had the opportunity to visit the polling platform website in order to participate in the live poll.



Photo 1 Community kick-off meeting presentation

Upon close of the presentation, attendees were invited to visit the project intro station and any of the five activity stations that were set up around the room, each of which provided attendees with the opportunity to share ideas and opinions about the project goals, scope, and characteristics of potential crossings of the Ala Wai canal. Stations included the following activities:

- Project background
- Bridge experience preferences (i.e. enclosed vs. open)
- Bridge features preferences (i.e. seating, lookouts, etc.)
- Bridge width exercise
- “What’s your big idea?” (a place for expressing preference for alternatives other than a bridge)
- “I’d love a crossing that” (free-writing activity)

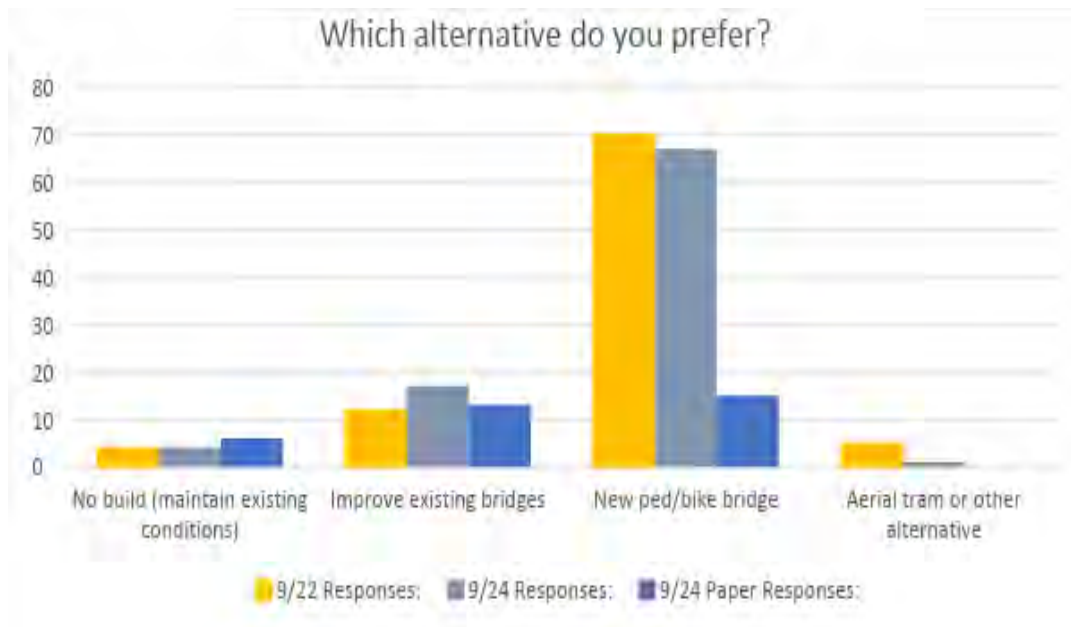
A complete recap of the meetings, polling questions, and activity results can be found in Appendix A.

One notable polling finding was that although 128 of the 203 total respondents live in Waikiki, McCully, or Moiliili (the surrounding neighborhoods), and almost half of the participants drive cars as their primary mode of transportation, 152 of the 214 respondents expressed preference for a new ped/bike bridge rather than other transportation options such as improvements to existing bridges or no action.

- Over half of respondents (152) preferred a new ped/bike bridge over ‘Improving existing bridges’, ‘No build’, or ‘Other alternatives’.

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Figure 5 Community Kickoff Response to Alternatives Question



Although the majority of attendees were supportive of a new crossing, individuals who expressed opposition often cited important on-going community issues with the concern that the crossing may exacerbate matters relating to:

- Parking demand, particularly on the mauka side of the canal in the blocks around Iolani School
- Homeless individuals in Ala Wai Park
- Crime

Notable findings from the meeting’s activities relating to the design of a new bridge included:

- Wider bridge widths (18-22 feet) were preferred over narrower
- Bridge “Experience” preferences:
 - Expression - ‘**Low Profile**’ rather than ‘Intense’
 - Purpose - ‘**Utility**’ rather than ‘Public Space’
 - Sense of Enclosure - ‘**Openness**’ rather than ‘Enclosed’
 - Alignment - ‘**Straight**’ rather than ‘Curved’
 - Material Type - voted broadly **across the spectrum** of wood to the central material types
 - Character - **contemporary** bridge characters rather than traditional
- Safety features such as lighting, railings, delineation of space for different modes, and access management were deemed high priorities by the attendees

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Photo 2 Bridge Width Exercise



Photo 3 Open-Ended Questions

COMMUNITY REPORT-BACK AND NEXT STEPS MEETING

As the alternatives analysis neared completion, a community report back and next steps meeting was held. The primary information to report back to the community was the results of a detailed screening of the alternatives, and the announcement of the preferred choice: a new crossing aligned with University Avenue. Public feedback relating to bridge type, alternatives for addressing parking concerns, and cultural context were then solicited from the public. The meeting was held on the makai side of the canal, in Waikiki on March 28, 2019, and about 80 people attended in person (the meeting was also broadcast on Facebook Live). A complete recap of this meeting can also be found in Appendix B.

Key findings relating to the bridge itself include:

- About half of the respondents to the open comment board expressed positivity and ideas for other potential services to the community and nearby potential users. The other half reiterated prior concerns regarding the project's potential impact on the neighborhood

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such as crime, transportation, or other existing community issues, or questioning the methodology or judgments made in either the study/analysis or the public outreach processes.

- Participants voiced a clear preference for the concrete arch (bifurcated) bridge type, This was closely followed by the concrete cable-stayed bridge type. Preference for the steel lenticular bridge type was far behind the top two bridge types.
- Need to ensure connections to Biki and other public transit systems.
- The strongest preference for cultural context in urban design was for the theme, kahawai ekolu and its three streams element, followed by recreational/competitive paddling within the theme of mea lealea, and taro fields within the theme of ahupuaa momona.
- Commenters expressed a strong preference for involvement of Hawaiian architects and engineers in the design process.
- The quantitative data gathered from the 'Future Project Phases and Upcoming Work' activity station indicates a preference for Urban Design and Landscape Maintenance, followed by Further Project Design Visualization, Renderings and Physical Model, and a Parking Study and Demand Management Plan.
- Other suggestions for future studies and work included connections, wayfinding, and entry/exit transitions to the future bridge for pedestrians and bikes; crime and homelessness.

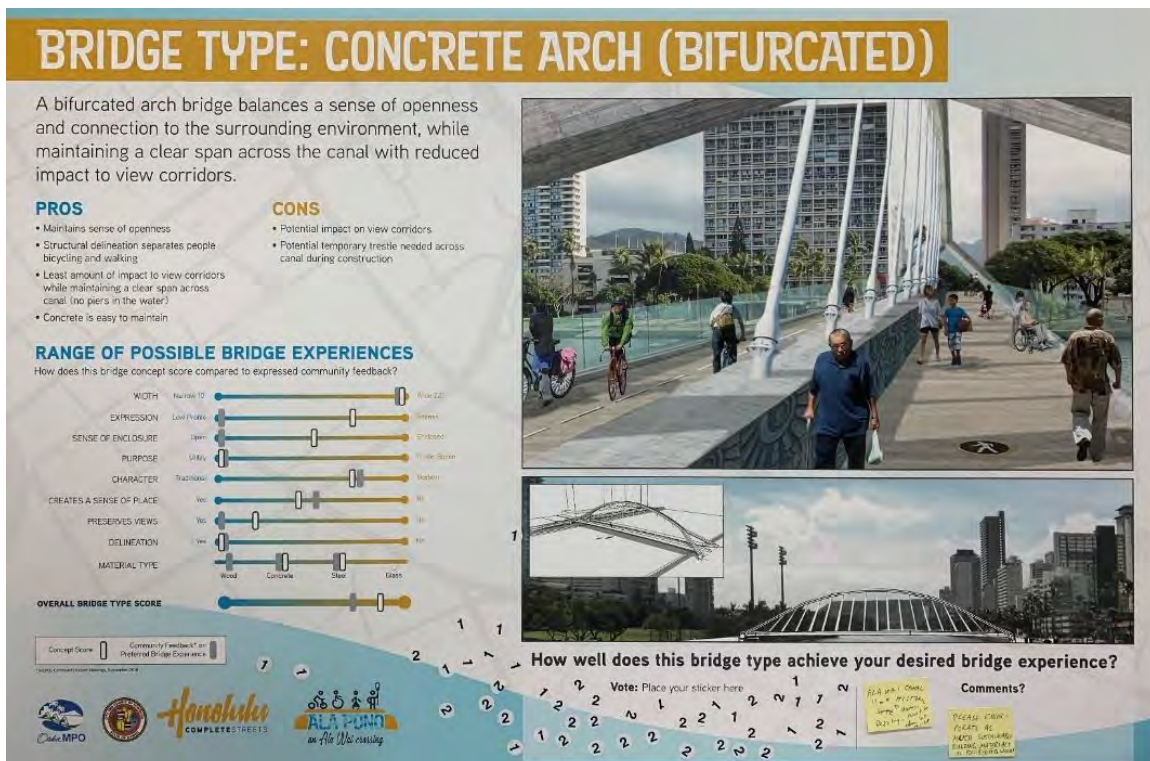


Photo 4 Community Report-Back Meeting Bridge Type Preference

NEIGHBORHOOD NOTIFICATIONS

Announcements of the public meetings were broadcast widely and by multiple means including Press Releases, flyers, social media and neighborhood board presentations.

To ensure that members of the public who may not monitor the media or Neighborhood Boards were made aware of the project, a flyer campaign was undertaken to post notice of the initial public meetings. Flyers were posted at the following venues:

Table 2 Flyer Distribution List

Kick-off Meeting Flyer Distribution
University Between King and Hihiwai
Ala Wai Elementary School
Iolani School
Waikiki-Kapahulu
Running Room
Go Bananas
island Paddler
Locations Property Management-614 Kapahulu Ave,
Island Triathlon and Bike
Waikiki-Ala Wai
Waikiki-Kapahulu Library
Waikiki Community Center
Waikiki-Kalakaua
The Plaza Assisted Living
Lower McCully
McCully Shopping Center
<i>Snow Factory</i>
<i>VIP Nails</i>
<i>Ride Shop</i>
<i>Fantastic Sams</i>
Ala Wai Community Park
Upper University (With UHM Pop up info)
UH DURP Saunders Hall
UH Library Bulletin Board
Campus Center (Ka Leo)
Campus Library
East West Center
Richardson Law School

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Kick-off Meeting Flyer Distribution
University Between H-I and King
Japanese Cultural Center
Peace Café (King and Makahiki)
McCully Moiliili Library
Moiliili Community Center
McCully Bikes (King St.)
Kokua Market (King St.)
Glazers Coffee (King St. across from Kokua Mkt)
Da Spot Health Foods & Juices (King St. and Hausten)
Upper McCully - LOWER PRIORITY THAN OTHER NEIGHBORHOODS
UH Federal Credit Union
Waiola Shave Ice
Pint and Jigger
McCully District Park

Neighborhood Board notifications were made personally at Board meetings by representatives of the City and/or consultant team as enumerated in the following table:

Table 3 Neighborhood Board Announcements

Date	Location	Comments
Thursday, March 7, 2019	Manoa NB (7) Noleani Elementary School 2655 Woodlawn Drive	No comments or questions regarding the Ala Pono project. Several comments and questions came up throughout the meeting regarding the USACE project at the Ala Wai Canal and its impacts to Manoa. Questions for Mayor's rep mainly focused on the recent PIT study findings and implications for Mayor's homeless policies.
Tuesday, March 12, 2019	McCully/Moiliili NB (8) Washington Middle School 1633 South King Street	Board Member Comment – Parking is a major concern. Expectation that the City should be investigating a parking lot for the mauka side of the bridge to accommodate all the people who will park in the neighborhood to walk in to Waikiki. Community Comment (Kamehameha Canoe Club member) – Parking for the canoe clubs is already highly limited and often no place to park (lot near McCully Bridge). Request that the City please consider coming down and talking with the Club about these concerns.

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Date	Location	Comments
		Community Comment/Question – If the Golf Course alignment is chosen, is the City considering a bike path to Kapalulu?
Thursday, March 14, 2019	Waikiki NB (9) Waikiki Community Center 310 Paoakalani Avenue	Chair Robert Finley stated at the beginning of the NB meeting the date and time for the Ala Pono meeting. Mark Yonamine brought up the Ala Pono meeting information very quickly as well. No comments or questions regarding the Ala Pono project. There was attention and discussion regarding the USACE Ala Wai Project, since the Waikiki NB has not passed a resolution regarding this topic.
Thursday March 21, 2019	Diamond Head Kapahulu NB (5) Ala Wai Clubhouse 2nd Floor 404 Kapahulu Avenue	Consultant presented the meeting information and passed out flyers as the Mayor's rep was not in attendance at the meeting. Chair thanked for letting them know about the meeting. No comments or questions regarding the Ala Pono project. There was attention and discussion regarding the USACE Ala Wai Project, and Barry Usagawa from BOW presented on the watershed and SLR.
Wednesday, March 27, 2019	Makiki/Punchbowl/Tantalus NB (10) Makiki District Park 1527 Keeaumoku Street	Consultant team presented the meeting information and passed out flyers. There was lot of attention and discussion regarding the USACE Ala Wai Project, since the Waikiki NB has not passed a resolution regarding this topic.
Thursday, March 7, 2019	Ala Moana/Kakaako NB (11) Makiki Christian Church 829 Pensacola Street	The Mayor's representative presented the meeting information after answering a number of questions that were raised by the NB members at the previous meeting. Consultant passed out flyers during the announcement. There were no questions from either the community or the board regarding the Ala Pono meeting announcement. Most of the questions asked pertained to the homeless population and neighborhood/public safety.

AT SCHOOL

KEY FINDINGS

- Alternatives analysis, using Ala Pono as a case study was the primary focus for the Fall, 2019 Site Planning class at UH Manoa Department of Urban and Regional Planning
- Third graders at Jefferson Elementary focused their STEM projects on the Ala Pono crossing
- DTS staff met with State of Hawaii Department of Education planners and the Ala Wai Elementary school principal to discuss potential impacts to the school grounds and operations, hear concerns as well as learn of the school's recent experiences with construction activities in the area.

UNIVERSITY STUDENTS

The Fall, 2018 “Site Planning” Class at University of Hawaii at Manoa, Department of Urban and Regional Planning used the Ala Pono project as a case study for their work. Under the direction of Dacheng Dong, a professional planner, the students divided into teams to evaluate the Ala Pono alternative crossing locations and used data collection and site observations to develop a preferred location for the crossing. The students also attended and participated in the September 22 and 24th community kick-off meetings to gain exposure to community engagement processes.

The students evaluated the alternative crossing locations utilizing site opportunities and constraints, in addition to GIS assessment of existing and proposed conditions. Some factors they took into consideration include population densities, walksheds, existing crossing locations, accident data, emergency evacuation alternatives, and existing multi-modal facilities.

The collaboration with the “Site Planning” Class was a great opportunity to encourage education through real life projects and to gain additional perspectives what data could be used to analyze alternative crossing locations.

ELEMENTARY STUDENTS

Jefferson Elementary School, located along the Ala Wai Canal, discovered the Ala Pono project online and used the available material to help inform their spring semester STEM project focused on invisible forces and different types of bridges. As a result, the Jefferson Elementary School teachers invited the Ala Pono project team on a walking field trip (site visit image below) with the three third grade classes of about twenty-four students each. The field trip provided an introduction between the project team and the student STEM project efforts and how the third graders could become involved in and contribute to the project.

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Photo 5 Jefferson Elementary Site Visit

The Ala Pono project team was invited back to present on the project, planning and building a pedestrian bridge, and participate in a cause and effect activity; and then to participate in the Jefferson Elementary School STEM Day where each of the grades presented what they learned. The third-grade classes completed several mini projects around bridge design and connectivity, in addition to types of bridges and forces that act upon them (image from invisible forces activity below).



Photo 6 Jefferson Elementary Bridge Design STEM Day

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The third-grade students also participated in the March 28th public open house where they shared drawings, activities, and lessons learned from their STEM project with meeting attendees (drawings and photo from public meeting below).

The collaboration with Jefferson Elementary School was a great opportunity to enhance collaboration with area residents, encourage education on civic processes, and gather creative ideas for bridge design from and for future generations.



Photo 7 Student Bridge Concepts



Photo 8 Student Presentation Boards at Public Meeting

ON THE STREETS

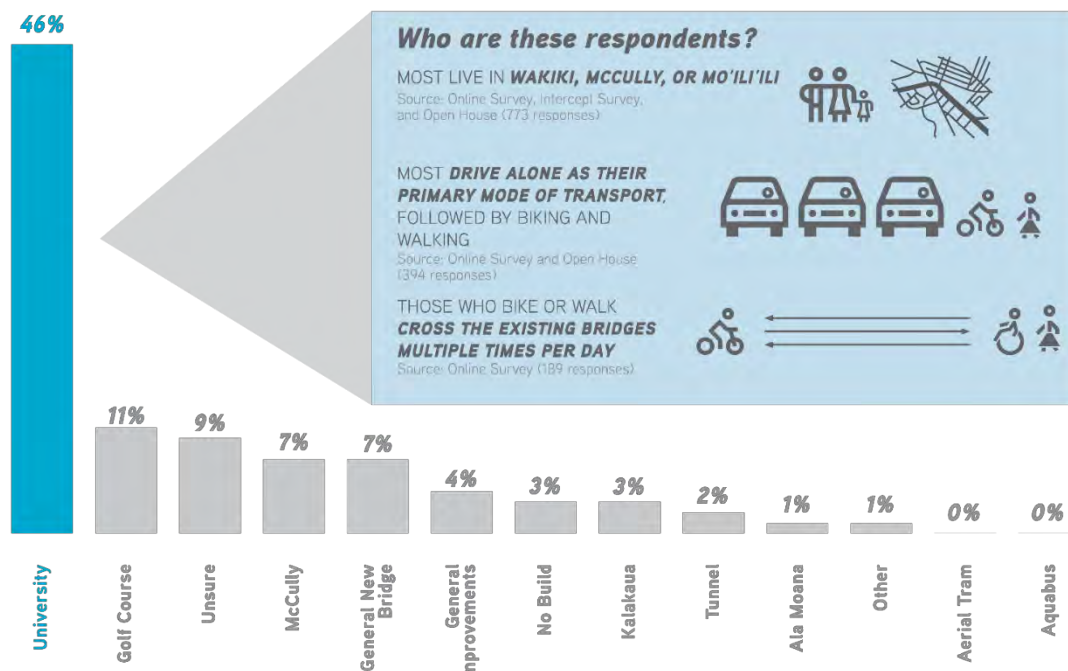
KEY FINDINGS

- The origins and destinations of those surveyed showed significant travel across the Ala Wai Canal between Waikiki and McCully-Moiliili, particularly Central Waikiki.
- A number of survey respondents reported work commutes between Central Waikiki and the neighborhoods on the mauka side of the canal, as well as between Waikiki, Moiliili, and Downtown-Chinatown.
- The majority of respondents, regardless of home neighborhood, preferred a new bicycle and pedestrian crossing across the Ala Wai at University Avenue.

INTERCEPT SURVEY

The intercept survey was distributed in person over one weekday and one weekend in September 2018. People walking and bicycling at various locations near the Ala Wai Canal were asked a series of short questions about their current trip, crossing alternative preference, home and work/school location, and select demographics. A total of 890 surveys were collected with this method.

Figure 6 Survey Response Results



ON-LINE

KEY FINDINGS

- Engagement was augmented with 450 views of public meetings that were broadcast live on social media platform
- The top travel modes for survey respondents were driving alone, bicycling, and walking. People walking and bicycling represent the highest proportion of travelers who cross the canal several times a day. (*Source: Online survey*)
- The origins and destinations of those surveyed showed significant travel across the Ala Wai Canal between Waikiki and McCully-Moiliili, particularly Central Waikiki.
- A number of survey respondents reported work commutes between Central Waikiki and the neighborhoods on the mauka side of the canal, as well as between Waikiki, Moiliili, and Downtown-Chinatown.
- Travel time, safety, and convenience were the top priorities for respondents when making decisions about their travel.
- Unsafe traffic, lack of connections, and poor infrastructure were the major deterrents for people choosing to walk or bike for travel or leisure more often.
- Many respondents strongly agreed that the existing bridges have a lot of traffic congestion. Those who bike, walk, or scooter primarily strongly agreed that the existing bridges are unsafe, uncomfortable, and out of the way.
- The majority of respondents, regardless of survey type and home neighborhood, preferred a new bicycle and pedestrian crossing across the Ala Wai at University Avenue.
- Opponents of a new crossing across the canal expressed concerns of increased traffic congestion, parking demand, and the privacy and safety associated with the homeless population accessing neighborhoods on the mauka side of the canal.

COMPLETE STREETS WEBSITE

The Ala Pono website follows the layout, format, and style of the City and County of Honolulu's Complete Streets project area websites, but introduces new imagery of the Ala Wai Canal as well as graphics and a color scheme designed for the Ala Pono project. The website content explains the background, purpose, timeline, and scope of the project (including a diagram of the physical area of focus) and also serves as a platform for public notices of upcoming meetings, events, and opportunities for other forms of public participation in the community input and feedback processes. It also serves as an archive and public record board for meeting notes, photos, summaries, and feedback data received by the team at each of the public meetings. These documents are conveniently viewable and downloadable to all visitors of the project page.

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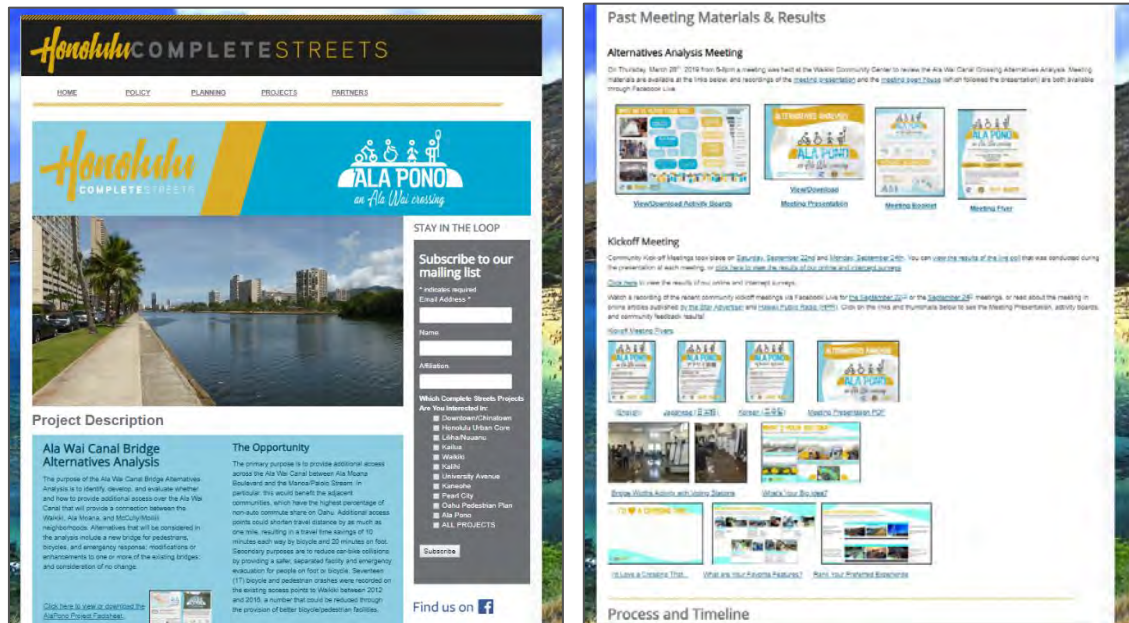


Photo 9 Ala Pono Website

Meeting flyers in Japanese and Korean were also developed and posted on the project website.

Figure 7 Meeting Flyers in Japanese and Korean



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WEB SURVEY

The online survey was open between September and October 2018. The survey link was distributed via social media and on the Complete Streets website. Respondents were asked questions about travel patterns, travel preferences, crossing alternative preference, and demographics. A total of 191 surveys were collected with this method.

Social Media

Notice and reminders of the public meetings were published on the Honolulu Complete Streets Facebook and Instagram pages. These notices were picked up by community members/groups both in support and opposed to a new crossing and spread to their respective constituencies.

The public meetings were also broadcast via Facebook Live, and live polling was available to those viewing on-line (see Table 4). More detailed tables documenting views, clicks, and reposts can be found in Appendix A.



Photo 10 Hawaii Bicycle League Facebook Post

Table 4 Public Meeting On-line Participation

Meeting Broadcast	Facebook Live Viewers
September 22 nd Kickoff	132 views
September 24 th Kickoff	135 views
March 28th Report Back	206 views



WITH THE AGENCIES (PRE-CONSULTATION)

KEY FINDINGS

- 220 agencies, organizations, and elected officials mailed pre-consultation request for comments.
- Agency pre-consultation responses lead to follow up meeting to better understand potential impacts to Ala Wai Elementary School.

AGENCY PRE-CONSULTATION

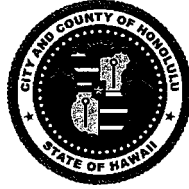
Chapter 343, HRS consultation was used to gather initial agency feedback to the Alternatives Analysis. Pre-consultation letters were sent to 220 agencies and elected officials, and 26 written responses were received. From those initial responses, the team was able to conduct follow up meetings or collect additional information that informed the alternatives analysis process. One particularly important follow up meeting was State of Hawaii Department of Education planners and the Ala Wai Elementary school principal to discuss potential impacts to the school grounds and operations, hear concerns as well as learn of the school's recent experiences with construction activities in the area.

Appendix J – NHPA Section 106 Consulting Party Correspondence

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

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

KIRK CALDWELL
MAYOR



WES FRYSZTACKI
DIRECTOR

JON Y. NOUCHI
DEPUTY DIRECTOR

March 16, 2020

TP3/20-806281

SHPD LOG No.
N/A
Architecture, Archaeology

SENT VIA EMAIL

Alan S. Downer, Ph.D.
Deputy State Historic Preservation Officer
Administrator, State Historic Preservation Division
alan.s.downer@hawaii.gov

Susan A. Lebo, Ph.D.
Chief, Archaeology Branch
susan.a.lebo@hawaii.gov

Julia Flauaus
Architectural Historian
julia.flauaus@hawaii.gov

Dear Dr. Downer, Dr. Lebo, and Ms. Flauaus:

SUBJECT: National Historic Preservation Act, Section 106 Consultation and Review for the Ala Wai Bridge Project – Contract No. SC-DTS-1900086 for the Ala Wai Bridge Federal-Aid Project No. TAP-0300 (159) Waikīkī Ahupua‘a, Kona Moku, Island of O‘ahu
TMK Table Attached

On behalf of the Federal Highway Administration – Hawaii Division (FHWA), the City and County of Honolulu (City) would like to initiate consultation with the State Historic Preservation Office (SHPO) under the National Historic Preservation Act, Section 106, 36 C.F.R. 800 et seq for the Ala Wai Bridge Project (Contract No. SC-DTS-1900086 for the Ala Wai Bridge Federal-Aid Project No. TAP-0300 (159) located in the Waikīkī Ahupua‘a, Kona Moku, Island of O‘ahu, in the Tax Map Key table attached to this correspondence (See Attachment “A”). Concurrently the City is consulting with

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Julia Flauaus, Architectural Historian
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the State Historic Preservation Division (SHPD) under 6E-8, Hawaii Revised Statutes (HRS) for the project as well.

Effective March 1, 2016, FHWA has issued a Programmatic Delegation of Authority entitling the Hawaii Department of Transportation and local public agencies to conduct NHPA Section 106 consultations with the State Historic Preservation Officer, Native Hawaiian organizations, and other consulting parties. The FHWA will remain responsible for all findings and determinations charged to the agency during the Section 106 process.

Proposed Action

The City proposes to utilize funds from Federal-Aid Project No. TAP-0300(159), administered by the U.S. Federal Highway Administration (FHWA), for the project to complete the engineering and environmental documentation and permitting for the Ala Pono an Ala Wai Bridge crossing. The proposed bridge will span the historic Ala Wai Canal, which was added to the Hawaii Register of Historic Places in 1992. The project will connect Waikīkī, McCully and Mō'ili'ili neighborhoods, businesses, parks, schools and recreational activities.

The purpose of the project is to improve access for people travelling by foot or by bicycle across the Ala Wai Canal between Ala Moana Boulevard and the Manoa/Palolo Stream. The project's primary purpose is to improve multimodal network connectivity and enhance public safety for people walking and bicycling. The secondary purposes are to assure comfortable, sustainable mobility options that enhance economic vitality, environmental health, and social equity. The proposed bridge is in support of numerous regional and area plans that have been developed in the last two decades, particularly fulfilling part of the broader Honolulu Complete Streets Program, which implements projects to improve safety, accessibility, and comfort for all people walking, bicycling, accessing transit, and driving.

The federal share of project funding is 80 percent, and the City and County of Honolulu is providing a required 20 percent match. The project is currently programmed in the Oahu Metropolitan Planning Organization (OahuMPO) Transportation Improvement Program for federal fiscal years 2020, 2021, and 2022.

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Initiation of Section 106 Process

36 C.F.R. 800.3 outlines the initiation of the section 106 process. We have determined per Section 800.3(a) that the project is an undertaking as defined under Section 800.16(y), because the project is funded in whole or in part under the direct or indirect jurisdiction of FHWA and carried out with Federal financial assistance. The project is also in need of Federal approval.

Upon determining that the project is indeed an undertaking, we further determined per Section 800.3(a) that due to the nature of the activities, the project involves a type of activity that has the potential to cause effects on historic properties.

Per 800.3(b) we are coordinating our Section 106 review with the overall planning schedule and other reviews required for the project.

This correspondence shall constitute our effort to consult with the SHPO under 800.3(c)(3) to conduct with the SHPO regarding a manner appropriate, the agency planning process for the undertaking and to the nature of the undertaking and its effects on historic properties.

In an effort to respect your time and energy, we have taken the liberty to proceed with some of the procedures required in the Section 106 process.

Proposed Area of Potential Effect

A map with the proposed project area of potential effect (APE) is attached to this correspondence (See Attachment "B"). This proposed APE is consistent with the discussion had during our meeting regarding the above-referenced project held at the City offices on Friday, January 24, 2020. We are enclosing the proposed project APE for your review and comment. The proposed APE boundaries include the bridge project site, as well as temporary staging, contractor access, and parking areas, the portion of the historic Ala Wai Canal that is within the view plane of the proposed bridge (a small portion which will be temporarily closed during construction), adjacent buildings (such as Ala Wai Elementary School), as well as individual properties on both side of the canal that are anticipated to have a prominent view of the new bridge. In addition, we have included within the APE the public right-of-ways at University Avenue and Kalaimoku Street since they will have prominent views of the bridge infrastructure as well.

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Public Involvement and Identification of Consulting Parties

The public will have opportunity to review the proposed action in coordination with the NEPA review. Additionally, a public notice will be placed in the Honolulu Star-Advertiser, a daily statewide newspaper.

We have also identified the following consulting parties and are sending them Section 106 consultation letters regarding this proposed action.

Agencies

State Historic Preservation Officer
Alan Downer, Ph.D., Deputy State Historic Preservation Officer
601 Kamokila Blvd #555
Kapolei, HI 96706

Advisory Council on Historic Preservation
Jamie Loichinger, Assistant Director
401 F Street NW, Suite 308
Washington, DC 20001
(202) 517-0200

Hawaii Tourism Authority
Kalani L. Ka'anā'anā, Director of Hawaiian Cultural Affairs
18081 Kalakaua Avenue, 1st Floor
Honolulu, HI 96815
(808) 973-2255

Native Hawaiian Organizations

Office of Hawaiian Affairs
Sylvia Hussey, Ed.D, CEO
560 N. Nimitz Hwy., Suite 200
Honolulu, HI 96817
(808) 594-1835

Alan S. Downer, Ph.D.
Susan A. Leo, Ph.D., Chief
Julia Flauaus, Architectural Historian
March 16, 2020
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Association of Hawaiian Civic Clubs
Hailama Farden, President
P.O. Box 1135
Honolulu, HI 96807

O'ahu Council – Association of Hawaiian Civic Clubs
Benton Keali'i Pang, President
P.O. Box 37874
Honolulu, HI 96837-1122

Waikīkī Hawaiian Civic Club
Pi'ikea Tomczyk, President
2847 Waialae Avenue, Unit 509
Honolulu, HI 96826
Hawaiian Civic Club of Honolulu
Anita Naone, President
P.O. Box 1513
Honolulu, HI 96806

Royal Hawaiian Center – Helumoa Hale Guest Services & Heritage Room
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(808) 922-2299

Kamehameha Schools
Livingston "Jack" Wong, CEO
567 South King Street
Honolulu, HI 96813
(808) 523-6200

Paddling Groups

Waikiki Beach Boys Canoe Club
Ala Wai Park, 2015 Kapiolani Blvd.
Honolulu, HI 96826
wbbcanoecub@gmail.com

Waikīkī Surf Club
Margaret Gora

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Julia Flauaus, Architectural Historian
March 16, 2020
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791 Sunset Avenue
Honolulu, HI 96816
info@waikikisurfclub.org

Hui Lanakila
Ala Wai Community Park
2015 Kapiolani Blvd.
Honolulu, HI 96826
huilanakilacanoecub@gmail.com

Kamehameha Canoe Club
2015 Kapiolani Blvd.
Honolulu, HI 96826

Lokahi Canoe Club
2500 Kalakaua Ave. #2104
Honolulu, HI 96815

Outrigger Canoe Club
Tyler Roukema
2909 Kalakaua Avenue
Honolulu, HI 96815

Additional Consulting Parties

Historic Hawaii Foundation
Kiersten Faulkner, Executive Director
The Dole Cannery
680 Iwilei Road, Dole Office Building Tower, Suite 690
Honolulu, HI 96817
(808) 523-2900

Ala Wai Watershed Association (Historic Property: Ala Wai Canal)
Helen Rauer, President
2146 St. Louis Drive
Honolulu, HI 96816
(808) 955-7882

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March 16, 2020
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Kapiolani Park Preservation Society (Historic Property: Kapi'olani Park)
Alethea Rebman, President
P.O. Box 3059
Honolulu, HI 96802-2902
(808) 545-7035

Waikiki Neighborhood Board
Robert J. Finley, Chair
925 Dillingham Blvd., Suite 160
Honolulu, HI 96817

'Iolani School (Historic Property: St. Alban's Chapel)
Timothy R. Cottrell, Ph.D, Head of School
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(808) 923-1094

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Hawai'i Visitors and Conventions Bureau
Noelani Schilling-Wheeler, Executive Director of O'ahu Visitors Bureau
2270 Kalakaua Avenue, Suite 801
Honolulu, HI 96815
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Identification of Historic Properties

The City has contracted with HDR Inc., who has subcontracted with Mason Architects Inc. to conduct a review of the historic architectural resources within the APE, and Honua Consulting has been subcontracted to conduct an archaeological literature and field investigation and a cultural impact assessment.

Honua Consulting will conduct a draft literature review (inclusive of extensive background research), a field investigation, and cultural impact assessment of the APE in compliance with Section 800.4, identification of historic properties. Mason Architects will conduct an architectural inventory survey of all of the architectural resources found within the APE to identify historic resources. An evaluation of effect of the proposed bridge on those properties will be made. Both Honua Consulting and Mason Architects will support the Section 106 consultation process.

A review of existing information on historic properties within the proposed APE and the adjacent properties, including any data concerning possible historic properties not yet identified per Section 800.4(a)(2), will be conducted. This data includes a field investigation and cultural impact assessment, which will thoroughly review historic data and data from the Hawaiian language newspapers. Interviews will be conducted with representatives from local consulting parties likely to have knowledge of, or concerns

Alan S. Downer, Ph.D.
Susan A. Leo, Ph.D., Chief
Julia Flauaus, Architectural Historian
March 16, 2020
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with, historic properties in the area, for the purpose of identifying issues relating to the undertaking's potential effects on historic properties. These interviews will include gathering information from Native Hawaiian organizations (NHOs) to assist in identifying properties, which may be of religious and cultural significance. This identification process will include written consultation with NHOs and other consulting parties.

It is our assertion that these efforts taken in their entirety will meet the agency's obligation to make a reasonable and good faith effort to carry out appropriate identification efforts as specified under 800.4(b)(1).

We will send a second correspondence once we have completed our identification efforts. This correspondence will also include preliminary results, including our recommendations regarding mitigation, minimization, or monitoring. We will also make a preliminary proposed finding.

We will also use the results of our identification efforts to complete a SHPD HRS 6E Intake form and HRS 6E cover letter with a determination from the City for SHPD's review, acceptance, and concurrence.

We kindly request a response within 30 days of receipt of this correspondence. We are specifically seeking:

- Concurrence with our proposed APE;
- Concurrence with our planning process;
- Concurrence with our plan to involve the public;
- Concurrence with our list of identified consulting parties; and
- Concurrence with our level of effort in our identification of historic properties.

We currently plan to initiate our Section 106 consultation process with all consulting parties, including agencies and NHOs, through written correspondence. If any of the consulting parties request an in-person meeting and/or consultation, the requested meeting and/or consultation shall be held. We will notify the SHPO promptly of any such request.

We kindly request a response from your office within 30 days of receipt of this correspondence. We would gladly accept a response via email to Meredith Soniat of my staff at meredith.soniat@honolulu.gov if that would be more convenient for your office.

Alan S. Downer, Ph.D.
Susan A. Leo, Ph.D., Chief
Julia Flauaus, Architectural Historian
March 16, 2020
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Please do not hesitate to contact us with any questions.

DTS, Project Manager:

Meredith Soniat: Meredith.Soniat@honolulu.gov

QRSE, Project Planning Phase Lead:

Kai Nani Kraut: kai@qr-se.com

HDR, Environmental Team Lead:

Linda Fisher: Linda.Fisher@hdrinc.com

Mason, Architecture Consultant:

Polly Tice: pt@masonarch.com

Honua, Archaeology Consultant:

Trisha Kehaulani Watson: watson@honuaconsulting.com

Very truly yours,









Jon Y. Nouchi
Deputy Director



Attachment A: Tax Map Keys (TMKs) within Ala Wai Bridge Proposed
Area of Potential Effect (APE)
Attachment B: Map of Ala Wai Bridge Proposed Area of Potential Effect (APE)






cc: James McConnel, HDR,
James McConnell@hdrinc.com
Jessica Shimazu, HDR
Jessica.shimazu@hdrinc.com
State Historic Preservation Division
dlnr.intake.shpd@hawaii.gov

TMKS within Ala Wai Bridge Proposed APE		
Name/Address/TMK	Year Built	Photo
MAUKA BANK		
Ala Wai Canal No TMK	1921-1927	
McCully Street Bridge No TMK	1959	
Ala Wai Community Park 2015-2021 Kapiolani Blvd. [1] 2-7-036: 005 [1] 2-7-036: 001	1936	
Ala Wai Clubhouse at Ala Wai Community Park (Ala Wai Recreation Center) 2015 Kapiolani Blvd. [1] 2-7-036: 005	1936	
Ala Wai Community Park North Lua [1] 2-7-036: -001	Post 1968	
Ala Wai Community Park Ballfield Improvements [1] 2-7-036: 001	Post 1968	
Ala Wai Community Park Trail [1] 2-7-036: 001	Post 1968	
University Halau/ Waikiki Surf Club/ Malia Koa Canoe [1] 2-7-036: 001	1988	

TMKS within Ala Wai Bridge Proposed APE		
Name/Address/TMK	Year Built	Photo
Malia Koa Canoe/ University Halau [1] 2-7-036: 001	1933	
Ala Wai Community Park South Lua [1] 2-7-036: 001	Post 1968	
Ala Wai Plaza Condominium 500 University Ave. [1] 2-7-013: 002 Highrise condominium	1970	
University Avenue south of Kapiolani Blvd. Public right of way viewplane. No TMK	Ca. 1970	
Ala Wai Cove Condominium 509 University Ave. [1] 2-7-013: 011	1961	
Ala Wai Elementary School 503 Kamoku St. [1] 2-7-036: 007	1954	
Waikiki-Kapahulu Library 402 Kapahulu Ave. [1] 2-7-036: 006	1952	

TMKS within Ala Wai Bridge Proposed APE		
Name/Address/TMK	Year Built	Photo
MAKAI BANK Entries progress westward from Waikiki Library to Kuamoo St.		
Ala Wai Blvd. Public right of way Viewplane Only Facing northwest No TMK	1929	
Aston Coconut Plaza 450 Lewers [1] 2-6-017: 028 Highrise	1966/ Effective year built='96	
2169 Ala Wai Blvd. Lambert Lau Tr. [1] 2-6-017: 034 Single family	2017?	
2167 Ala Wai Blvd. Lambert Lau Tr. [1] 2-6-017: 033 Bldg 1 = 2-family Bldg 2 = Single family	1934/ Effective year built='84 1934	
2163 Ala Wai Blvd. Lambert Lau Tr. [1] 2-6-017: 025 Single family	1988?	
2153 Ala Wai Blvd. Ariali Realty Inc [1] 2-6-017: 029 8 unit apartment	1949	
445 Kaiolu St. Rosalei Aptmts. [1] 2-6-017: 004 12-story highrise	1955	
2121 Ala Wai Blvd. [1] 2-6-017: 003 Highrise	1979	

TMKS within Ala Wai Bridge Proposed APE		
Name/Address/TMK	Year Built	Photo
2115 Ala Wai Blvd. Hale Moani [1] 2-6-017: 016	1973	
2107 Ala Wai Blvd. NTP Lynn's Investment [1] 2-6-017: 023 Bldg 1 = Single family Bldg 2 = 3-story aptmt	1937 1960	
2103 Ala Wai Blvd. NTP Lynn's Investment [1] 2-6-017: 015 Vacant lot	ND	
441 Kalaimoku St. NTP Lynn's Investment [1] 2-6-017: 014 Bldg 1 = 16 unit apt Bldg 2 = Two family	1959 1941/ Effective year built='75	
Kalaimoku St. Public right of way / viewplane No TMK	ca. 1927	
2085 Ala Wai Blvd. Twin Towers [1] 2-6-016: 001 Highrise	1967	
2067 Ala Wai Blvd. Ala Wai Hale [1] 2-6-016: 038 18-unit apt, 4-story	1966	

TMKS within Ala Wai Bridge Proposed APE		
Name/Address/TMK	Year Built	Photo
2061 Ala Wai Blvd. Ala Wai Garden Plaza [1] 2-6-016: 060 SBI Hawaii Prop One		
2055 Ala Wai Blvd. Ala Wai Garden Plaza 5 TMKs are connected to this property: [1] 2-6-016: 056 - 060 SBI Hawaii Prop One 44 unit apt	2009	
455 Namahana St. Ala Wai Garden Plaza [1] 2-6-016: 058 SBI Hawaii Prop One		
447 Namahana St. Ala Wai Garden Plaza [1] 2-6-016: 057 SBI Hawaii Prop One		
443 Namahana St. Ala Wai Garden Plaza [1] 2-6-016: 056 SBI Hawaii Prop One		

University Avenue Viewplane

Ala Wai Park Clubhouse,
added to State Register in
1988 as part of the Art Deco
Parks Thematic Nomination

Malia (Hawaiian canoe), added to
State & National Registers in 1993

Ala Wai Canal, added to
Hawaii Register in 1992

McCully Street Bridge,
evaluated as eligible in
previous survey

Kalaimoku Street Viewplane

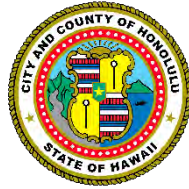
Draft Project Area for
Architectural Resources



DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

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

KIRK CALDWELL
MAYOR



WES FRYSZTACKI
DIRECTOR

JON Y. NOUCHI
DEPUTY DIRECTOR

TP813912

May 29, 2020

SENT VIA EMAIL

[Address]

SUBJECT: National Historic Preservation Act, Section 106 Consultation and Review
Ala Wai Bridge Project Contract No. SC-DTS-1900086 for the
Ala Wai Bridge Federal-Aid Project No. TAP-0300 (159)
Waikiki Ahupuaa, Kona Moku, Island of Oahu
TMK Table Attached (Attachment A)

Dear [Agent]:

On behalf of the Federal Highway Administration – Hawaii Division (FHWA), the Hawaii Department of Transportation (HDOT) and the City and County of Honolulu (City), we would like to initiate consultation under the National Historic Preservation Act, Section 106, 36 C.F.R. 800 et. seq. for the Ala Wai Bridge Project (Contract No. SC-DTS-1900086 for the Ala Wai Bridge Federal-Aid Project No. TAP-0300 (159)) located in the Waikiki Ahupuaa, Kona Moku, Island of Oahu, in the Tax Map Key table attached to this correspondence (See Attachment "A").

Effective March 1, 2016, FHWA has authorized HDOT and local public agencies to conduct NHPA Section 106 consultations with the State Historic Preservation Officer, Native Hawaiian organizations, and other consulting parties. The FHWA will remain responsible for all findings and determinations charged to the agency during the Section 106 process.

Proposed Action

The purpose of the project is to improve access for people travelling by foot or by bicycle across the Ala Wai Canal between Ala Moana Boulevard and the Manoa/Palolo Stream and to connect the Waikiki, McCully, and Moiliili neighborhoods, businesses, parks, schools, and recreational activities. The proposed bridge will span the historic Ala Wai Canal, which was added to the Hawaii Register of Historic Places in 1992. The proposed bridge is in support of numerous regional and area plans that have been developed in the last two decades, particularly fulfilling part of the broader Honolulu Complete Streets Program, which implements

projects to improve safety, accessibility, and comfort for all people walking, bicycling, accessing transit, and driving.

The proposed design of the bridge is a cable-stayed design with an asymmetric configuration that utilizes a main pylon sited on the mauka side of the canal. Lighting would be incorporated on the bridge deck, cables, and bridge features itself. The tower would include facets designed to create shadows and reflect light based on the time of year and atmospheric condition. The proposed bridge would be approximately 20 feet wide to accommodate people walking and bicycling. Makai of the canal, the project would involve improvements on the Ala Wai Promenade to accommodate the makai ramp, which would be designed to meet ADA requirements. On the mauka end of the bridge, a 180-foot tower would straddle a cast-in-place deck that would cantilever over the water. The mauka ramp would require minimal excavation. The mauka ramp would involve tie-ins to the existing Ala Wai Neighborhood Park and existing pedestrian and bicycle path along the canal. Pedestrian and bicycle improvements would also be constructed between the mauka end of the bridge and University Avenue through the existing Ala Wai Neighborhood Park parking lot.

No permanent structures would be installed in the Ala Wai Canal. For construction of the bridge deck, flexifloat pontoon barges would be used to transfer precast deck panels from the casting area into position as part of the bridge deck. In order to stabilize the barges with the tide, two temporary spud columns would extend from the side of the barge down to the mud line of the canal. Portions of the Ala Wai Neighborhood Park parking lot would be temporarily closed during construction; however, the park facilities would remain open. After construction of the bridge is complete, the parking lot would be reopened and improved. The existing canoe Hale would remain in place during construction; however, access would be limited due to the immediate construction area and safety concerns. The Ala Wai Canal would also be closed temporarily during construction of the bridge deck for safety reasons. Upon completion of construction the Ala Wai Canal would be reopened, and the portions of the Ala Wai Neighborhood Park and parking areas that were disturbed during construction would be restored and replanted.

The federal share of project funding is 80 percent, and the City and County of Honolulu is providing a required 20 percent match. The project is currently programmed in the Oahu Metropolitan Planning Organization (OahuMPO) Transportation Improvement Program for federal fiscal years 2020, 2021, and 2022.

Proposed Area of Potential Effect

A map with the proposed project area of potential effect (APE) is attached to this correspondence (See Attachment "B"). We are enclosing the proposed project APE for your review and comment. The proposed APE boundaries include the bridge project site; temporary staging, contractor access, and parking areas; the portion of the historic Ala Wai Canal within the view plane of the proposed bridge; adjacent buildings (such as Ala Wai Elementary School); individual properties on both sides of the canal; and University Avenue and Kalaimoku Street public rights-of-way.

Identification of Historic Properties

The City has contracted with HDR Inc., who has subcontracted with Mason Architects Inc. to conduct a review of the historic architectural resources within the APE. Honua Consulting has been subcontracted to conduct an archaeological literature and field investigation within the APE and a cultural impact assessment.

Honua Consulting will conduct a draft literature review (inclusive of extensive background research), a field investigation, and cultural impact assessment of the APE in compliance with 36 CFR 800.4, identification of historic properties. Mason Architects will conduct an architectural inventory survey of all of the architectural resources found within the APE to identify historic resources. An evaluation of effect of the proposed project on those properties will be made. Both Honua Consulting and Mason Architects will support the Section 106 consultation process.

A review of existing information on historic properties within the proposed APE and the adjacent properties, including any data concerning possible historic properties not yet identified per 36 CFR 800.4(a)(2), will be conducted. This data includes a field investigation and cultural impact assessment, which will thoroughly review historic data and data from the Hawaiian language newspapers. Interviews will be conducted with representatives from local consulting parties likely to have knowledge of, or concerns with, historic properties in the area, for the purpose of identifying issues relating to the undertaking's potential effects on historic properties. These interviews will include gathering information from Native Hawaiian organizations (NHOs) to assist in identifying properties, which may be of religious and cultural significance. This identification process will include written consultation with NHOs and other consulting parties.

It is our assertion that these efforts taken in their entirety will meet the agency's obligation to make a reasonable and good faith effort to carry out appropriate identification efforts as specified under 800.4(b)(1).

We kindly request a response within 30 days of receipt of this correspondence. We are specifically seeking:

- Comment on our proposed APE;
- Comment on our planning process; and,
- Comment on our level of effort in our identification of historic properties.

Due to the COVID-19 pandemic and related emergency proclamations, we are not anticipating holding in-person meetings in the near future. Based on the response(s) received from the proposed consulting parties, we may elect to hold virtual meetings as part of the consultation process. We welcome your input on this approach.

We kindly request a response from your organization within 30 days of receipt of this correspondence. We would gladly accept a response via email to Meredith Soniat of my staff at meredith.soniat@honolulu.gov, via telephone at (808) 768-6682, or via USPS at 650 S. King St., 3rd Floor, Honolulu, HI 96813.

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If we do not receive a response from your organization within 30 days, we will remove you from future correspondence for this project. This does not preclude your organization from rejoining the consultation process at a later stage in the project. To rejoin consultation, please send a request to Meredith Soniat at the contact information provided above.

Should you have any questions, please do not hesitate to contact DTS Project Manager Meredith Soniat at the contact information provided above.

Very truly yours,

Jon Y. Nouchi
Deputy Director

Attachment A: Tax Map Keys (TMKs) within Ala Wai Bridge Draft Area of Potential Effect
Attachment B: Draft Ala Wai Bridge Area of Potential Effect

cc:
QRSE, Project Planning Phase Lead:
Kai Nani Kraut: kai@qr-se.com
HDR, Environmental Team Lead:
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HDR, Project Manager:
James McConnell: James.McConnell@hdrinc.com
HDR, Deputy Project Manager:
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Trisha Kehaulani Watson: watson@honuaconsulting.com

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Attachment A – Tax Map Key Table

May 29, 2020
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Attachment B – Draft Area of Potential Effect

Consulting Parties

Agencies

State Historic Preservation Officer
Alan Downer, Ph.D., Deputy State Historic Preservation Officer
601 Kamokila Blvd #555
Kapolei, HI 96706

Advisory Council on Historic Preservation
Jamie Loichinger, Assistant Director
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Oahu Council - Association of Hawaiian Civic Clubs
Benton Kealii Pang, President
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Kakuhihewa.president@gmail.com

Waikiki Hawaiian Civic Club
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Kamehameha Schools Livingston "Jack" Wong, CEO
567 South King Street
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Liliuokalani Trust
1100 Alakea Street, Suite 1100
Honolulu, HI 96813

Queen Emma Land Co.
1301 Punchbowl Street
Honolulu, HI 96813

Paddling Groups

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Ala Wai Park, 2015 Kapiolani Blvd.
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wbbcanoecub@gmail.com

Waikiki Surf Club Margaret Gora
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2270 Kalakaua Avenue, Suite 801
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(808) 524-0722

Waikiki Transportation Management Association
2250 Kalakaua Avenue
Honolulu, HI 96815

NOTICE OF CONSULTATION

SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT OF 1966 AS AMENDED (2006)

ALA WAI BRIDGE PROJECT

VICINITY OF ALA WAI CANAL

WAIKIKI AHUPUAA, DISTRICT OF KONA MOKU, ISLAND OF OAHU

TAX MAP KEYS: VARIOUS

Notice is hereby given that the City and County of Honolulu, Department of Transportation Services (DTS), in cooperation with the Federal Highway Administration (FHWA) and State of Hawaii Department of Transportation, are proposing the Ala Wai Bridge Project. The proposed bridge would span the historic Ala Wai Canal, which was added to the Hawaii Register of Historic Places in 1992. The purpose of the project is to improve access for people travelling by foot or by bicycle across the Ala Wai Canal between Ala Moana Boulevard and the Manoa/Palolo Stream and to connect the Waikiki, McCully, and Moiliili neighborhoods, businesses, parks, schools, and recreational activities. This project is considered a federal action and undertaking, as defined by Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (2006). The proposed area of potential effect (APE) boundaries include the bridge project site; temporary staging, contractor access, and parking areas; the portion of the historic Ala Wai Canal within the view plane of the proposed bridge; adjacent buildings; individual properties on both sides of the canal; and, University Avenue and Kalaimoku Street public rights-of-way. The proposed APE is approximately 91 acres.

The proposed design of the bridge is a cable-stayed design with an asymmetric configuration that utilizes a main pylon sited on the mauka side of the canal. Lighting would be incorporated on the bridge deck, cables, and bridge features itself. The tower would include facets designed to create shadows and reflect light based on the time of year and atmospheric condition. The proposed bridge would be approximately 20 feet wide to accommodate people walking and bicycling. Makai of the canal, the project would involve improvements on the Ala Wai Promenade to accommodate the makai ramp, which would be designed to meet ADA guidelines. On the mauka end of the bridge, a 180-foot tower would straddle a cast-in-place deck that would cantilever over the water. The mauka ramp would require minimal excavation. The mauka ramp would involve tie-ins to the existing Ala Wai Neighborhood Park and existing pedestrian and bicycle path along the canal. Pedestrian and bicycle improvements would also be constructed between the mauka end of the bridge and University Avenue through the existing Ala Wai Neighborhood Park parking lot.

No permanent structures would be installed in the Ala Wai Canal. For construction of the bridge deck, flexifloat pontoon barges would be used to transfer precast deck panels from the casting area into position as part of the bridge deck. In order to stabilize the barges with the tide, two temporary spud columns would extend from the side of the barge down to the mud line of the canal. Portions of the Ala Wai Neighborhood Park parking lot would be temporarily closed during construction; however, the park facilities would remain open. After construction of the bridge is complete, the parking lot would be reopened and improved. The existing canoe Hale would

remain in place during construction; however, access would be limited due to the immediate construction area and safety concerns. The Ala Wai Canal would also be closed temporarily during construction of the bridge deck for safety reasons. Upon completion of construction the Ala Wai Canal would be reopened, and the portions of the Ala Wai Neighborhood Park and parking areas that were disturbed during construction would be restored and replanted.

Pursuant to Section 106 of the NHPA, Native Hawaiian organizations and Native Hawaiian descendants with ancestral, lineal, or cultural ties to, cultural and historical property knowledge of and/or concerns for, and cultural or religious attachment to the proposed project area are requested to contact DTS. Other individuals and organizations with demonstrated legal, economic, or historic preservation interest in the undertaking are asked to contact DTS and share information you may have on historical and cultural sites within the proposed APE. We welcome any information to Ms. Meredith Soniat, Project Manager via email at meredith.soniat@honolulu.gov, or by U.S. Postal Service to Meredith Soniat, Department of Transportation Services, 650 North King St., 3rd Floor, Honolulu, Hawaii, 96813-3017.

Please respond within 30 days from the date of this publication.



WAIKIKI SURF CLUB
791 Sunset Avenue
Honolulu, Hawaii 96816
www.waikikisurfclub.org

June 11, 2020

Meredith Soniat, Project Manager
Department of Transportation Services
City and County of Honolulu
650 S. King Street, 3rd Floor
Honolulu, HI 96813

RE: NHPA Section 106 Consultation and Review Ala Wai Bridge Project

Aloha e Ms. Soniat,

I am Konia Freitas, a Board member of Waikīkī Surf Club. Our Club President, Luana Froiseth, has asked me to reply to your letter dated May 29, 2020, regarding the NHPA Section 106 consultation concerning the Ala Wai Pedestrian Bridge Project. As a matter of background, I have been a member of Waikīkī Surf Club for about 25 years, and before that, I was a member of Hui Lanakila Canoe Club for about 10 years. My most formative Hawaiian canoe experiences have been around the *sweet-smelling* Ala Wai. I hold a Ph.D. in Urban and Regional Planning from the University of Hawai'i, I have served as the former Director of Kamakākūokalani Center for Hawaiian Studies at the UH Mānoa, and worked for the planning firm Townscape Inc.

Waikīkī Surf Club states upfront that **we do not support** the University pedestrian bridge alternative. As such, we would like to be a part of the 106-consultation process and request that a presentation of project information be provided to our Board of Directors. We request information about the planning process, policy framework supporting the development of a pedestrian bridge, conceptual and preliminary designs, including a review of the project funding and planning timeline. The presentation meeting can be held at your earliest convenience via video conference such as Zoom. We also suggest that at the following O'ahu Hawaiian Canoe Racing Association and or Nā 'Ohana Hui Wa'a that are located along the Ala Wai be invited to this presentation meeting:

- Anuenue Canoe Club
- Hui Lanakila Canoe Club
- Keala Canoe Club
- Kamehameha Canoe Club
- Lokahi Canoe Club
- Outrigger Canoe Club

We note that many high schools also paddle at the Ala Wai and they should be consulted as well.

Background of Waikīkī Surf Club

Waikīkī Surf Club is a non-profit 501(c)(3) organization dedicated to maintaining and perpetuating Hawaiian culture through the promotion of Hawaiian amateur watersports. We teach, train, and instruct adults and children in the ancient arts, crafts, and history of Hawaiian canoe paddling and surfing.

Waikīkī Surf Club was organized in February of 1948 by ocean enthusiasts, George Downing, Wally Froiseth, Russ Takaki and John Lind, who wanted to compete in beach activities but could not do so because of the lack of space to store their surfboards, the lack of surfing canoes and racing equipment. According to one report, in the first three months of the organization, they gained 600 active members. Shortly thereafter, Surf Club secured a club room, surfboard lockers, a shower room for members, and a beach area for the storage of canoes. Waikīkī Surf Club started many water events over its long history including, the International Surfing Championship Contest at Mākaha, the Makapu‘u Bodysurfing Championships, and the now highly competitive and world renown, Moloka‘i to O‘ahu Outrigger Canoe Race.

We are one of the few remaining clubs that is still run by the children of the families who either started the club or held leadership positions in the early existence of the club approximately 72 years ago. Over many years, and for many reasons, Waikīkī Surf Club has moved location several times, but we have been at the Ala Wai location since about 1985. As the information above indicates, the primary conditions that support the art and craft of Hawaiian outrigger canoe racing, canoe building, canoe maintenance, and club viability have been location and space. Ample space and location are the key drivers to a sustained canoe culture and practice.

Comments on APE, Planning Process & Level of Effort to Identify Historic Properties

A cursory web-based search about the Ala Wai Bridge Project indicates that this project has been discussed thoroughly for the last two decades. The project is now in the early stages of the Cultural Impact Assessment study and Environmental Assessment process.

The report published by PBR entitled, Ala Pono: Ala Wai Alternatives Analysis (January 2020), outlines project alternatives arguing that the most viable location is the University option. The tone of the report seems to imply that the University option is THE option that will be built. We question, however, that the purpose of EA and CIA is to determine the impact of the project. If this process determines an impact shouldn't other alternatives be reconsidered?

Further, and perhaps the most troubling, is a report from one of our Board members who was at our club site and learned from a construction worker that his company was building concrete pilings for "the bridge". How can this be as the 106 process has not even started and to our knowledge (which may be incorrect hence our request for a presentation) no construction permits or funding have been secured?

Again, we would like to be a part of the consultation process. Should you have any questions about this letter, you can contact me at konias08@gmail.com.

Sincerely,

A handwritten signature in black ink that reads "Konias Freitas". The signature is written in a cursive, flowing style.

Konias Freitas, PhD
Board Member
Waikīkī Surf Club



WAIKIKI NEIGHBORHOOD BOARD NO. 09

c/o NEIGHBORHOOD COMMISSION OFFICE
KAPALAMA HALE, 925 DILLINGHAM BOULEVARD, SUITE 160,
• HONOLULU, HAWAII 96817. USA

TEL: (808) 768-3710 • FAX: (808) 768-3711 • INTERNET: <http://www.honolulu.gov/nco>

June 12, 2020

Jon Y. Nouchi, Deputy Director
Department of Transportation Services
City and County of Honolulu
650 South King Street, 3rd Floor
Honolulu, HI 96813

Re: National Historic Preservation Act, Section 106 Consultation and Review
Ala Wai Bridge Project Contract No. SC-DTS-1 900086 for the
Ala Wai Bridge Federal-Aid Project No. TAP-0300 (159)
Waikiki Ahupuaa, Kona Moku, Island of Oahu.

Thank you for engaging the Waikiki Neighborhood Board under provisions of the National Historic Preservation Act, Section 106, 36 C.F.R. 800, for the above-mentioned project. Our community has long supported this innovative project and are looking forward to it coming to fruition to serve the health, recreation, transportation equity, and connectivity needs of our neighborhood.

We know this current outreach is limited to a Section 106 scope, so we have mostly limited our comments to those requested in your letter. However, we have included some input on topics we find germane to the cultural, architectural and aesthetic aspects of a Section 106 review.

Comment on our proposed APE:

The area of potential affect is sufficient to frame analysis of any anticipated project impacts. View corridors from public rights-of-way are included and the impact analysis should specifically be focused on the pedestrian and bicycle rider experience.

Comment on our planning process:

Neighborhood Board members (consistent with sunshine law provisions), attended past public outreach meetings for this project. Formal presentations have been completed for community groups in and around the APE over the past year and a half. The range of alternatives is adequate for analysis under NEPA/HEPA and Section 106.

Comment on our level of effort in our identification of historic properties:

The engagement of consultants Honua Consulting and Mason Architects, and their proposed level of effort, appears to comply with required provisions of the Section 106 process.

It is stated that access to the canoe hale at Ala Wai Neighborhood Park would be impacted, and the Ala Wai Canal and parking lot would be closed during construction. While the need for this during the construction phase is understandable, the impacts to cultural, recreational, and community activities



and resources in the area, will be disruptive. We request that mitigation be formulated to address the impacts during the construction phase and that the construction phase be expedited to the degree possible.

We appreciate that these investments are being made in our neighborhood and we agree with your comments that, *"the proposed bridge is in support of numerous regional and area plans that have been developed in the last two decades, particularly fulfilling part of the broader Honolulu Complete Streets Program, which implements projects to improve safety, accessibility, and comfort for all people walking, bicycling, accessing transit, and driving"*.

We also believe this pedestrian-bicycle bridge provides a needed evacuation route in the event of tsunami, storm surge and other disasters that may impact Waikiki in the coming years.

Sincerely,

A handwritten signature in black ink that reads "Jeffrey Merz". The signature is written in a cursive, flowing style.

Jeff Merz AICP, LEED AP
Waikiki Neighborhood Board
Development Review

HISTORIC HAWAII FOUNDATION

680 Iwilei Road Suite 690, Honolulu HI 96817 • (808) 523-2900 • preservation@historichawaii.org • www.historichawaii.org

July 1, 2020

Jon Y. Nouchi
Deputy Director
Department of Transportation Services
City and County of Honolulu
650 South King Street
Honolulu, Hawai'i 96813

Via email: jnouchi@honolulu.gov

**RE: National Historic Preservation Act, Section 106 Consultation and Review
Ala Wai Bridge Project Contract No. SC-DTS-1 900086
Ala Wai Bridge Federal-Aid Project No. TAP-0300 (159)
Waikiki Ahupua'a, Kona Moku, Island of O'ahu
TMK : Various**

Dear Mr. Nouchi:

Thank you for referring the above-mentioned project to Historic Hawai'i Foundation (HHF) under Section 106 of the National Preservation Act (NHPA). HHF received the City and County of Honolulu (City) Department of Transportation Services (DTS) letter dated May 29, 2020 opening consultation (received via email on June 3, 2020 and via US mail on June 9, 2020), containing the invitation to consult and additional information on the proposed Area of Potential Effect (APE) with a listing of affected Tax Map Key (TMK) parcels.

DTS has initiated Section 106 consultation on behalf of the Federal Highway Administration (FHWA) in accordance with its delegation of authority (FHWA letter to Hawai'i State Historic Preservation Officer, April 8, 2016). The FHWA will remain responsible for determinations of eligibility and effects on historic properties, as well as resolution of effects.

Previously, HHF participated in the DTS Pre-consultation review of Alternatives (HHF letter dated December 6, 2018); and commented on the November 2019 Final Public Review Draft - Alternatives Analysis Report (HHF letter dated December 3, 2019).

The Section 106 initiation letter requests the following:

- Comment on the proposed APE;
- Comment on the planning process; and
- Comment on the level of effort in HDOT's identification of historic properties.

Historic Hawai'i Foundation accepts the invitation to participate as a consulting party on the proposed undertaking and provides the following comments on the other questions.

Interests of Historic Hawai'i Foundation

Historic Hawai'i Foundation is a statewide nonprofit organization established in 1974 to encourage the preservation of sites, buildings, structures, objects and districts that are significant to the history of Hawai'i. HHF is a consulting party to FHWA and its state and local partners pursuant to the implementing regulations of the NHPA at 36 Part 800.2(c)(5) as an organization with a demonstrated interest in the undertaking and a concern for the effects on historic properties.

Description of Undertaking

DTS states that:

“the purpose of the project is to improve access for people travelling by foot or by bicycle across the Ala Wai Canal between Ala Moana Boulevard and the Mānoa/Palolo Stream and to connect the Waikīkī, McCully, and Mō'ili'ili neighborhoods, businesses, parks, schools, and recreational activities.

“The proposed bridge will span the historic Ala Wai Canal, which was added to the Hawai'i Register of Historic Places in 1992. The proposed bridge is in support of numerous regional and area plans that have been developed in the last two decades, particularly fulfilling part of the broader Honolulu Complete Streets Program, which implements projects to improve safety, accessibility, and comfort for all people walking, bicycling, accessing transit, and driving.”

In previous comments, HHF strongly recommended avoidance of the historic McCully and Kalākaua bridges. **HHF is pleased that the new pedestrian bridge will avoid alterations to the existing bridges.**

Area of Potential Effect

The proposed APE boundaries include the bridge project site; temporary staging, contractor access, and parking areas; the portion of the historic Ala Wai Canal within the view plane of the proposed bridge; adjacent buildings (such as Ala Wai Elementary School); individual properties on both sides of the canal; and University Avenue and Kalaimoku Street public rights-of-way.

Historic Hawai'i Foundation agrees in concept with the proposed APE for direct effects. In addition, visual impacts to and from the Diamond Head State Monument should be included in the APE. It is unclear if the height of the new structure would impinge on established view planes that protect this natural and historic landmark

A more detailed map is needed to delineate the presence of historic properties and features within the area of potential effect, especially canal features such as the steps, walls, walkways, etc.

Identification of Historic Properties

The City has contracted with qualified preservation professionals to conduct a review of the historic architectural resources within the APE; to conduct an archaeological literature and field investigation within the APE; and prepare a cultural impact assessment. An evaluation of effect from the proposed project on those properties has not yet been determined.

Historic Hawai'i Foundation agrees with the approach for the identification of historic and cultural resources within and adjacent to the APE.

Planning Process

HHF's involvement with the City's planning process began with the DTS pre-assessment consultation for the HRS Chapter 343 Environmental Assessment in November 2018 to discuss the Ala Wai Canal Bridge

alternatives. The purpose for the pre-consultation was to “identify, develop, and evaluate alternatives to determine whether and how to provide additional access over the Ala Wai Canal that will provide a connection between the Waikīkī, Ala Moana, and McCully/Mō‘ili‘ili neighborhoods”.

The City published its analysis, titled “Ala Pono,” in November 2019 as the “Final Public Review Draft - Ala Wai Alternatives Analysis.” The report identified “a new crossing in the vicinity of University Avenue as the highest-scoring alternative that best achieves the project’s purpose to improve access for people traveling by foot or bicycle across the Ala Wai Canal.”

Building on the preferred pedestrian bridge crossing alternative, the report went on to describe alternative bridge design types:

“Ala Pono identified a range of bridge types from notable pedestrian and bicycle bridges implemented around the world This list of potential bridge types was narrowed down to five feasible bridge types based on site constraints and the need for a clear span crossing of the canal without structural support from piers in the water.”

The study concluded that a “Bifurcated Arch Bridge” was the preferred design.

Historic Hawai‘i Foundation expressed multiple concerns about this design type including:

“HHF does not agree that the proposed Bifurcated Arch Bridge meets the threshold for “no adverse effect” to the historic Ala Wai Canal and associated viewshed. The touchdowns, access points, anchors and other structures appear to have direct physical impact (and potential destruction of) walls and railings. Both the footprint and profile are overly large and impactful, and are in no way subordinate or compatible with the historic setting.” (HHF letter to DTS 12.3.2019)

To date, the Draft Environmental Assessment has not been published. HHF has not received any response to either of its two prior comment letters.

Under the current consultation request, the bridge alternatives have been limited to the single design option that HHF opposed. No explanation of the selection has been provided. DTS states that, “the proposed design of the bridge is a cable-stayed design with an asymmetric configuration that utilizes a main pylon sited on the mauka side of the canal. ... On the mauka end of the bridge, a 180-foot tower would straddle a cast-in-place deck that would cantilever over the water.”

This design type is described in the 2019 report as “creating a visible landmark.” Such an impact is antithetical to the Secretary of the Interior’s (SOI) Standards and Guidelines for the Treatment of Historic Properties with guidelines for new construction on or adjacent to a historic property.

HHF reiterates our earlier comments that:

The new bridge should reflect its own time and place, not replicate existing bridges or establish a false sense of history. However, oversized or overly elaborate structures should also be avoided. The new bridge should be elegant but **subordinate to the setting and context**.

Furthermore, the proposed design does not meet the “Community Preferred Bridge Experience” characteristics, including:

- Transparent / Low Profile for a more subtle bridge
- Unimpeded views to natural features

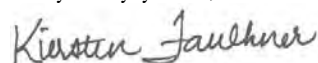
- Open feel and sense of connection to the surrounding landscape
- Modern or minimalist bridge character

HHF is extremely concerned that the planning process has not selected a design that avoids or minimizes effects on historic properties, despite there being other feasible and prudent alternatives that could meet the project purpose and need with much less impact.

The NHPA Section 106 process requires government agencies and project applicants to engage in good faith efforts to avoid unnecessary effects on historic and cultural resources. The Department of Transportation Act Section 4F also requires that transportation facilities utilizing federal funds select alternatives that avoid the use of historic properties when there are prudent and feasible alternatives available.

We look forward to continuing consultation to avoid, minimize and mitigate adverse effects to the historic properties and cultural resources.

Very truly yours,



Kiersten Faulkner
Executive Director

Copies via email:

- City & County of Honolulu, Department of Transportation Services: Meredith Soniat, [meredith.soniat@honolulu.gov]
- Federal Highway Administration, Meesa Otani [meesa.otani@dot.gov]
- Hawai'i State Historic Preservation Division
Susan Lebo [Susan.A.Lebo@hawaii.gov]
Stephanie Hacker [stephanie.hacker@hawaii.gov]
Tanya Gumapac-McGuire [Tanya.Gumapac-Mcguire@hawaii.gov]
Julia Flauaus [julia.flauaus@hawaii.gov]

From: [Monte McComber](#)
To: [Soniati, Meredith](#)
Subject: Response to Ala Wai Bridge Federal-Aid Project No. TAP-0300 (159)
Date: Tuesday, June 9, 2020 9:59:10 AM
Attachments: [image002.jpg](#)

Aloha e Meredith,

The following is the response from the Helumoa Hale Guest Services & Heritage Room of Royal Hawaiian Center. Mahalo for the opportunity to provide comments. Please pass on our regards to Director Fryszacki and Deputy Director Nouchi.

1. Comment on our proposed APE

- Are additional improvements to other portions of the APE planned, as was originally identified earlier in the process as “potential alignments or improvements to existing structures”? If so, where and what are they?
- Do any of the “potential alignments or improvements to existing structures” include addressing water quality in the canal proper?
- What is the height of the lowest part of the bridge from the water’s surface? Does this height include varying water levels throughout the year and/or a special case scenario for rare occurrences of extraordinary water level height?

2. Comment on our planning process

- Will an updated and more detailed Project Timeline be published soon? If so, when?
- Can the FHWA/DOT host a Zoom meeting to allow for video testimony?
- Given proper adherence to CDC guidelines, can the FHWA/DOT host in-person meetings at Ala Wai Elementary and/or Kaimukī High School to allow for community members to attend?
- Can the FHWA/DOT produce short, informative videos to post to social media platforms, as a way to increase awareness and engagement?
- Considering that Honua Consulting is working on the project, I would like to advocate for the use of current Hawaiian orthography. Specifically, the inclusion of the ‘okina and kahakō for all Hawaiian place names.
- Can the planning process include student learning?
- Can the various contractors leading the project take on college interns as part of student learning? It would be nice if student learning was a requirement of the project.

3. Comment on our level of effort in our identification of historic properties

- The word ‘properties’ is a contemporary term and idea, and rather incongruous with the notion of historic. It is, in the least, short-sighted. The identification should be comprehensive and include sights, landmarks, practices, stories/folklore, history, flora, fauna, etc. in and around the APE. Of course, this identification should be multi-ethnic

in its inventory. Again, we point to the importance of student learning throughout the process.

We may have more to contribute in the near future, after further internal discussion. For now, please accept these comments as a response to your request by letter dated May 29, 2020.

Mahalo.

Monte





July 6, 2020

Jon Y. Nouchi
(via meredith.soniati@honolulu.gov)
City and County of Honolulu
Department of Transportation Services
650 South King Street, 3rd Floor
Honolulu Hawai'i, 96813

SUBJECT: National Historic Preservation Act, Section 106, for the Ala Wai Bridge Project, Waikiki Hawai'i.

Thank you for the opportunity to review and comment on the proposed project for a pedestrian bridge spanning the Ala Wai Canal. As stated, the purpose of the project is to improve access for people travelling by foot or by bicycle across the Ala Wai Canal in order to connect the Waikiki, McCully, and Moiliili neighborhoods. The proposed bridge will span the historic Ala Wai Canal, which was added to the Hawaii Register of Historic Places in 1992. The proposed bridge and the access provided thereby, is consistent with numerous regional and area plans that have been developed in the last two decades, including the Waikiki Beach Special Improvement District Association's Waikiki Beach Management Plan, Waikiki Special District Guidelines, Waikiki Improvement Association's 2020 Vision Plan and the Waikiki Transportation Management Association goals and objectives among many others.

The Waikiki Beach Special Improvement District Association (WBSIDA) **strongly supports** this project and feels that the function and benefits of the bridge far outweigh any potential perceived impacts to the surrounding neighborhood. In addition to the stated benefits for public access and transportation options, the bridge may also serve as a critical emergency evacuation route for residents in Waikiki if they need to evacuate on foot in a time-sensitive emergency.

If you have additional questions, please contact Dolan Eversole Waikiki Beach Management Coordinator, at eversole@hawaii.edu or (808) 956-9780.

Sincerely,

A handwritten signature in black ink, appearing to read "MS/A", is written above a horizontal line.

Rick Egged, President
Waikiki Beach Special Improvement District Association



KAMEHAMEHA SCHOOLS®

July 9, 2020

Jon Y. Nouchi
Deputy Director, Department of Transportation Services
City and County of Honolulu
650 South King Street
Honolulu, Hawai'i 96813

RE: National Historic Preservation Act, Section 106 Consultation and Review
Ala Wai Bridge Project Contract No. SC-DTS-1900086 for the
Ala Wai Bridge Federal-Aid Project No. TAP-0300 (159)
Waikiki Ahupua'a, Kona Moku, Island of O'ahu

Aloha mai e Mr. Jon Y. Nouchi:

On behalf of Kamehameha Schools, I am responding to your letter dated May 29, 2020 regarding the National Historic Preservation Act Section 106 consultation process for the Ala Wai Bridge Project.

At this time, because the proposed action does not directly affect Kamehameha Schools' trust lands, **we decline to provide specific comments** on the proposed area of potential effect, the planning process, and the level of effort in identifying historic properties as requested. We are interested, however, in the benefits of the project for the community and encourage continued diligence in following industry best practices in conducting research and engagement, particularly with Native Hawaiian communities, to identify and mitigate potential impacts to historic properties throughout the project.

Mahalo for keeping Kamehameha Schools engaged and involved throughout the progression of this project. If you have any questions or would like to discuss further, please contact Jason Jeremiah, Director of Natural and Cultural Resources, at 541-5376 or jajeremi@ksbe.edu.

Founded in 1887, Kamehameha Schools is an educational organization striving to restore our people through education and advance a thriving Lāhui where all Native Hawaiians are successful, grounded in traditional values, and leading in the local and global communities. We believe that community success is individual success, Hawaiian culture-based education leads to academic success and local leadership drives global leadership.

Me ka ha'aha'a,

Kamuela Cobb-Adams
Senior Director, O'ahu Region,
Community Engagement & Resources Group



WAIKIKI SURF CLUB
791 Sunset Avenue
Honolulu, Hawaii 96816
www.waikikisurfclub.org

July 31, 2020

Meredith Soniat, Project Manager
Department of Transportation Services
City and County of Honolulu
650 S. King Street, 3rd Floor
Honolulu, HI 96813

RE: Response to Ala Wai Pedestrian Bridge Project Presentation, 7/8/2020

A special meeting of the Waikīkī Surf Club (WSC) Board of Directors (BOD) was held on July 28, 2020, to discuss the proposed Ala Wai Pedestrian Bridge project. At this meeting, the Board unanimously voted to not support the Ala Wai Pedestrian Bridge University alternative. This letter is a response to the Ala Wai Bridge presentation of 7/8/2020 and it outlines our objections to this project. The WSC BOD has serious concerns about the impacts of this project on our ability to maintain the art and craft associated with Hawaiian outrigger canoes, its culture, and sport.

Background

On May 29, 2020, the City and County of Honolulu sent a letter to Waikīkī Surf Club notifying them that the Ala Wai Pedestrian Bridge project triggers a Section 106 consultation under the federal National Historic Preservation Act.

The Board was shocked to learn that a pedestrian bridge alternatives report, entitled Ala Pono, had been published and that the University alternative was selected as the preferred project. The Board, at its June meeting, confirmed that they had never been contacted by the City or their project consultants about this project -- ever. This was considered especially egregious since the University alternative identifies the mauka landing for the bridge at the Waikīkī Surf Club practice site!

Waikīkī Surf Club is a non-profit 501(c)(3) that was organized in 1948. We are dedicated to maintaining and perpetuating Hawaiian culture through the promotion of Hawaiian amateur watersports such as Hawaiian canoe paddling and surfing. We are one of the few remaining clubs that is still run by the children of the families who either started the club or held leadership positions in the early existence of the club approximately 72 years ago. Over many years, and for many reasons, Waikīkī Surf Club has moved locations several times, but we have been at the Ala Wai location since about 1985.

As a result of the City notification, the WSC drafted a response stating that Waikīkī Surf Club does not support the University Alternative, and due to the impacts that this project will cause to our canoe culture and the preservation of the Malia canoe, we would participate in the section 106 consultation.

On July 8, 2020, the WSC subcommittee and other interested canoe clubs were given a presentation by the City and their consultants about the pedestrian bridge project. At this presentation, Meredith Soniat confirmed that it was an oversight not to have consulted with Waikīkī Surf Club before this. This letter is our response to the points outlined in that presentation. Our Board believes for the reasons listed below that there will be a serious impact on our mission and dedication to the art and craft of Hawaiian outrigger canoes and sport.

Key Issues Raised by the WSC Board

Parking

We note that parking spaces will be removed to accommodate the pedestrian pathway leading in and out of the Ala Wai Community Park. According to the redesign plan, there seems to be a slight increase in parking spaces and the existing children's playground will be converted to parking. If the Ala Pono report indicated that parking is a significant issue in the area, this redesign seems to invite non-park users. WSC is concerned about the availability of parking for actual park users as well as the safety of our paddlers given the redesign to accommodate cars.

Vandalism Concerns

In 2017, it was reported on several news stations that vandals had defaced every single Hawaiian outrigger canoe that was located along the Ala Wai beginning from the Waikīkī Surf Club practice site to the clubs located near the McCully Bridge. We estimate that about twelve to fifteen canoes were vandalized. This incident was a harsh reminder of how callous, detached, and disrespectful our island society has become towards Hawaiian canoe culture. We consider our canoes like our children and family -- you care for them and treat them with aloha. Many of our canoes carry our family names and to have them defaced in this way was painful if not cruel. We fear that increased pedestrian traffic will only increase the incidents of vandalism to our equipment and hālau wa'a.

Canoe Trailer Access into Park

Based on the preliminary design for the mauka side of the pedestrian bridge, there will not be enough space to maneuver canoe trailers in and out of the park given the planned design. Further, we do not believe that there will be enough space to maneuver a canoe trailer around the planned roundabout at University Ave and Hihiwai Street. Our trailer can carry three canoes that weigh over 400 pounds and are 40 feet in length each.

Sediment Movement and Dredging Capacity

The presentation by the City and their consultants estimated that, based on their data analysis, the pedestrian bridge is estimated to have a 12.5' clearance (between sea level and the underside of the bridge) at the center point of the bridge span and 10.5' at the edges. Based on many years of paddling in the Ala Wai, we do not believe that 12.5' is adequate considering the increasing tidal swings and the frequency of sediment build up in the Ala Wai. Therefore, will the EA study sediment movement and or address sediment build up in the Ala Wai? Further, will there be a commitment to continue to dredge the Ala Wai after the bridge is constructed?

The Ala Wai receives large amounts of sediment from the Mānoa, Pālolo, and Mō'ili'ili drainage areas. Paddlers have witnessed time and again the formation of deltas where the Mānoa-Pālolo canal drains into the Ala Wai. When delta's develop, paddlers are forced to navigate through a very narrow stretch of deep water on the makai side of the canal. During peak paddling season, this navigation involves kayaks, six-man canoes, one-man canoes and an occasional rower negotiating a small width of the canal due to sediment build up on the mauka side.

Based on years of paddling in the Ala Wai, we believe that serious sediment build-up and migration will eventually prevent boats from traversing through the planned pedestrian bridge.

Relocating Diamond Head Dock

According to City consultants, the Diamond Head dock will be moved past the last existing dock at the 'Ewa end. This means that paddlers will have to carry canoes over an existing berm. Canoes are about 400 pounds and 40 feet in length each thus carrying canoes this size over berms is excessive.

Access to Clean Water

The Ala Wai is polluted. The alternative design includes moving the existing shower facility. We emphasize that paddlers need access to showers to maintain healthy hygiene that now comes with the sport of Hawaiian canoe racing. We note further, however, that canoes need to be washed and cleaned after usage. Thus, access to water spigots is critical to keeping canoes clean from polluted water and animal feces.

Ala Wai Wall Construction

What is the status of the Ala Wai wall construction? We believe this was a part of the Army Corp of Engineers proposal for an average 4-feet solid reinforced concrete wall around the Ala Wai Canal, Ala Wai Golf course, and Ala Wai Park. Does the pedestrian bridge embed this wall project into its design?

In closing, we reiterate that the primary conditions necessary to support the art and craft of Hawaiian outrigger canoe racing, canoe building, canoe maintenance, and club viability have been location and space. Ample space and location are the key drivers to a sustained canoe culture and practice. If you have questions about this letter please contact, Konia Freitas at konia808@gmail.com

Sincerely,



Konia Freitas
Board Member Waikīkī Surf Club

Cc:

Luana Froiseth, Waikīkī Surf Club President
Niuli'i Heine, Waikīkī Surf Club Vice President

From: Kamakana Ferreira <kamakanaf@oha.org>
Sent: Wednesday, February 3, 2021 11:33 AM
To: Soniat, Meredith <meredith.soniat@honolulu.gov>
Subject: FW: Section 106 Consultation Re: Ala Wai Bridge Project

CAUTION: Email received from an **EXTERNAL** sender. Please confirm the content is safe prior to opening attachments or links.

Aloha Meredith,

I'd just like to follow up on the December 23 email I sent regarding Section 106 consultation for the Ala Wai Bridge Project. The Office of Hawaiian Affairs (OHA) has still been getting inquiries from Native Hawaiian beneficiaries about the Section 106 process and what the current status is. I also tried calling your phone today and left a message. Given that we reached out to you by phone and email without success so far, we have no updates for them.

As indicated in the email below, its OHA's understanding that consultation is still on-going and that OHA would like to now be included as part of the consultations given concerns about impacts to canoeing practices and NRHP Site #93001385.

Any updates would be much appreciated. We look forward to being consulted and continuing discussions with you.

Mahalo,
Kamakana C. Ferreira, M.A.

Lead Compliance Specialist
Office of Hawaiian Affairs
560 N. Nimitz Hwy
Honolulu, Hi. 96817

(808)594-0227

From: Kamakana Ferreira
Sent: Wednesday, December 23, 2020 10:12 AM
To: meredith.soniata@honolulu.gov
Subject: Section 106 Consultation Re: Ala Wai Bridge Project

Aloha Meredith,

The Office of Hawaiian Affairs (OHA) is in receipt of your National Historic Preservation Act (NHPA) Section 106 consultation invitation dated May 29, 2020, regarding the Ala Wai Bridge Project. A cable-stayed bridge is being proposed at Ala Wai Neighborhood Park and will connect the McCully neighborhood to Waikiki. The bridge will be in line with University Avenue. This is part of the City's "Complete Streets" program to improve safety for pedestrians and bike users traversing the City. As the project is aiming to not include any permanent structures, ground disturbance should be minimized.

At the time, OHA did not have any comments and was monitoring the project. Recently, we've received concerns from Native Hawaiian beneficiaries about project impacts to canoeing practices and the National Register of Historic Places (NRHP) site "Malia" (SIHP# 50-80-14-9762; NRHP #93001385). In revisiting your Section 106 invitation, it does mention that the existing canoe hale would remain in place and that access would only be impacted during construction. There is no specific mention about "Malia". It is unclear if any thought was given to how increased foot traffic and parking could also affect access to "Malia" and the area for canoe related activities.

Its OHA's understanding that Section 106 consultation is still on-going and the last meeting was cancelled. If consultation is still on-going, OHA would now like to request that we be included in the discussion. Any existing notes or summaries on consultation so far would also assist OHA in understanding the situation.

We look forward to consulting with you on this project.

Mahalo,
Kamakana C. Ferreira, M.A.

Lead Compliance Specialist
Office of Hawaiian Affairs
560 N. Nimitz Hwy
Honolulu, Hi. 96817

(808)594-0227

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

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KIRK CALDWELL
MAYOR



WES FRYSZTACKI
DIRECTOR

JON Y. NOUCHI
DEPUTY DIRECTOR

TP9/20-826175

September 17, 2020

SENT VIA EMAIL

Alan S. Downer, Ph.D.
Deputy State Historic Preservation Officer
Administrator, State Historic Preservation Division
alan.s.downer@hawaii.gov

Susan A. Lebo, Ph.D.
Chief, Archaeology Branch
susan.a.lebo@hawaii.gov

Julia Flauaus
Architectural Historian
julia.flauaus@hawaii.gov

SHPD LOG No.
2020.00689, 2020.01278
Architecture, Archaeology

SUBJECT: National Historic Preservation Act, Section 106 Consultation and
Identification of Historic Properties Report Review
Ala Wai Bridge Project Contract No. SC-DTS-1900086 for the
Ala Wai Bridge Federal-Aid Project No. TAP-0300 (159)
Waikiki Ahupuaa, Kona Moku, Island of Oahu

Dear Dr. Downer:

On behalf of the Federal Highway Administration – Hawaii Division (FHWA), the Hawaii Department of Transportation (HDOT), and the City and County of Honolulu (City), we would like to request your review and approval of the Identification of Historic Properties Report for the Ala Wai Bridge Project as part of our ongoing consultation under the National Historic Preservation Act, Section 106, 36 C.F.R. 800 et. seq.

We kindly request a response from your organization within 30 days of receipt of this correspondence. We would gladly accept a response via email to Meredith Soniat, Department Transportation Services Project Manager, at meredith.soniat@honolulu.gov, via phone at 768-6682, or via USPS at 650 S. King Street, 3rd Floor, Honolulu, Hawaii 96813.

Alan S. Downer, Ph.D.
Susan A. Lebo, Ph.D.
Julia Flauaus
September 17, 2020
Page 2

Should you have any additional questions or comments, please do not hesitate to contact Meredith Soniat, of my staff, at meredith.soniat@honolulu.gov.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Jon Y. Nouchi', with a stylized flourish at the end.

Jon Y. Nouchi
Deputy Director

Attachment A: Identification of Historic Properties Report

cc:

QRSE, Project Planning Phase Lead:

Kai Nani Kraut: kai@qr-se.com

HDR, Environmental Team Lead:

Linda Fisher: Linda.Fisher@hdrinc.com

HDR, Project Manager:

James McConnell: James.McConnell@hdrinc.com

HDR, Deputy Project Manager:

Jessica Shimazu: Jessica.shimazu@hdrinc.com

Mason, Architecture Consultant:

Polly Tice: pt@masonarch.com

IDENTIFICATION OF HISTORIC PROPERTIES

Ala Wai Bridge Project

Honolulu District, Oahu Island, Hawaii

Contract No. SC-DTS-1900086

Federal-Aid Project No. TAP-0300 (159)

Submitted Pursuant to Hawaii Revised Statutes, Chapter 6E and
National Historic Preservation Act Section 106



City and County of Honolulu,
Department of Transportation
Services
650 S. King St., 3rd Floor
Honolulu, HI 96813



State of Hawaii, Department of
Transportation Highways Division
869 Punchbowl Street
Honolulu, HI 96813



U.S. Department of
Transportation Federal
Highway Administration



Prepared by Mason Architects, Inc. for
The City and County of Honolulu, Department of Transportation Services
under contract to HDR Inc
September, 2020

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Introduction

Mason Architects, Inc., (MASON) was hired by HDR Inc. to identify architectural historic properties in support of the Environmental Assessment (EA) being prepared for the Ala Wai Bridge Project proposed by the City and County of Honolulu's Department of Transportation Services (CCH DTS).

The identification of historic properties was also made in keeping with National Historic Preservation Act (NHPA) Section 106 and HRS 6E requirements, including HAR §13-275-5 Identification and inventory of historic properties and HAR §13-275-6 Evaluation of significance. MASON identified a total of 30 resources within the study area. Of these, 12 were already listed or found eligible for State and/or National Register of Historic Places (NRHP), and 18 were evaluated as not eligible.

Project Site

The project site in Waikīkī and Mō'ili'ili, Honolulu, is situated over, and on both banks of, the historic Ala Wai Canal, not far from the terminus of University Avenue. The proposed bridge will cross the canal from the canoe landing at the Ala Wai Neighborhood Park on the mauka (Mō'ili'ili) bank, over the water to the pedestrian promenade of the makai (Waikīkī) bank, roughly where Kālimoku Street meets Ala Wai Boulevard.



Figure 1: Aerial view with overlay by HDR showing proposed project site upon completion. Source: HDR

On the mauka bank, the project site is a T shape, extending from University Avenue's terminus. The surrounding area is characterized by grassy open space and scattered buildings of the Ala Wai Neighborhood Park, and the buildings of the adjacent Ala Wai Elementary School. The Ala Wai Community Garden sits between the Ala Wai Elementary School and the waters of the canal. The Ala Wai Park Trail meanders across the project site, mostly parallel to the canal. The

bridge foundations on this bank are proposed near the boat ramps used by local canoe paddlers.

The makai bank project site is characterized by the open Ala Wai Canal promenade lined with coconut palms, and the bordering one-way, three-lane, Ala Wai Boulevard. Across the boulevard are dense blocks of residences, residential apartments, condominiums, and hotels that typify this portion of Waikīkī.

See the section on Character Defining Features for additional discussion on the canal setting.

Study Area and APE

The study area and Area of Potential Effect (APE)¹ for this architectural inventory survey is significantly larger than the project site to accommodate: temporary staging, contractor access, and parking areas; the portion of the Ala Wai Canal within the view plane of the proposed bridge; adjacent buildings (such as Ala Wai Elementary School and condominiums), individual properties on both sides of the canal, and portions of the public right-of-ways from University Avenue and Kālimoku Street. These boundaries make up an approximately 91-acre area shown in the (Figure 2) Study Area and APE map below.

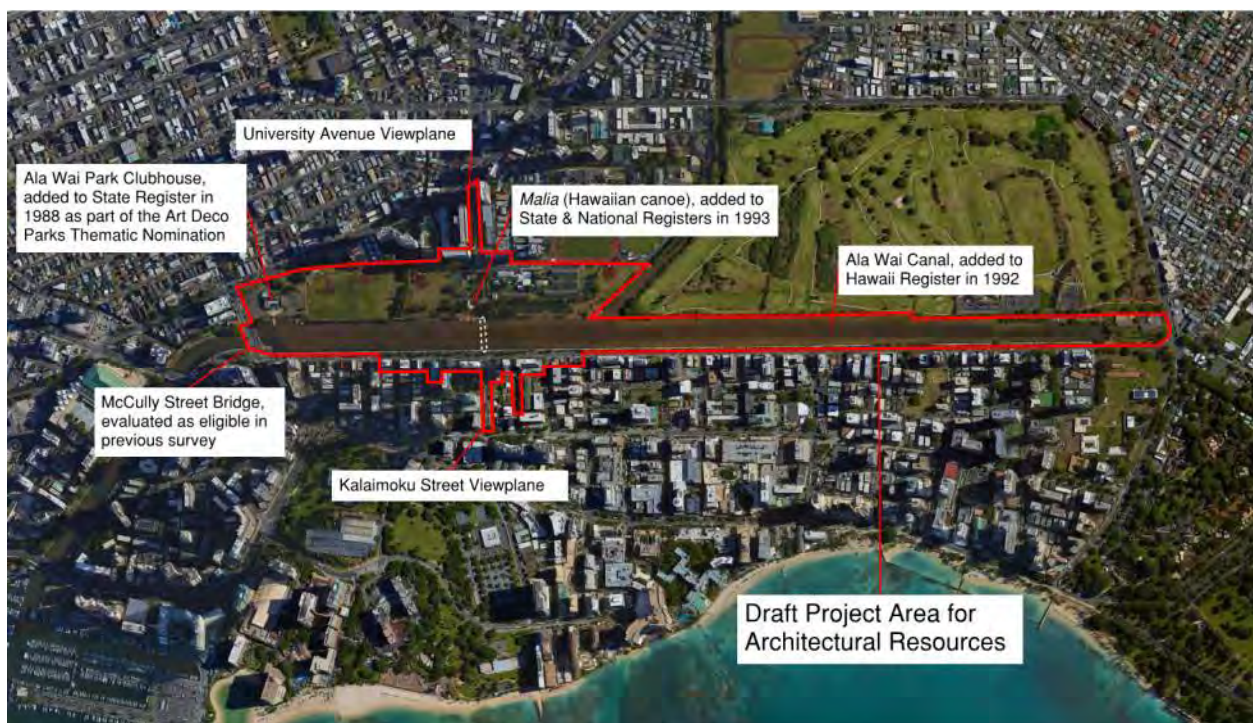


Figure 2: APE and Study Area for Architectural Resources Identification. (Aerial view with APE overlay by MASON)

¹ The City & County Department of Transportation Services (DTS) sent a Section 106 initiation letter to the State Historic Preservation Division with the Proposed Area of Potential Effect (APE) map shown in Figure 2. SHPD concurred with the Proposed APE in a response letter to DTS dated July 7, 2020.

Historical Overview

A total of 30 architectural resources were identified for evaluation within the APE. These resources are listed individually in Table 1: Identification of Historic Properties (page 22). The section below provides an overview of the history and context of the development of the Ala Wai Canal, and the portions of Waikīkī and Mō'ili'ili found within the study area.

The 30 resources evaluated for eligibility to the Hawai'i Register of Historic Places (HRHP) and National Register of Historic Places (NRHP) are discussed within this context, identified with a **bold** font. For simplicity, throughout this report, significance criteria is expressed for both HRHP /NRHP with capital letters (i.e., "A" through "D"), in keeping with the common practice for the NRHP Criteria. NRHP Criteria A-D translate directly to the first four of the HRHP Criteria, which are expressed with lower case letters ("a" through "d"). As shown on page 17, the HRHP Criteria also has one additional criterion, "e," which was not applied to the resources below.

Development of the Ala Wai Canal

Waikīkī is translated from the Hawaiian language as "Spouting Waters," and was originally characterized by wetlands fed by a confluence of springs from the uplands of Makiki, Mānoa and Palolo. In the pre-contact era, Waikīkī was a major seat of political power on O'ahu. This area, with its abundant freshwater and its proximity to shore, supported thousands of Hawaiians, who established taro fields and fishponds in the fertile land of Waikīkī.

The arrival of Captain James Cook's ships from England, beginning in 1778, prompted wholesale changes in Hawaiian culture. A dramatic decline in native Hawaiian population due to the introduced diseases, among other factors, occurred in the first fifty years after contact. The arrival of western weapons helped Kamehameha I unite the Hawaiian Islands into a single kingdom, instead of areas ruled by separate chiefs. He moved his court, and, therefore, the kingdom's capital, several times -- between Kailua-Kona, on Hawai'i island, Waikīkī or Honolulu, on O'ahu, and Lahaina, Maui. Under Kings Kamehameha II and III, Lahaina served as the kingdom's capital from 1820 to 1845, during the height of the whaling period. Honolulu, whose harbor was the best for foreign ships, became the permanent capital starting in 1845.²

Individual cultivation of crops gave way to large-scale industrial agriculture, and after much experimentation, cane sugar became Hawai'i's most successful export crop in the 1860s. The United States' Civil War spurred the market for sugar, but at its end, due to tariffs, Hawaiian sugar could not compete with the South. The 1876 ratification of the Reciprocity Treaty removed the tariffs, and a boom in Hawai'i's sugar industry followed. Sugar plantations proliferated, and sugar became the dominant crop in Hawai'i for over 100 years, beginning in the Monarchy era.³ Hawai'i's population stopped its decline and began a steady increase, greatly spurred by the growth of sugar plantations, which imported labor to work in the cane fields. The immigrant workers in this period and the very early Territorial years came in waves arriving in

² Mason Architects, Inc. *Hawaii Statewide Reconnaissance Level Survey, Phase I*. Prepared for the State Historic Preservation Division under Professional Services Solicitation No. SHPD-FY 16-002. December 19, 2016. Pp. 7-8.

³ Ibid.

large numbers from China, Japan, South Pacific islands, Portugal and Portuguese territories, Spain, and Korea, and later the Philippines.⁴

By the late-nineteenth century, with the overthrow of the Monarchy, Waikīkī's population and land use began to shift. Former Japanese and Chinese sugar plantation workers began establishing farms in Waikīkī, growing rice, and raising ducks in the wetland, plus planting other crops. The wealthy elite, mostly enriched by sugar, shipping, or banking businesses, began to purchase property along the shoreline to build elaborate mansions, often second homes for recreational purposes. Small hotel accommodations were also created for well-heeled visitors.

With ensuing urbanization, drainage problems began. As roads were built, runoff was blocked. A drainage system, which diverted surface waters from Punchbowl-Makiki areas into Waikīkī, caused more problems. In 1906, a report issued by the president of the Hawai'i Territorial Board of Health, Lucius E. Pinkham,⁵ proclaimed the need for a canal. Titled "Reclamation of the Waikīkī District," the report cited the Territory's responsibility to improve low-lying and poorly drained land near Waikīkī that was thought to be a detriment to public health. Much of this land, as well as adjacent low-lying property that would receive dredged fill, was acquired by the Dillingham Co. in 1912.⁶ Pinkham served as the fourth Territorial Governor of Hawai'i from 1913 to 1918. During his tenure as governor, the legislature passed measures to authorize the condemnation and purchase of the land necessary for the drainage canal.

Hawaiian Dredging Co., under Walter F. Dillingham, received the contract for the construction of the canal. Dredging began in October of 1921. Canal construction advanced methodically once the dredge *Kewalo* began operations at the edge of the reef between Ala Moana and Waikīkī. On January 30, 1922, dredging began. The canal's original 60 foot width was widened to 150 feet and deepened. It was finally widened to 250 feet, to provide additional dredge material to fill adjacent low areas within Dillingham's McCully tract. In early August of 1927, the unlined canal with natural banks was complete. (The portion of the canal at the Diamond Head end that was part of Pinkham's original proposal was not built, however.)

The newly drained and filled land of Waikīkī yielded over 600 acres of valuable real estate for housing developments and tourist accommodations that became vital to O'ahu.⁷ The canal

⁴ Ibid.

⁵ Pinkham had arrived in Hawai'i in 1891 and was employed for the next three years by the O'ahu Railway and Land Co., a Dillingham Company subsidiary. In 1898, after a five-year hiatus on the mainland, he returned to Hawai'i to work again for Dillingham interests as manager of their Pacific Hardware Co., before receiving an appointment as president of the Board of Health in 1904. Pinkham died in November 1922, about one year after the Dillingham subsidiary Hawaiian Dredging Co. had begun work on its contract to excavate the canal.

⁶ Dee Ruzicka, "Back of the Beach, Assessing Waikīkī's Historic Properties." UH Mānoa, Thesis for Master of Arts Degree. 1999. p. 19-21. H. Brett Melendy, *Walter Francis Dillingham, 1875-1963, Hawaiian Entrepreneur and Statesman*. (Lewiston, NY: Edwin Mellon Press). 1996. p. 32. Erica Steele, "The Ala Wai Canal, National Register of Historic Placed Registration Form. 1992. p. 8-5. Don Hibbard and David Franzen, *The View From Diamond Head, Royal Residence to Urban Resort*. (Honolulu: Editions Limited). 1986. p. 90-91.

⁷ "Big Suction Dredge Now Digging Through Ala Moana," *Honolulu Star Bulletin*. October 17, 1921. p. 2. "Work Starts Soon On Big Reclamation," *Honolulu Advertiser*. September 13, 1927. p. 1. "Ala Wai Plans to Be Pushed Forward Soon," *Honolulu Star Bulletin*. April 3, 1928. p. 11. "Dredger Leaves Canal After Five Years," *Honolulu Advertiser*. August 4, 1927. p. 6.

effectively separated the now much larger Waikīkī from the Mō'ili'ili neighborhood mauka of the canal.

The canal was given its name in 1925, when the Honolulu City Planning Commission called for citizens to suggest Hawaiian names. Jennie Wilson, wife of Honolulu Mayor John H. Wilson, submitted the winning entry "Ala Wai," which means "waterway" in Hawaiian.

Soon after the canal's completion, erosion problems began; the lack of side walls lead to banks being eaten away, spurred in part by the waves of motor boats. In 1934, with limited Civil Works Administration (CWA) funds, the City & County constructed lava rock revetments for about one third of the canal's walls. With Federal Emergency Relief Act (FERA) funds later in the year, the project was completed. By the late 1940s, however, the walls were already in need of repair;

The makai walls began to break down during World War II, with the walls in many places bulging out and large rocks falling into the water. Holes appeared in the concrete cap. Following the war, small sections and then large portions of the wall crumbled. In addition, in a number of places, the ground behind the wall sank.⁸

In 1949, the City & County Public Works Department started repairs beginning at the Kapahulu end, and completed about 3,000' of the makai wall, and portions of the mauka wall before funds ran out.⁹ These repairs put "a concrete facing in front of the mortarless stone wall."¹⁰ Repair work on the makai wall resumed the next year. However, "the top of the wall was never completed," which drew complaints from the Outdoor Circle for being 'unsightly.'¹¹

In 1950, the contractor E.E. Black Ltd., undertook repair work on the section of the canal walls located between Kalakaua Avenue and Ala Moana Boulevard. This work included construction of the three foot high segmental arch balustrade extant today. (This distinctive feature is outside of the APE). This was part of a project that extended Ala Wai Boulevard into a post-war apartment neighborhood, and also included sidewalks, curbs and street lights.¹²

In 1953, the continuing need for wall repairs was finally met with funding from the legislature. W.T. Spalding, civil engineer and architect, completed plans for work between Kalakaua Bridge and the head of the canal.¹³ The project was completed by low bidder Pacific Construction Co. Ltd., in 1954, and included "repairs at several locations along the makai side" of the canal, added new rocks to the top two or three feet of wall that had eroded, cemented them in place, repaired concrete coping, and replaced earth fill behind the wall. It also included a "400-foot section of concrete liner near the Kalakaua Ave. bridge."¹⁴

⁸ Hibbard, Don. Ala Wai Canal, HAER No. HI-143. August 5, 2019.

⁹ Hibbard, Don. Ala Wai Canal, HAER No. HI-143. August 5, 2019.

¹⁰ "Ala Wai Wall Will Be Repaired, Trees Planted," *Honolulu Advertiser*. May 7, 1950. p. 30.

¹¹ "Mayor, Board Urged To Complete Ala Wai Wall," *Honolulu Advertiser*. May 27, 1951. p. 32.

¹² Hibbard, Don. Ala Wai Canal, HAER No. HI-143. August 5, 2019.

¹³ "Ala Wai Wall To Be Restored," *Honolulu Advertiser*. March 7, 1954. p. 7.

¹⁴ "Ala Wai Wall Repairs Are Progressing," *Honolulu Advertiser*, June 13, 1954. p. 27.

The Ala Wai Canal was added to the HRHP on July 17, 1992 (SIHP# 50-80-14-9757), under Criterion A for "its pivotal role in the development of the Waikīkī district."¹⁵ The canal is re-evaluated today under this study as eligible for the HRHP/NRHP under Criteria A and C to acknowledge that the mid-century wall reconstruction work added distinctly Hawaiian materials and features that would not likely be used in the construction of a new canal today. These lava rock components, which have now reached the 50-year historic "threshold," have achieved significance in their own right. See section titled Ala Wai Canal Significance and Character Defining Features for more information on the significance and features of the canal.

Development of Waikīkī's Street Grid and Subdivisions

Subdivisions that existed before the canal's completion were on higher land and located southeast of Ka'iulani Street. These included: Hamohamo (established in 1913), which was centered on Paoakalani Street; Royal Grove (established in 1915) at Lili'uokalani and Kalākaua Avenues; and 'Āinahau (established in 1919) at Lili'uokalani and Kuhio Avenues.

As the dredge Kewalo was still working on the last portions of the canal in 1927, new streets were built in Waikīkī. Curb lines for Kālaimoku Street, 'Olohana, Nāmāhana, Kuamo'o, Keoniana and Pau Streets were laid out in 1926, and the streets were paved in 1927. Those streets made up the Kalākaua Acres subdivision, which began selling lots in early 1927. The Moana Estates subdivision also began selling the same year, with its new roads laid out between Lewers Street and Seaside Avenue. Launiu Street and Kai'olu Street, between these two subdivisions, were built by 1928. In 1929, the Ala Wai Boulevard was carried through to Kapahulu and paved.

Upon completion of the canal, Waikīkī residential development burgeoned. During the late 1920s through the 1930s, Honolulu newspapers were filled with advertisements for new house lots in Waikīkī. This included the 1925-1927 subdivisions of McCarthy Tract, Kālākaua Acres, Moana Estates, and Waikīkī Acres subdivisions. Along with the growth in residential development in Waikīkī, construction of hotels and other transient vacation use buildings continued.

The area just mauka of the Ala Wai Canal was planned as park space, and much of it remains in this use today. Ala Wai Park was developed following a national pattern of increased planning and construction of urban parks and playgrounds in the early 20th century. This initiative evolved with the belief that parks and playgrounds could be places of social reform, capable of sheltering impressionable youth (typically immigrants) from an often harsh existence. Most large cities established a playgrounds and parks division within their municipal government by the early 1900s. Honolulu followed suit with its 1922 Recreation Commission, which opened nine playgrounds in the city. In 1931 the Honolulu Park Board was created, which was able to secure Federal assistance that was available after 1933. This provided manpower, rather than funding, for construction in the form of Federal Emergency Relief Administration (FERA) and Civil Works Administration (CWA) workers. After the Ala Wai Park and Clubhouse were constructed, the

¹⁵ Erica Steele, "The Ala Wai Canal, National Register of Historic Places Registration Form." Washington DC: National Park Service, US Department of the Interior. 1992. p. 3.

Works Progress Administration (WPA) and National Youth Administration (NYA) provided assistance to the city with playground directors and staff at the newly created parks.¹⁶

Work constructing the Ala Wai Park and Clubhouse was begun ca. 1935. The **Ala Wai Clubhouse**, designed by architect Harry Sims Bent, is sited on the northwest corner of the park, which was the first portion of park land to be developed and landscaped. Bent arrived in Honolulu ca. 1925 as a construction supervisor for Bertram Goodhue and Associates to oversee the building of the Honolulu Academy of Arts Building on Beretania Street. He was hired by the City and County of Honolulu in 1933 to design several city parks (Ala Moana Park, Hale'iwa Beach Park, Mother Waldron Playground, Kawānanakoa Playground, and the Ala Wai Clubhouse at Ala Wai Community Park).¹⁷

The Clubhouse was designed for use by Honolulu's rowing clubs and was completed in late 1936 along with the adjacent park landscaping.¹⁸ The **Ala Wai Clubhouse** was added to the Hawai'i Register under Criterion A on June 9, 1988 as part of the Art Deco Parks Thematic Nomination (SIHP# 50-80-14-1388). It is significant for its associations with the development of the City and County of Honolulu's parks in the 1930s, and for its association with the sport of canoeing. Although the original landscaped portion of the Ala Wai Park was approximately 3.5 acre grounds of the Ala Wai Clubhouse, the park lands extended all the way to the Mānoa-Palolo Drainage canal.¹⁹ The remainder of park lands would not be improved for years.

With the push to develop Waikīkī into a more residential area, in the late 1930s, Honolulu city planners envisioned Mō'ili'ili as a hotel-apartment district.²⁰ Initial planning called for a district comprised of two- to three-story walk-up apartment buildings to take the place of the single-family residential houses that had existed in the area prior to that time.

By 1940, many of Waikīkī's streets were lined with single-family residences. A few of these are still extant today within the study area, along Ala Wai Boulevard, between Lewers and Kaiolu Streets. For example, the residence at **2169 Ala Wai Boulevard** was originally built in 1925, although it has undergone recent extensive alterations (dating to 2017) that removed all traces of its original form.²¹ It is not eligible for the HRHP/NRHP. The adjacent two residences at **2167 Ala Wai Boulevard** (one two-family residence at the front, and one single-family residence at the rear) were built in 1934; significant alterations have changed the front residence (rear building was not visible at time of survey). Neither building is eligible for the Hawai'i or National Register of Historic Places.

The parcel at **2107 Ala Wai Boulevard** contains two buildings. The single-family residence built in 1937 is evaluated as eligible for the HRHP/NRHP under Criterion A as one of the few remaining examples of Waikīkī's pre-war single-family residential development period, and under

¹⁶ Don Hibbard, "City & County of Honolulu Art Deco Parks and Playgrounds, National Register of Historic Places Registration Forms." 1988.

¹⁷ Don Hibbard, "Ala Wai Park Clubhouse" and "City & County of Honolulu Art Deco Parks and Playgrounds, National Register of Historic Places Registration Forms." 1988.

¹⁸ "Notice of Completion of Contract, Clubhouse," *Honolulu Advertiser*. January 7, 1937. p. 10.

¹⁹ Honolulu City Planning Commission, "Map of the City of Honolulu Showing Existing Zoning." January 1941.

²⁰ Laura Ruby, *Mō'ili'ili: The Life of a Community* (Honolulu: Mō'ili'ili Community Center, 2005).

²¹ Year built and renovation dates are from C&C Honolulu Real Property Assessment Division.

Criterion C for its distinctive wood-frame, board and batten construction. At the rear of the lot is a small, three-story apartment building in a simple, modern style that was constructed in 1960. A 1959 newspaper article reporting on record construction in Honolulu that month described the building as a "\$24,750 duplex."²² As a duplex from this period, it is associated with Waikīkī's early residential history, however it lacks architectural distinction, and its integrity of feeling and association are compromised. This building has been evaluated as not eligible for the HRHP/NRHP.

The properties at **441-445 Kālainmoku Street** have buildings with similar construction dates. At 441-443 is a 1941 two-story duplex. Its design, with a cantilevered second story balcony across the façade, is a nod to the Monterey Revival style, albeit with an Asian-influenced motif balustrade. It is evaluated as eligible for the HRHP/NRHP under Criterion A as one of the few remaining examples of Waikīkī's war-era duplex residential development period. This once ubiquitous type that was a defining element of residential Waikīkī is now extremely rare.

At **445 Kālainmoku Street** is the Waikīkī Palms, a reinforced concrete sixteen-unit apartment building credited to Richard N. Dennis and Frank Slavsky, AIA architects, along with designer Harold Whitaker.²³ Completed in 1959, its design was praised in newspaper articles; "the building's façade features an unusually handsome combination of wood and concrete...Wooden railing with solid color panels and dark-stained vertical members form an interesting geometrical pattern on the façade."²⁴ The distinctive railing, a dominant design feature of the original façade, has been removed and replaced with a standard safety rail. Despite the apartment's bold original design, it is evaluated as not eligible for the HRHP/NRHP due to a lack of integrity.

The neighborhood character of Waikīkī, comprised of single-family houses and duplexes, persisted through the 1950s, until taller buildings came into prominence. The post-World War II period in Honolulu saw rising real estate prices after the privations and austerity of war. Small apartment buildings were a sound investment at the time, due to a combination of a housing shortage, high land prices, and restricted availability of materials to build larger apartments.²⁵

One extant example of a small apartment building is at **2153 Ala Wai Boulevard**. Originally called Nani Nana apartments when built in 1949, this three-story, eight-unit building was constructed of tile and concrete by Pacific Construction Co., Ltd. Its design, by architects Cyril W. Lemmon and Douglas Freeth, included a third-floor terrace and a two-car garage.²⁶ The building has modern, International Style characteristics including a flat roof, thin cantilevered canopies, smooth concrete surfaces, and the exclusion of ornament. Lemmon and Freeth were two of the founders of AHL Hawai'i's predecessor firm Lemmon, Freeth & Haines. Despite some inappropriate remodeling, such as the added stair railing extension and garage doors with lattice, it is evaluated as eligible under Criteria A and C for the HRHP/NRHP as a small mid-century apartment building in Waikīkī, with a distinctive International Style design.

²² "Building in May Tops \$10 Million," *Honolulu Advertiser*, May 31, 1959. P. B7.

²³ "Waikiki Palms Apartment Open to Visitors Tomorrow," *Honolulu Star-Bulletin*. August 9, 1958. p. 30.

²⁴ "Waikiki Palms Model Apartment Open Today," *Honolulu Advertiser*. August 10, 1958. p. 22.

²⁵ Ruzicka, "Back of the Beach." p. 38.

²⁶ "Apartment Building Permit Issued," *Honolulu Star-Bulletin*. February 21, 1948. p. 28.

Minimal improvements were made to Ala Wai Park by the 1940s; fill was brought in, sprinklers installed, and a baseball field was established. In keeping with its practice of taking over public parks during the war, the Army established Base Yard 101 in a segment of the park, constructing numerous wood and corrugated iron temporary buildings. Once the war ended, the Army restored its portion of the park, and the War Assets Administration sold off the buildings to the public.²⁷

O'ahu's land prices and demand for housing continued to increase throughout the 1950s, but building materials became much easier to obtain. High-rise apartment building construction in Waikīkī began as O'ahu's population exploded, increasing forty-one percent during that decade. In 1955, Waikīkī's (and Hawai'i's) first high-rise cooperative apartment was built, the **Rosalei, at 445 Kaiolu Street**, designed by Earl W. Morrison and Donald N. McDonald.²⁸ The 12-story Rosalei is evaluated as eligible for the HRHP/NRHP under Criteria A and C as Hawai'i's first high-rise cooperative apartment,²⁹ and as one of the earlier expressions in Hawai'i of the Modernism movement.

Construction across the Ala Wai Canal, in Mō'ili'ili, kept up with, and even outpaced, the Waikīkī building boom for a time. With the influx of former service members taking advantage of the GI Bill to attend nearby University of Hawai'i, and the construction of the "mauka arterial" (now H-1 freeway) in the early 1950s, Mō'ili'ili's population grew by 40 percent between 1950 and 1960.³⁰

With a rising population of residents and visitors, additional community buildings were needed in the area. The **Waikīkī-Kapahulu Library**, designed by the noted architectural firm Lemmon, Freeth, Haines (today's AHL), was completed in 1952 at the east end of the Ala Wai Canal, along Kapahulu Avenue. Previously, the only library in the area was a small cottage that provided books to schoolchildren. The library was the firm's first public building, yet it was designed in a somewhat residential character. In his book *Buildings of Hawaii*, Don Hibbard wrote, "The Waikīkī-Kapahulu Library is a quintessential 1950s Hawaiian-style modern building. Modern in its lines, but Hawaiian in heart, the single-story L-shaped library bears a residential quality, with its gently pitched, gabled roof and grand expanse of windows. The intimate walled garden space, the cast-stone masonry screen's depictions of outrigger canoes and ocean motifs, and the extension of the mauka roofline to shelter an independent walkway in a lanai-like manner, further contribute to a delightful celebration of Hawaii's culture and lifestyle."³¹ It is evaluated as eligible for the HRHP/NRHP under Criterion C for its distinctive design.

As part of a Territory-wide push for new schools in the Post-war baby-boom era, **Ala Wai Elementary School** was planned in the early 1950s. Land for the school was split off from the Ala Wai Park in 1953. By this time, park improvements were still being considered but had not

²⁷ "Emergency Location Clearance," *Honolulu Advertiser*, October 25, 1947. p. 7.

²⁸ Mason Architects, Inc. *Photo Essay of 1950s Buildings in Waikīkī and Honolulu*. Honolulu: 2100 Kalākaua Avenue. 2004. pp. 38-39.

²⁹ Two other successive 12-story hotel buildings in Waikīkī that year, Princess Kaiulani Hotel, and the Biltmore Hotels, made the same claim as tallest building in Hawai'i.

³⁰ Fung Associates, Inc., Architectural Inventory Survey: Hawai'i Public Housing Authority (Honolulu: prepared for HHF Planners, May 2015).

³¹ Don Hibbard, *Buildings of Hawai'i*. Charlottesville: University of Virginia Press, 2011.

been made. A portion at the park's center was described as "an undeveloped strip of park property, mauka of the canal, extending from the golf course to Kalakaua Avenue. On the 500 foot wide strip are the Ala Wai clubhouse and a baseball field."³² The undeveloped land was a logical site for a badly needed school.

Plans for the school were drawn up by architect C.F. Wagner.³³ Designed for about 300 pupils, the students were temporarily taught in Kaimuki High School buildings while they awaited completion of the new, 12-classroom school. The school was finished in 1954.³⁴ The following year, the school embarked on a second phase of development, adding a few more buildings.

The **Ala Wai Elementary School** is evaluated as eligible for the HRHP/NRHP. It is significant under Criteria A as one of the public elementary schools designed in the mid-20th century, which was developed in response to the baby-boom generation's education needs as they reached school age. Both nationally and locally, school districts faced with exploding enrollments looked to innovative architectural designs for any new construction. The new schools avoided earlier classical or gothic styles in favor of one-story buildings with multiple, elongated wings that afforded each classroom a large expanse of windows. This school's finger-plan campus layout with building wings joined by open walkways was extremely popular in the United States from about the late 1950s through the 1960s. Each classroom could have fresh air, natural light, and, as in Hawai'i, direct access outside via exterior doors.³⁵ At Ala Wai Elementary School, the roofs on the original classroom buildings are hipped, rather than flat, which may reflect a relatively early construction date for a finger-plan school. Hawai'i's finger-plan schools built in the later 1950s and 1960s likely relied on a flat roof form, in keeping with modern design and budgetary constraints, although more research and context would be needed to confirm that.

New roads and bridges were also required to support the rising population. The portion of University Avenue from King Street to Kapi 'olani Boulevard was constructed in 1957, allowing greater access to University of Hawai'i in Mānoa. The influx of both tourists and residents in Waikiki called for additional access onto the peninsula. The **McCully Street Bridge-Ala Wai Canal** was built in 1959, replacing an earlier timber-deck bridge that was built in 1922. The McCully Street Bridge-Ala Wai Canal is evaluated as eligible for the HRHP/NRHP under Criteria A and C. This accords with the findings in the *Hawai'i State Historic Bridge Inventory* (2014), which evaluated the bridge as eligible under Criteria A and C. Under Criterion A it was evaluated as eligible for its contribution to the economic development of Honolulu and Waikiki by providing reliable vehicular access at the time, and as part of the 1954 Bennet-Maier Plan for Waikiki Re-Development. Prior to this bridge's construction, this site was considered the most dangerous intersection in the City & County of Honolulu, in terms of traffic accidents. Eligibility under Criterion C was assigned as an example of the work of William R. Bartels, Chief Engineer

³² "Parks Board Anxious to See Ala Wai Canal Beautified," *Honolulu Star-Bulletin*, April 5, 1952. p. 19.

³³ *Honolulu Advertiser*, May 3, 1954. p. 2.

³⁴ "Land Assigned to School Use," *Honolulu Advertiser*. July 12, 1953. p. 1. "New Schools for Honolulu," *Honolulu Advertiser*. May 3, 1954. p. 2.

³⁵ Lindsay Baker, *A History of School Design and its Indoor Environmental Standards, 1900 to Today*. (Washington DC: National Clearinghouse for Educational Facilities). January 2012. p. 10-12. SWCA Environmental Consultants, Los Angeles Unified School District Design Guidelines and Treatment Approaches for Historic Schools. (Los Angeles: Los Angeles Unified School District Office of Environmental Health and Safety). January 2015. p. 46.

for the Territorial Highway Department, whose body of work is hailed for its engineering and aesthetics.

Upon attaining statehood in 1959, O'ahu's population continued to expand, increasing twenty-six percent during the 1960s. A 1960 Honolulu Rent Control Commission report stated, "Housing must be built for almost 6,400 middle-income households on Oahu during the next 27 months..."³⁶ Population increase, slum clearance, and housing demolition programs all contributed to the housing shortage in the early 1960s. Additionally, the commission pointed out that another 19,000 families occupied dilapidated or badly overcrowded quarters. Despite the construction boom happening at the time, there still existed a growing gap between available housing units and the expanding population. Additionally, as tourists poured into the state from the mainland after the advent of jet travel, the resident population also expanded. Jet access to Hawai'i and Statehood stimulated development and more tourism. Statehood improved the availability of capital market financing, allowing developers to build larger buildings for both residents and tourists.³⁷ As the economy grew and land prices went up, it became less viable to maintain a low-rise residential building when a profit could be made developing a high-rise apartment building. Early on, the proliferation of high-rises was perceived as a problem for Honolulu.

In Waikīkī during the early 1960s, zoning requirements allowed a building to have a maximum total floor area of five times the footprint of the lot. This, combined with building setbacks, were used to keep building heights low.³⁸ However, variances were obtained, and the number of high-rise buildings grew. In 1964, the Hawai'i State Legislature passed Act 8 to aid in the financing of condominiums. The law allowed developers to pre-sell condominium units and give the owners a deed. By the mid-1960s, high rises were common in Waikīkī, and by the end of that decade, they began to crowd out single-family residences and walk-up apartments.

In 1965, the 10-story, Waikiki Holiday Apartments was built at **450 Lewers Street**. The building was developed by a family hui headed by John Y.T. Wong, and was valued at more than \$1 million with 82 rental units.³⁹ Later called as the Waikiki Holiday Hotel, Coconut Plaza Hotel, and now known as the Aston Coconut Plaza, it is evaluated as not eligible for the HRHP/NRHP. While it is associated with an era of extensive high rise development in Waikīkī, it does not exhibit any architecturally distinctive qualities that transcends the ordinary, nor does it have any notable associations with important persons or events.

The 4-story, eighteen-unit **Ala Wai Hale Apartments at 2067 Ala Wai Boulevard** was built in 1966 for \$150,000.⁴⁰ The construction of small-scale apartments like this one was starting to wane in Waikīkī by this time, as high rises were already proliferating. While it is associated with an era of extensive development in Waikīkī, and was referred to as having "an eye-catching

³⁶ "Extension of Rent Control Asked," *Honolulu Advertiser*, December 1, 1960. p. A-6.

³⁷ Ross Wayland Stevenson, "The Importance of Planning to Waikīkī: A History and Analysis." Dissertation submitted in partial fulfillment of the degree of Doctor of Philosophy in Urban and Regional Planning. University of Hawai'i at Mānoa. May 2008. p. 26.

³⁸ Forrest Black, "City to Regulate Height, Bulk of Hotels, Apartments." *Honolulu Star Bulletin*. June 28, 1961. p. 36.

³⁹ "New Construction Changing Skyline Along the Ala Wai," *Honolulu Advertiser*. March 19, 1965. p. A-10.

⁴⁰ "Things Looking Up Along the Ala Wai," *Honolulu Advertiser*. June 16, 1966. p. E8.

design,”⁴¹ it does not exhibit sufficiently distinctive qualities, nor does it have notable associations with important persons or events, for listing on the HRHP/NRHP.

In 1967, the 19-story leasehold condominium **Twin Towers at 2085 Ala Wai Boulevard** apartment building was built. Designed by Hawaii born architect Takashi Anbe, AIA, and built by Charles I. Otsuka, general contractor, its developer, Kalakaua Land Development Inc., said the building “pioneers a new concept of privacy and noise control for medium-priced apartments...every apartment is a corner apartment.”⁴² It is evaluated as not eligible for the HRHP/NRHP. While the property has a well-rendered design, it does not exhibit such architecturally distinctive qualities to transcend the ordinary, nor does it have any notable associations with important persons or events.

Just mauka of the Ala Wai Elementary School, the 10-story **Ala Wai Cove** (509 University Avenue) was built in 1961. Originally called Park Terrace, the condominium building was designed by Anderson, Kubala & Associates, Architects and Engineers, with 77 rental units.⁴³ It was referred to at the time of its completion as “one of the few high rise apartments for rent in Honolulu.”⁴⁴ While it is one of the earlier tall buildings completed in Mō’ili’ili, and is the work of a noted local firm, it does not exhibit any architecturally distinctive qualities that transcend the ordinary, nor does it have any notable associations with important persons or events. It is evaluated as not eligible for the HRHP/NRHP.

The Ala Wai Park’s **south comfort station** was constructed in 1960.⁴⁵ It is evaluated as eligible for the HRHP/NRHP under Criterion C for its architecturally distinctive design and materials, including its wood shake roof and distinctive decorative ridge beam. The *Hawai’i Modernism Context Study* explains that in the post-war period, the City and County of Honolulu built many new structures within its parks and playgrounds, some designed by notable architects. “Many were utilitarian, hollow tile structures with gable roofs. Others were distinctly modern in character, while some assumed the more romantic, rustic appearance traditionally associated with parks buildings throughout the United States thanks to the design policies set forth by the National Park Service.”⁴⁶ Designed by Tom Litaker and Louis Pursel, the facility within the Ala Wai Neighborhood Park exhibits a distinctive design with rustic materials, including lava rock columns, wood roof shakes, and a copper-clad decorative ridge beam. The layout includes a restroom and pavilion under a shared roof.

The north comfort station within the Ala Wai Community Park was built later, ca. 1969, and its designer is not known. While its layout is similar to the south comfort station, it does not exhibit the same distinctive materials. Therefore, it is evaluated as not eligible for the HRHP/NRHP.

⁴¹ Ibid.

⁴² “Groundbreaking Set for Towers,” *Honolulu Advertiser*. April 16, 1966. p. A-13.

⁴³ “Park Terrace Apartments to Have 77 Rental Units,” *Honolulu Star-Bulletin*. December 11, 1960. p. 27.

⁴⁴ “Park Terrace Apartment Open,” *Honolulu Advertiser*. December 11, 1960. P. B2.

⁴⁵ Fung and Associates, Inc. *Hawai’i Modernism Context Study* prepared for the Historic Hawai’i Foundation. November, 2011. p. 4-113 to 4-114.

⁴⁶ Fung and Associates, Inc. *Hawai’i Modernism Context Study* prepared for the Historic Hawai’i Foundation. November, 2011. p. 4-113 to 4-114.

Several facilities were added to the Ala Wai Park after this time. The ballfield dugouts, stands, and announcer booth are less than 50 years old. Distinctive playground equipment installed within the area known today as the Ala Wai Neighborhood Park was custom-designed by Lou Pursel and Thomas Litaker, AIA, ca. 1964.⁴⁷ It was removed at an unknown time, and replaced with modern equipment. Existing green and recreational space at both the north and south ends of the park were removed to make way for additional parking, and the ballfield lighting at the north side was installed in 1976. The park trail was completed in 1990. Ca. 1992, the park began being referred to as Ala Wai Community Park (north) and Ala Wai Neighborhood Park (south). Both the **Ala Wai Community Park** and **Ala Wai Neighborhood Park** are evaluated as not eligible for the HRHP/NRHP.

Population on Oahu continued to expand through the 1970s. In addition to the high-rise apartment construction on the mauka side of the canal during these decades, the Waikīkī side also had numerous high-rise buildings constructed. In the 1970s, high rises were built as zoning allowed, a trend that continued in Waikīkī, Mō'ili'ili, and McCully as the urban Honolulu population increased. During the early 1970s, while the Honolulu City Planning Commission established height limits for buildings on Diamond Head to preserve view planes, building heights in Waikīkī soared.⁴⁸

In 1972 the **Hale Moani at 2115 Ala Wai Boulevard** was built. It was evaluated as not eligible for the HRHP/NRHP. It does not meet the exceptional importance threshold under National Register Criteria Consideration G. Further, properties less than 50 years in age are not eligible for listing on the HRHP. It should be re-evaluated when it reaches 50 years.

Ca. 1976, the 41-story condominium high rise at **2121 Ala Wai** was completed. It was evaluated as not eligible for the HRHP/NRHP. It does not meet the exceptional importance threshold under National Register Criteria Consideration G. Further, properties less than 50 years in age are not eligible for listing on the HRHP. It should be re-evaluated when it reaches 50 years.

With continued construction and growth, additional roadways were required. About 1970, University Avenue was extended south from Kapi 'olani Boulevard to Ala Wai Elementary School. This improvement project occurred in conjunction with the construction of a large condominium apartment, the **Ala Wai Plaza** (1970). This building is evaluated as eligible for the HRHP/NRHP under Criterion C for its distinctive design by internationally acclaimed Argentine architect César Pelli (1926-2019), who at the time was working for the Honolulu office of Dennis Mann Johnson Mendenhall (DMJM). The design of this 25-story building includes a distinctive glass vertical circulation tower. According to the *Hawai'i Modernism Context Study*, numerous ordinary high-rise condominiums were built in the first ten years of the 1964 law, but the Ala Wai Plaza is one of the rare examples of the period whose design "transcend(s) the ordinary".⁴⁹

High rises crowded out low-rise buildings in Waikīkī. By the mid-1980s virtually all the area's residents lived in high rises. Almost three-quarters of Waikīkī's apartments were in buildings with

⁴⁷ "'Dragon' In The Park." *Honolulu Advertiser*. January 26, 1964. p. 81.

⁴⁸ Harold Hostetler, "Hearing Set on Diamond Head Building Height Limits." *Honolulu Star-Bulletin*. May 16, 1971. p. B-1.

⁴⁹ Fung and Associates, Inc. *Hawai'i Modernism Context Study* prepared for the Historic Hawai'i Foundation. November 2011. p. 4-113 to 4-114 & p. 4-32.

fifty or more units. Although it remains a significant residential neighborhood (albeit vertically-oriented), it is overshadowed by its status as Hawai'i's primary tourist destination.⁵⁰

The single-family residence at **2163 Ala Wai Boulevard** was built in 1988. Later construction in Waikiki included the 2009 44-unit apartment **Ala Wai Garden Plaza at 2055 Ala Wai Boulevard** that was built on five small TMK lots. Both of these less than 50-year old properties are evaluated as not eligible for the HRHP/NRHP. Neither property meets the exceptional importance threshold under National Register Criteria Consideration G. Further, properties that are less than 50 years in age are not eligible for listing on the HRHP.

Another significant feature (although not architectural) located within the study area is the ***Malia***, a Hawaiian koa canoe built in 1933. Listed on the HRHP/NRHP in 1993 under Criteria A and C, it is currently housed within the Ala Wai Community Park. This 40'-long racing canoe was carved by James Takeo Yamasaki out of a single koa log. The *Malia* has made an important contribution to the Hawaiian State Sport of canoe racing by its participation in countless events. It also served as the prototype for an entire class of fiberglass racing canoes that have been in use since the early 1960s.⁵¹ The *Malia* is owned by the Waikiki Surf Club and is stored in their facility, **University Halau**, which was built in 1988. Despite the important canoe housed within, the halau is evaluated as not eligible because it is less than 50 years in age and does not meet exceptional importance criteria. It is important to note however that this or a similar waterfront location is important to retain the historic integrity of the canoe itself. Per the NR Bulletin 20, "in rare vessels, integrity of setting [is retained] if the craft is associated with the water by means of a waterfront location."⁵²

⁵⁰ Don Hibbard and David Franzen, *View from Diamond Head, Royal Residence to Urban Resort*. Honolulu: Editions Limited. 1986. p. 149.

⁵¹ Dorian Travers, "Hawaiian Canoe Malia, National Register of Historic Places Registration Form." 1993.

⁵² James P. Delgado and A National Park Service Maritime Task Force. "National Register Bulletin 20, Nominating Historic Vessels and Shipwrecks to the National Register of Historic Places." U.S. Department of the Interior, National Park Service, Interagency Resources Division, 1987.

NRHP Criteria for Evaluation

The 30 resources identified within the study area were evaluated for Hawai'i State and National Register of Historic Places significance using the Hawai'i and National Register Guidelines evaluation criteria. The sections to follow are excerpts of National Park Service's (NPS) National Register Bulletin 15, which explains how the National Register Criteria are applied. To follow are the Hawai'i Register of Historic Places Criteria.

In order for the properties evaluated as eligible within this study to be listed on the HRHP/NRHP, they would require additional research, the development of a National Register nomination form, and successful review by the Historic Places Review Board (and National Park Service, for NRHP listing).

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess 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.

To meet the National Register Criteria for Evaluation, a property, in addition to possessing significance within a historic context, must retain integrity. Integrity is the ability of a property to convey its significance through the retention of essential physical characteristics from its period of significance. National Register Bulletin 15 explains the following seven aspects of integrity:

Location is the place where the historic property was constructed or the place where the historic event occurred.

Design is the combination of elements that create the form, plan, space, structure, and style of a property.

Setting is the physical environment of a historic property.

Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.

Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.

Feeling is a property's expression of the aesthetic or historic sense of a particular period of time.

Association is the direct link between an important historic event or person and a historic property.

HRHP Criteria for Evaluation

Hawaii Administrative Rules (HAR) Section §13-275-6, Evaluation of Significance, explains that “to be significant, a historic property shall possess integrity of location, design, setting, materials, workmanship, feeling, and association and shall meet one or more of the following criterion:”

- 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 significant persons 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 distinguishable entity whose components may lack individual distinction; or
- d. That have yielded or may be likely to yield, information important in history or prehistory;
- e. Has an important value to the native Hawaiian people or to another ethnic group or the state due to association 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 (similar traditional cultural significance for NRHP)

The main difference between Hawaii State Criteria and National Register Criteria is Hawaii has one additional criteria; Criterion e.

Identification of Historic Properties

The Historical Overview section provided historical and contextual information that supported the development of significance evaluations. These are presented in Table 1: Identification of Historic Properties, on page 22. As shown in this table, of a total of 30 resources surveyed, 12 were identified as historic properties. The locations of the 30 properties surveyed are shown on the maps in Figures 3, 4, and 5.

Features of the landscape such as the Ala Wai Community Garden and various view planes that are situated within the project area were not included in the survey because they are not permanent or traditionally considered built architectural structures. The landscape or environment of the survey area is loosely addressed in the discussion of integrity, as it relates to setting and feeling. Further, specific view planes are addressed in a separate Visual Analysis report, produced for the EA.

Ala Wai Canal Significance and Character Defining Features

Of the 30 historic resources identified in Table 1, the Ala Wai Canal is most prominent and integral to the proposed bridge project. Accordingly, to follow is an in-depth discussion on the canal's significance and character defining features.

Significance

Criterion A (*Properties "that are associated with events that have made a significant contribution to the broad patterns of our history"*)

The Ala Wai Canal was listed on the HRHP in 1992 under Criterion A for its association with the development of Waikīkī under the significance areas "Community Planning and Development" and "Social History," for:

Its pivotal role in the development of the Waikiki district, first as a residential neighborhood and soon after as a world renowned resort area... The structure, which the original proposer of the canal, Lucius E. Pinkham envisioned as a great lagoon to be used for boating and recreational purposes, remains in the midst of so much change, relatively unchanged, and continues to be used regularly by paddlers and fisherman.

Further the listing states,

The Ala Wai Canal provides an important aesthetic dimension to the Waikiki neighborhood with its open space and tranquil waters. While the land surrounding the Ala Wai has undergone incredible change in the last 71 years, the environment at the canal has remained relatively constant.

At the time of the 1992 nomination, the canal's concrete and lava rock walls were not yet 50 years in age, so it is likely author Erica Steele based eligibility solely on Criteria A to focus on events "that have made a significant contribution to the broad patterns of our history," rather than the physical aspects that typically express Criterion C ("embodies the distinctive characteristics of a type, period, or method of construction").

Criterion C (*Properties “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”*)

Today the canal is evaluated as eligible for both Criteria A and C. This evaluation acknowledges that the wall reconstruction work has reached the 50-year historic “threshold” and achieved significance in its own right for the distinctive characteristics of its type, period, and method of construction.

The canal meets Criterion C because it “embodies the distinctive characteristics of a type, period, or method of construction...”⁵³ To be eligible under this portion Criterion C, Bulletin 15, *How to Apply the National Register Criteria for Evaluation*, states that, “a property must clearly illustrate, through ‘distinctive characteristics,’ the following: The pattern of features common to a particular class of resources; the individuality or variation of features that occurs within the class; the evolution of that class, or; the transition between classes of resources.”⁵⁴

The canal illustrates the pattern of features common to canals and drainage ditches built on Oahu in the 20th century. Such waterways were constructed according to the traditional methods within the locality of the Territory of Hawaii. The canal reflects the use of naturally available materials and methods that are no longer typically used. This includes the canal’s original dredged construction with un-reinforced earthen banks and bottom, and later modifications that entailed lava rock walls reinforcing its makai bank, and concrete coated walls on its mauka side, and a segmental arch lava rock balustrade. This mixture of construction types conveys both the individuality of features common to this class, and “the variation of features that occurs within the transition between classes of resources.” This unique combination of distinctly Hawaiian materials and features would likely not be used in the construction of a new canal today.

Character Defining Features

The Ala Wai Canal is significant for its contributions to the development of Waikīkī as a canal that enabled the reclamation of wetlands and fishponds. The relationship with the development of Waikīkī would not have been possible without the canal.

The extant character-defining features of the Ala Wai Canal that convey its significance are a combination of physical and contextual environmental features listed below.⁵⁵

According to National Park Service Preservation Brief 17, “Architectural Character: Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving their Character” character-defining elements of a historic resource include “the overall shape..., its materials,

⁵³ The canal does not “represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction”.

⁵⁴ National Park Service, National Register Bulletin 15, *How to Apply the National Register Criteria for Evaluation*. U.S. Department of the Interior. 1990. P. 18.

⁵⁵ 36 CFR § 800.5 - Assessment of Adverse Effects (a)(1) states that, “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.” Accordingly, any assessment of adverse effects would need to consider all historic qualifying characteristics of the canal, including those associated with Criteria A and C.

craftsmanship, decorative details, interior spaces and features, as well as the various aspects of its site and environment.”

The Ala Wai Canal is a relatively simple structure from both a physical and functional standpoint (it has no locks, sluice gates, footbridges, or other features). Its physical presence within the landscape is for the most part at or below grade, largely hidden from view.

Today, the Ala Wai Canal is a body of water recognized as a “respite of open space, tranquility and beauty,”⁵⁶ which, together with the Ala Wai Boulevard, “offer further spatial releases from the high density of Waikīkī’s commercial strip.”

The most noticeable characteristics from a distance are; 1) the broad body of water channeled within it, and, 2) the open space above and around it. The virtually flat elevation of the canal and its adjacent embankments are well in keeping with the 25’ height limit (Land Use Ordinance Chapter 21-9.40), and the recommendations of the Diamond Head Special District Design Guidelines imposed upon the canal area.

The canal is also relatively short in length. The entire length of the canal segment found within the APE is visible as one continuous, uninterrupted view plane. This uninterrupted view plane is visible from numerous vantage points, such as along the Ala Wai promenade, from the McCully Street Bridge and the Waikīkī-Kapahulu Library property.

Physical Character Defining Features of the Canal within the APE include:

- Flat/below grade elevation
 - The engineering required for the canal to function results in a virtually flat or below grade elevation when viewed from the adjacent open spaces, promenade, streets, and bridges;
- Lava rock and concrete sidewalls.
 - Lava rock walls reinforce the makai bank and concrete revetments and prevent the erosion of the mauka bank;
- Stairwells.
 - Stairwells located along the makai bank provide access from the promenade to the water;
- Canal bottom and depth.
 - Mixed concrete-lined and unlined canal bed of variable depth;
- Canal width.
 - Canal width varies with the widest portion reaching 250 feet;
- Canal length.
 - Canal is roughly 2 miles long;
- Rectilinear footprint/alignment within the APE. (It bends outside the APE between McCully Bridge and Kalakaua Avenue)
- Functionality.

⁵⁶ Don Hibbard and David Franzen, *View from Diamond Head, Royal Residence to Urban Resort*. Honolulu: Editions Limited. 1986.

- Capacity to function as an open waterway that channels rainwater into the ocean while providing a recreational open space for the public.

Contextual and Environmental Character Defining Features of the canal within the APE include:

- Continuous, uninterrupted open space and view planes across and along the waterway.
 - Open waterway that easily conveys significance as a canal with no visual obstructions, while providing an undisturbed open space recreational area.
 - Affords prominent public views of the rear slopes of the Diamond Head State Monument, the Ko'olau mountain range, and Punchbowl, from select vantage points.
 - Views of Diamond Head from Ala Wai Boulevard are identified as "significant views" in the Waikiki Special District Design Guidelines (2002).
- Low-scale buffers and open space along each bank.
 - Adjacent on its mauka side, as a low-scale buffer from residential towers, are open grassy areas of the Ala Wai parks, sports fields, and one-story buildings (Ala Wai Clubhouse, Ala Wai Elementary School, the boat house, comfort station, etc.)

Adjacent on its makai side, as a low-scale buffer from Waikīkī high rises, are the Ala Wai Boulevard palm-lined promenade, and the Ala Wai Boulevard roadway.





Table 1: Identification of Historic Properties			
Name/Address/TMK	Year Built	Evaluation of Significance (Applies to both 36 CFR §800.4 [c])/HAR §13-275-6) <i>Integrity Assessment*</i>	Photo
MAUKA BANK			
Ala Wai Canal No TMK	1927	Eligible. While MASON does concur with the original 1990 listing (Hawai'i Register on July 17, 1992) under Criteria A (since at that time, the walls were not yet historic) this study recommends eligibility under both Criteria A and C in recognition that the mid-20 th century wall repairs/modifications have become historic in their own right, expressing local, traditional methods used within the Territory of Hawaii in that period. <i>Retains integrity of L, D, M, W, A. Integrity of setting and feeling are partly diminished because of changes to the setting/urban environment.</i>	
McCully Street Bridge No TMK	1959	Eligible. MASON agrees with the 2014 Hawaii State Historic Bridge Inventory evaluation, which evaluated the bridge as eligible under Criteria A and C. <i>Retains integrity of L,M,W,A. Integrity of design is diminished by the 1996 addition of a large concrete utilities chase structure along the Diamond Head outboard side of the bridge. Integrity of setting and feeling are diminished by changes to the surrounding area, and addition. Despite the addition and changes, it retains sufficient integrity for listing.</i>	
Ala Wai Community Park Property 2015-2021 Kapi 'olani Blvd. [1] 2-7-036: 001, 005 Includes: <i>Malia Koa Canoe</i>	1933	Eligible. MASON concurs with the 1993 listing of the canoe on the HRHP/NRHP under Criteria A and C. <i>An integrity assessment was not made since the canoe was not accessed within the locked building at the time of fieldwork. Integrity is unknown, but is assumed intact.</i>	
Ala Wai Clubhouse (Ala Wai Recreation Center)	1936	Eligible. MASON concurs with the listing of the Clubhouse on the Hawai'i Register June 9, 1988 as part of the Art Deco Parks Thematic Nomination (SIHP# 50-80-14-1388) under Criterion A. <i>Retains integrity of L,D,M,W,A. Retains partial integrity of setting and feeling, due to changes to the property and environment.</i>	

Table 1: Identification of Historic Properties

Name/Address/TMK	Year Built	Evaluation of Significance (Applies to both 36 CFR §800.4 [c])/HAR §13-275-6) <i>Integrity Assessment*</i>	Photo
Ala Wai Community Park	1936	Not eligible. Except for the area immediately surrounding the Clubhouse, as described in the Clubhouse nomination form, the remainder of the park does not have integrity. <i>Integrity: N/A</i>	
Ala Wai Neighborhood Park - South Comfort Station	1960	Eligible under Criterion C for its architecturally distinctive design and materials, including its lava rock columns, wood shakes, copper-clad decorative ridge beam. <i>Retains integrity of L,D,M,W,F,A. Retains partial integrity of setting, due to changes to the environment and park setting.</i>	
North Comfort Station	Ca. 1969	Not eligible. While its overall layout is similar to the south comfort station, it does not exhibit the same distinctive materials, and is not architecturally notable. <i>Integrity: N/A</i>	
Ala Wai Community Park (Continued)			
Various Ballfield Improvements	Varies; post-1970	Not eligible. Some features are less than 50 years. Others have no known historic associations with important events, people, or design. <i>Integrity: N/A</i>	
University Halau	1988	Not eligible. Does not meet the exceptional importance threshold under National Register Criteria Consideration G. Properties less than 50 years in age are not eligible for listing on the HRHP. Note: One canoe housed within is listed on the HRHP/NRHP. See table entry for <i>Malia Koa Canoe</i> . <i>Integrity: N/A</i>	
Bike Path/Trail	Ca. 1990	Not eligible. Does not meet the exceptional importance threshold under National Register Criteria Consideration G. Properties less than 50 years in age are not eligible for listing on the HRHP. <i>Integrity: N/A</i>	
Ala Wai Plaza Condominium 500 University Ave. [1] 2-7-013: 002	1970	Eligible under Criterion C for its distinctive design by internationally acclaimed Argentine architect Cesar Pelli of DMJM. <i>Retains integrity of L,D,S,M,W,F,A. Overall the primary components of this tower are largely intact.</i>	






Table 1: Identification of Historic Properties			
Name/Address/TMK	Year Built	Evaluation of Significance (Applies to both 36 CFR §800.4 [c])/HAR §13-275-6) <i>Integrity Assessment*</i>	Photo
Ala Wai Cove Condominium 509 University Ave. [1] 2-7-013: 011	1961	Not eligible. While it is one of the earlier tall buildings completed in Mō'ili'ili, and is the work of local firm Anderson & Kubala, it does not exhibit any architecturally distinctive qualities that transcend the ordinary, nor does it have any notable associations with important persons or events. <i>Integrity: N/A</i>	
Ala Wai Elementary School 503 Kamoku St. [1] 2-7-036: 007	1954	Eligible under Criteria A as one of the many mid-century elementary schools developed in the Post-war period to meet the needs of the baby boom generation. (A more pristine and intact example of a finger-plan school would likely be eligible under Criterion C as well.) <i>Retains integrity of L,D,M,W,A. Due to changes over time with the expansion of the school with new buildings, and the surrounding environment, integrity of setting and feeling are diminished.</i>	
Waikiki-Kapahulu Library 402 Kapahulu Ave. [1] 2-7-036: 006	1952	Eligible under Criterion C as a quintessential 1950s Hawaiian-style modern building, the library is the work of master architect Cyril Lemmon. <i>Retains integrity of L,M,W and F. Aspects of design, setting and association are diminished somewhat due to changes to the building and surrounding environment over time, as well as loss of some library functions (performances in the auditorium).</i>	
MAKAI BANK Entries progress westward			
Aston Coconut Plaza 450 Lewers [1] 2-6-017: 028	1966	Not eligible. While it does represent an era of extensive development in Waikiki, it does not exhibit any architecturally distinctive qualities that transcend the ordinary, nor does it have any known associations with important people or events. <i>Integrity: N/A</i>	
2169 Ala Wai Blvd. [1] 2-6-017: 034	2017	Not eligible. Does not meet the exceptional importance threshold under National Register Criteria Consideration G. Properties less than 50 years in age are not eligible for listing on the HRHP. <i>Integrity: N/A</i>	






Table 1: Identification of Historic Properties			
Name/Address/TMK	Year Built	Evaluation of Significance (Applies to both 36 CFR §800.4 [c])/HAR §13-275-6) <i>Integrity Assessment*</i>	Photo
2167 Ala Wai Blvd. [1] 2-6-017: 033	1934	Not eligible. Lacks integrity due to alterations. <i>Integrity: N/A</i>	
2163 Ala Wai Blvd. [1] 2-6-017: 025	1988	Not eligible. Does not meet the exceptional importance threshold under National Register Criteria Consideration G. Properties less than 50 years in age are not eligible for listing on the HRHP. <i>Integrity: N/A</i>	
2153 Ala Wai Blvd. [1] 2-6-017: 029	1949	Eligible under Criteria A and C as a late-International Style residential apartment in Waikiki as designed by noted architects Cyril Lemmon and Douglas Freeth (founders of today's AHL). <i>Retains integrity of L,D,M,W,F,A. Has partly diminished integrity of setting due to changes to the urban environment. The overall form, massing, and notable features such as its cantilevered concrete canopies, flat overhanging eaves, and the ladder to roof, are intact resulting in retained integrity of design, materials, and workmanship. Replaced features, such as garage door and railing extensions are easily removable, while others (such as the windows) do not conflict with the original design.</i>	
Rosalei Apartments 445 Kaiolu St. [1] 2-6-017: 004	1955	Eligible under Criteria A and C as Hawai'i's first high-rise cooperative apartment building. <i>Retains integrity of L,D,M,W,F,A. The overall tower retains its aspects of physical integrity, however its setting is diminished due to the increased urban development in Waikiki, particularly the construction of high-rises.</i>	
2121 Ala Wai Blvd. [1] 2-6-017: 003	Ca. 1976	Not eligible. Does not meet the exceptional importance threshold under National Register Criteria Consideration G. Properties less than 50 years in age are not eligible for listing on the HRHP. <i>Integrity: N/A</i>	







Table 1: Identification of Historic Properties			
Name/Address/TMK	Year Built	Evaluation of Significance (Applies to both 36 CFR §800.4 [c])/HAR §13-275-6) <i>Integrity Assessment*</i>	Photo
2115 Ala Wai Blvd. Hale Moani [1] 2-6-017: 016	1972	Not eligible. Does not meet the exceptional importance threshold under National Register Criteria Consideration G. Properties less than 50 years in age are not eligible for listing on the HRHP. Should be re-evaluated when it reaches 50 years. <i>Integrity: N/A</i>	
2107 Ala Wai Blvd. [1] 2-6-017: 023 Includes: Single family residence	1937	Eligible under Criterion A as one of the few remaining examples of Waikiki's pre-war single-family residential development period, and under Criterion C for its distinctive wood-frame, board and batten construction. <i>Retains integrity of L,D,M,W,A. Due to drastic changes in the surrounding urban environment since its 1930s-era construction, it lacks integrity of setting and feeling. Despite its poor condition and boarded up windows, its overall physical form and features easily express its historic period, notable as a striking anachronism within the urban Waikiki environment.</i>	
3-story apartment	1960	Not eligible. As a 1960 duplex, it is associated with Waikiki's early residential history, however it lacks architectural distinction, and its integrity of feeling and association are compromised. <i>Integrity: N/A</i>	
2103 Ala Wai Blvd. [1] 2-6-017: 015	No date	Not eligible. (Vacant lot) <i>Integrity: N/A</i>	

Table 1: Identification of Historic Properties			
Name/Address/TMK	Year Built	Evaluation of Significance (Applies to both 36 CFR §800.4 [c])/HAR §13-275-6) <i>Integrity Assessment*</i>	Photo
441 Kālainmoku St. [1] 2-6-017: 014 Includes: (441-443 Kālainmoku) Duplex	1941	Eligible under Criterion A as one of the few remaining examples of Waikiki's war-era development that included duplex residences. <i>Retains integrity of L,D,F,A. Partly diminished integrity of setting due to modifications in the urban environment. Partly diminished integrity of materials and workmanship due to replacement of features such as the front door and select windows. Other critical character defining features (such as the Asian-motif balustrade, and the sliding corner windows) are intact.</i>	
(445 Kālainmoku) 16-unit apartment Waikiki Palms	1959	Not eligible. Despite the apartment's bold original design, it is evaluated as not eligible for the Hawai'i and National Register due to a lack of integrity resulting from the removal of the distinctive railing that was the façade's most dominant design feature. <i>Integrity: N/A</i>	
2085 Ala Wai Blvd. Twin Towers [1] 2-6-016: 001 19-story, with 72 units in its twin towers	1967	Not eligible. While the property has a well-rendered design, it does not exhibit such architecturally distinctive qualities to transcend the ordinary, nor does it have any known associations with important people or events. <i>Integrity: N/A</i>	
2067 Ala Wai Blvd. Ala Wai Hale [1] 2-6-016: 038	1966	Not eligible. While associated with an era of extensive development in Waikiki, it does not exhibit sufficiently distinctive qualities, nor does it have notable associations with important people or events for listing on the HRHP/NRHP. <i>Integrity: N/A</i>	
2055 & 2061 Ala Wai Blvd. Ala Wai Garden Plaza 5 TMKs, [1] 2-6-016: 056 - 060	2009	Not eligible. Does not meet the exceptional importance threshold under National Register Criteria Consideration G. Properties less than 50 years in age are not eligible for listing on the HRHP. <i>Integrity: N/A</i>	

*Integrity assessments provided in the table include abbreviations of the seven aspects of integrity:

L = Location

D = Design

S = Setting

M = Materials

W = Workmanship

F = Feeling

A = Association



Figure 3: Resources evaluated near Ala Wai Community Park. Inset shows southeast end of Study Area. Source: MASON.



Figure 4: Resources evaluated on the Mauka Bank, in vicinity of project site. Source: MASON.



Figure 5: Resources evaluated on the Makai Bank, in vicinity of project site. Source: MASON.

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ALA PONO

an Ala Wai Crossing

NHPA Section 106 Meeting

October 19, 2020



- 01 Welcome and Introductions
- 02 Project Overview
- 03 Area of Potential Effects (APE)
- 04 Historic Properties Identified in the APE
- 05 Potential Project Effects
- 06 Resolution of Potential Project Effects
- 07 Project Timeline and Next Steps

MEETING AGENDA

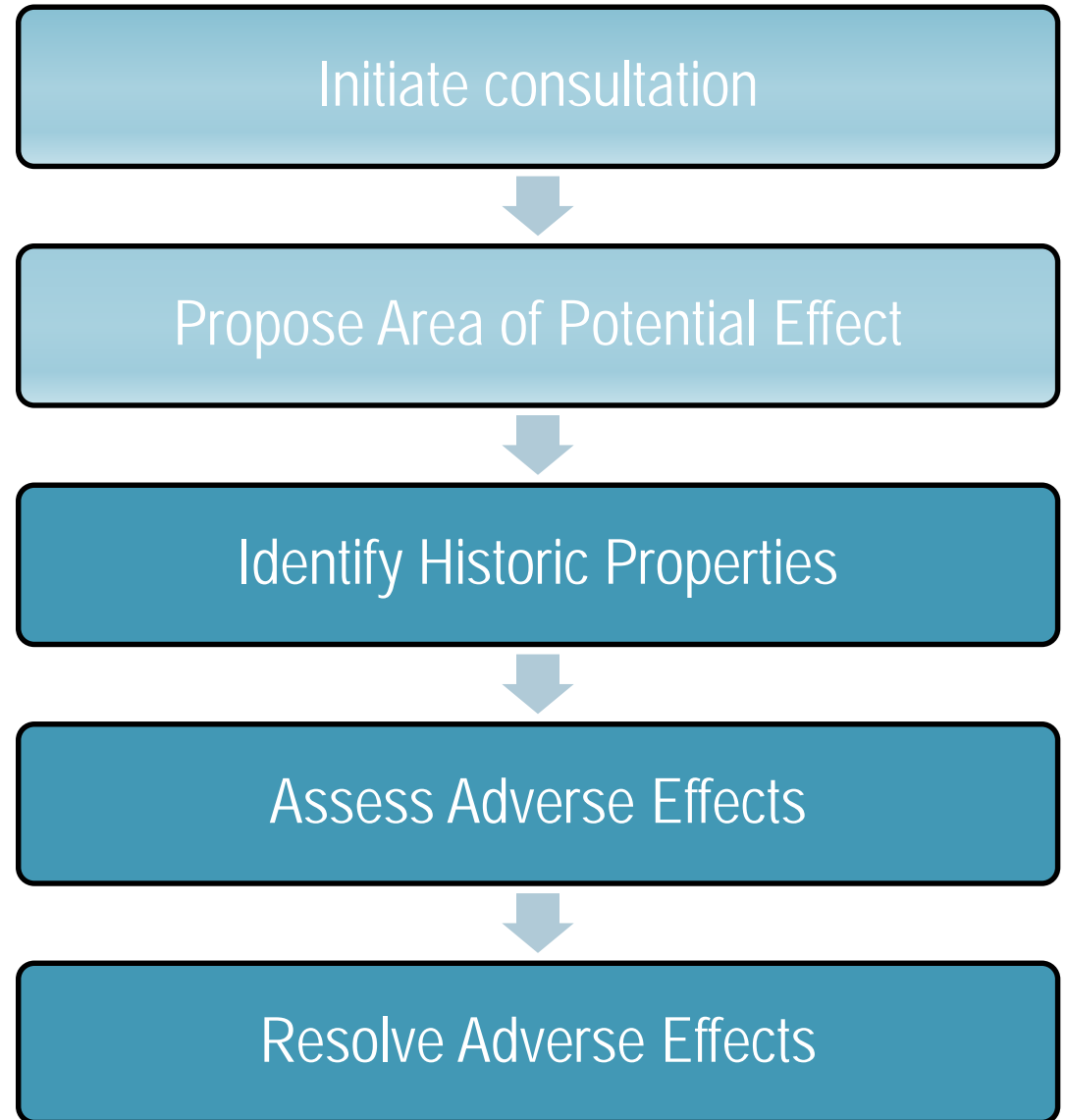


01

Welcome and Introductions

Section 106 of the National Historic Preservation Act of 1966 requires the federal agency to:

- Identify and assess the effects actions will have on historic resources on or eligible for the National Historic Register.
- Consider public views and concerns about historic preservation issues when making final project decisions.
- Consult with interested parties



NATIONAL HISTORIC PRESERVATION ACT OF 1966

02

Project Overview

ALA WAI BRIDGE PURPOSE & NEED

- Improve **multimodal network connectivity** and **enhance public safety** for people walking and bicycling across the Ala Wai Canal between Ala Moana Boulevard and the Manoa/Palolo Stream.
- Maintain **recreational opportunities**, retain **unobstructed stormwater drainage**, **avoid physical impacts** to the Historic Ala Wai Canal, and accommodate **sea-level rise**, .
- Ensure comfortable sustainable mobility that **enhances economic vitality**, environmental **health**, and social **equity**.
- Provide a modern, artistic, and vibrant element that is **inspired by the native cultural aspects** of the canal and Waikiki.
- Implement the recommendations and policy **guidance from several regional plans** and fulfill part of the broader **Honolulu Complete Streets Program**.



Safety from
Traffic



Improved
Non-Motorized
Emergency
Evacuation and
Public Safety



Complete Streets
Connectivity



Travel Time and
Convenience



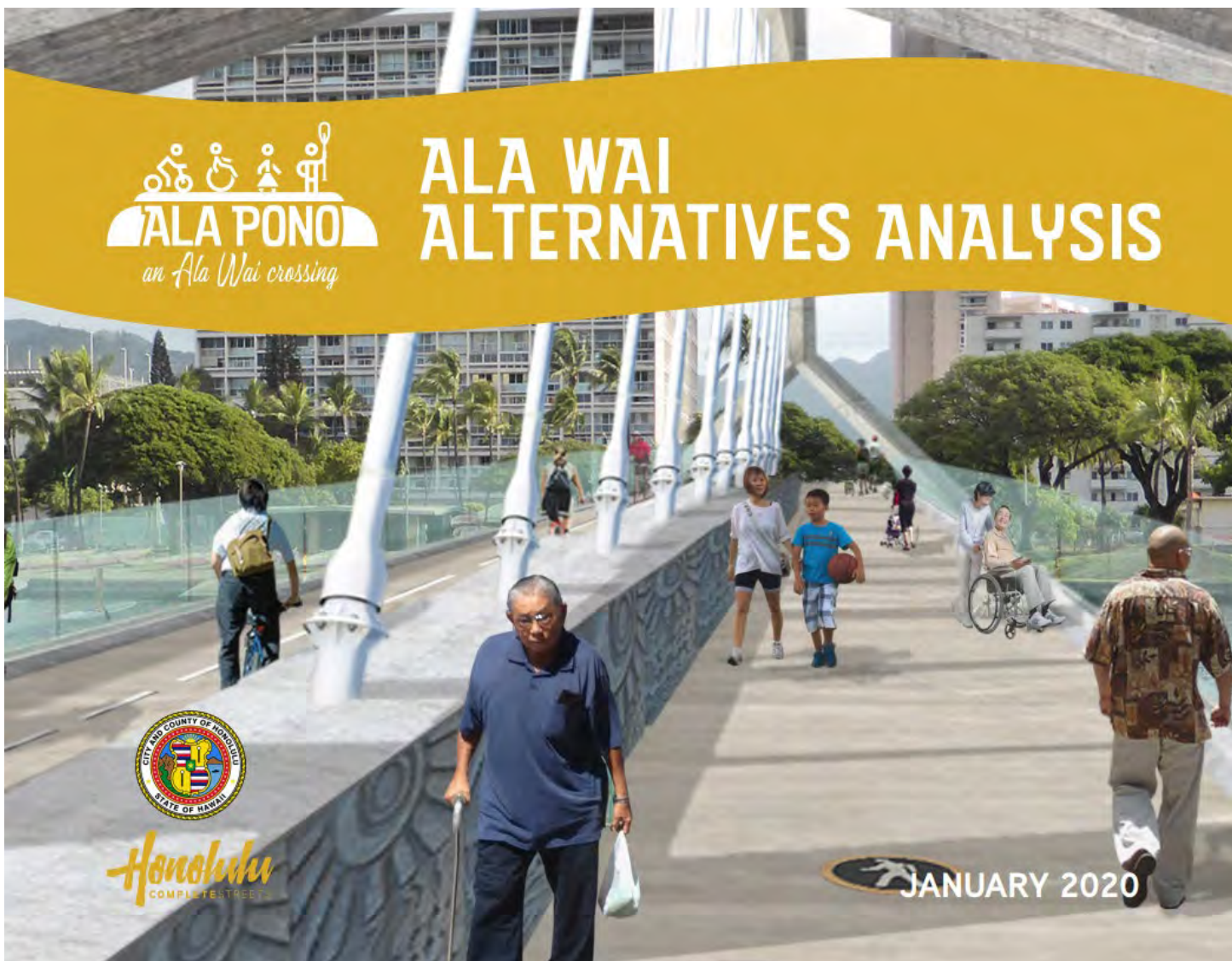
Environmental and
Public Health



Vibrant
Canal



Affordable
Access



ALA PONO: AN ALA WAI CROSSING



87,000 PEOPLE
CURRENTLY LIVE IN AN AREA
WHERE THEY CAN EASILY WALK OR
BIKE ACROSS THE ALA WAI CANAL
TO OR FROM CENTRAL WAIKIKI.



THE NEIGHBORHOODS
AROUND THE CANAL ARE
ESTIMATED TO GAIN

5,550
NEW RESIDENTS BY 2045.

MEDIAN HOUSEHOLD INCOMES ARE
17% TO 29% LOWER
IN NEIGHBORHOODS AROUND THE CANAL THAN
HONOLULU'S MEDIAN HOUSEHOLD INCOME OF \$77,161.

UPWARDS OF
25% OF WAIKIKI
AND MCCULLY-MOILIILI
RESIDENTS DO NOT OWN
A CAR AND REGULARLY
COMMUTE BY MEANS
OTHER THAN CAR

Source: OahuMPO Travel Demand Model



THE NEIGHBORHOODS AROUND
THE CANAL ARE HOME TO

7,000+ PEOPLE
EXPERIENCING A DISABILITY.

ONE IN TEN
HONOLULU RESIDENTS ARE
EXPERIENCING A DISABILITY.

STUDY AREA





PUBLIC INPUT



COMPLETE STREETS CONNECTIVITY



POTENTIAL ENVIRONMENTAL IMPACTS



IMPLEMENTATION



TRAFFIC SAFETY



TRAVEL TIME AND CONVENIENCE



ENHANCE SUSTAINABLE MOBILITY AND
IMPROVE PUBLIC HEALTH



AFFORDABLE ACCESS



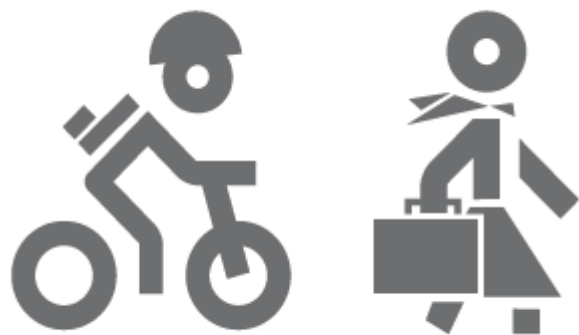
IMPROVED NON-MOTORIZED EMERGENCY
EVACUATION AND PUBLIC SAFETY



VIBRANT CANAL



ALTERNATIVES ANALYZED

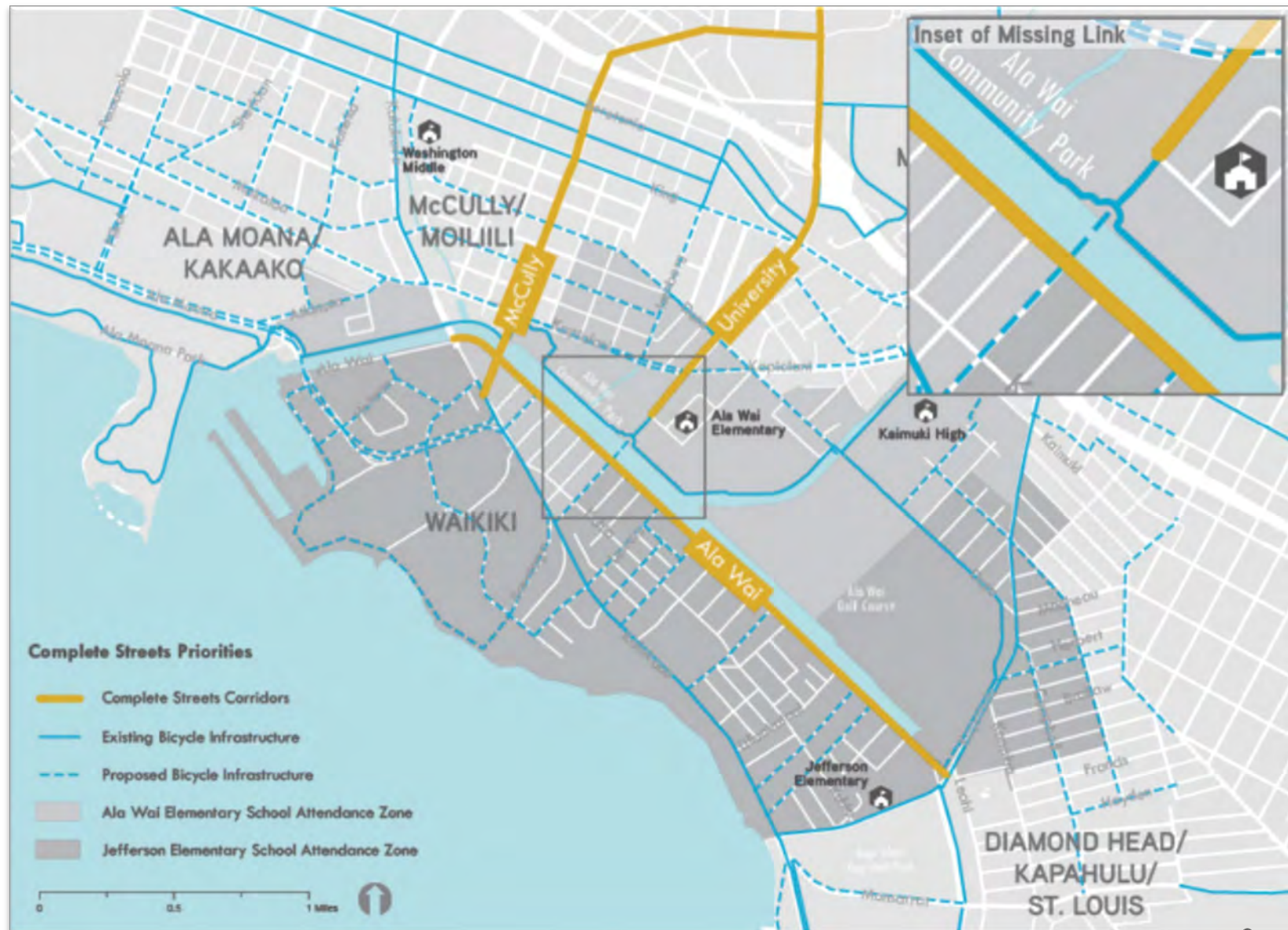


WITH A NEW CANAL CROSSING,

3,000+

MORE PEOPLE WOULD BE ABLE
TO WALK OR BIKE TO WORK.

Source: 2015 LEHD

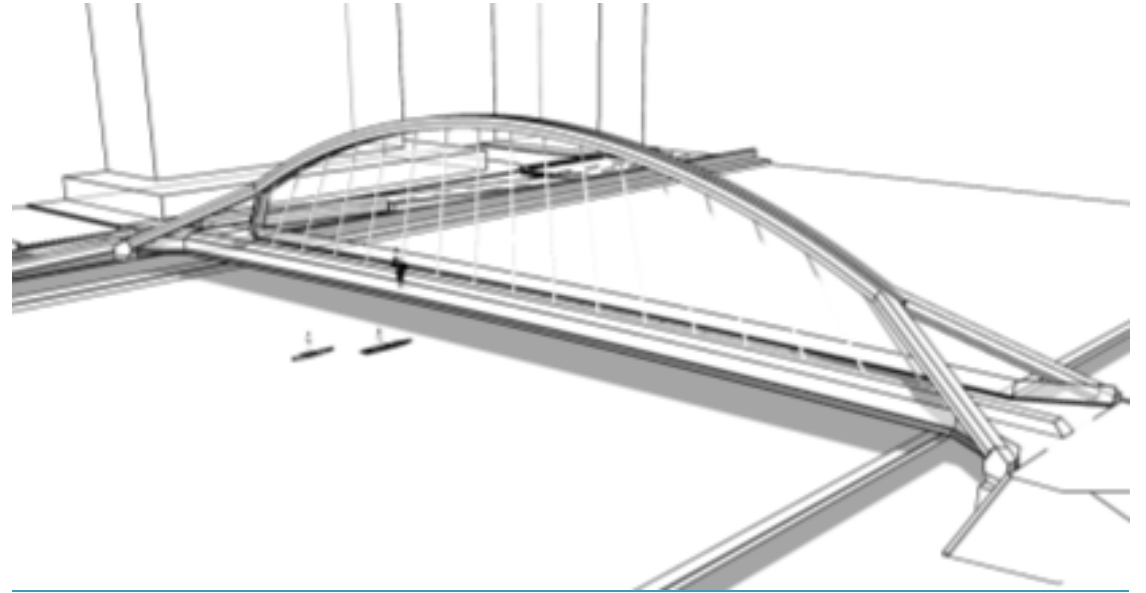
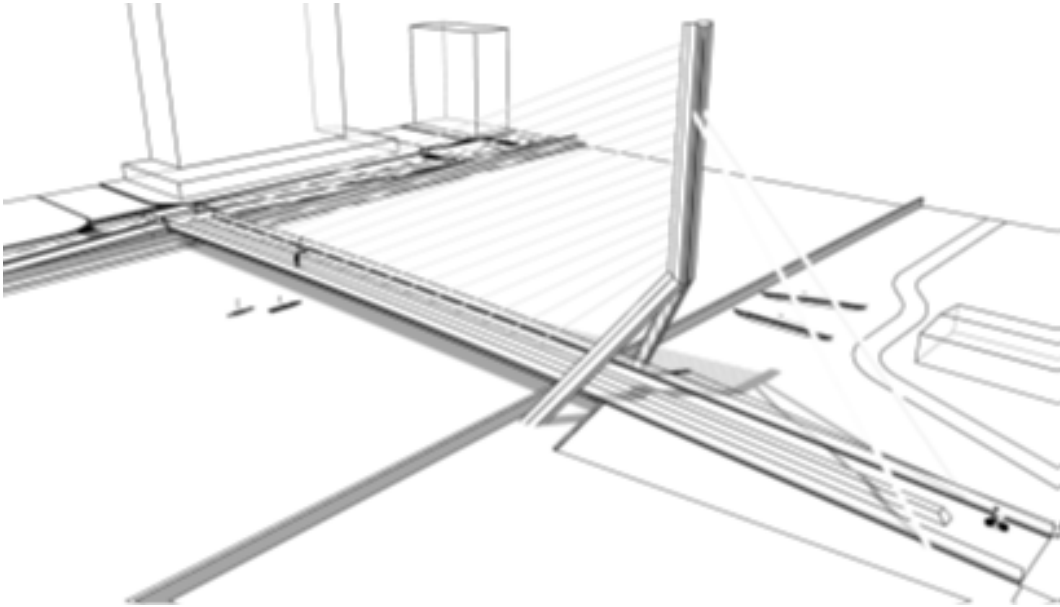


CONNECTIVITY





HIGHEST SCORING ALTERNATIVE



PRELIMINARY BRIDGE TYPE EVALUATION

(ALTERNATIVES ANALYSIS)

Responding to Community Feedback



Project design visualization, renderings, and physical



Urban design plan



Viewshed impact analysis



Management plan for parking supply and demand



Pedestrian lighting



Ongoing maintenance, security, and operations of the bridge

COMMUNITY FEEDBACK

(ALTERNATIVES ANALYSIS)

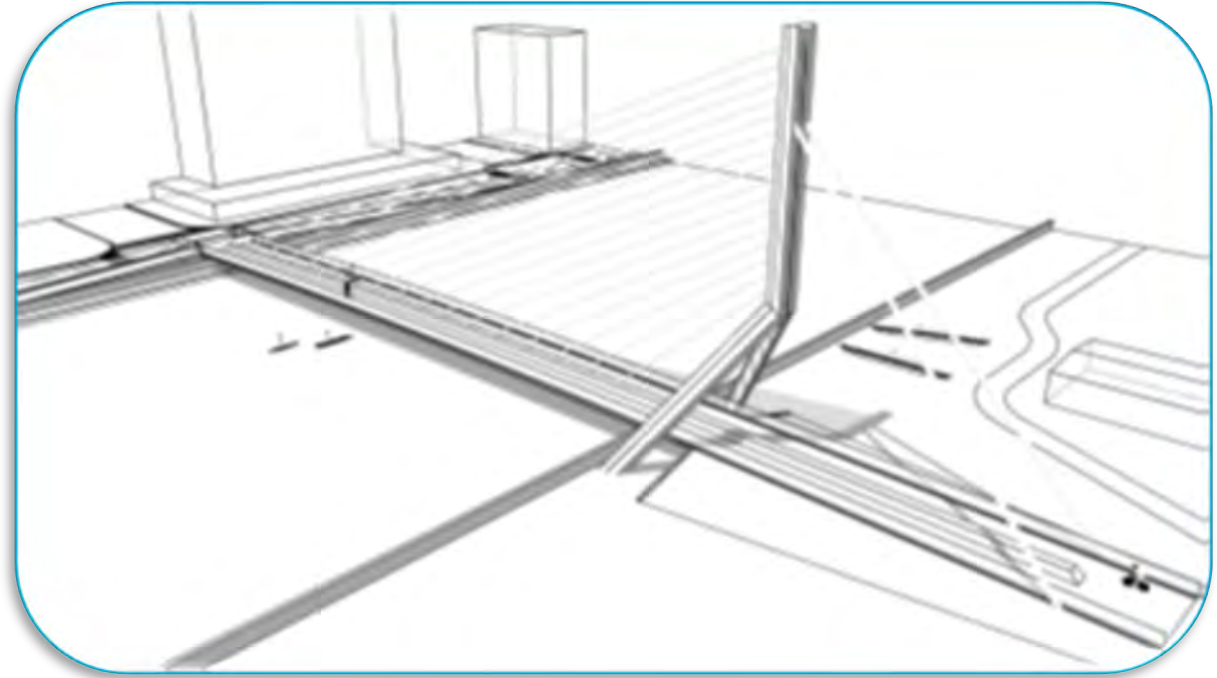




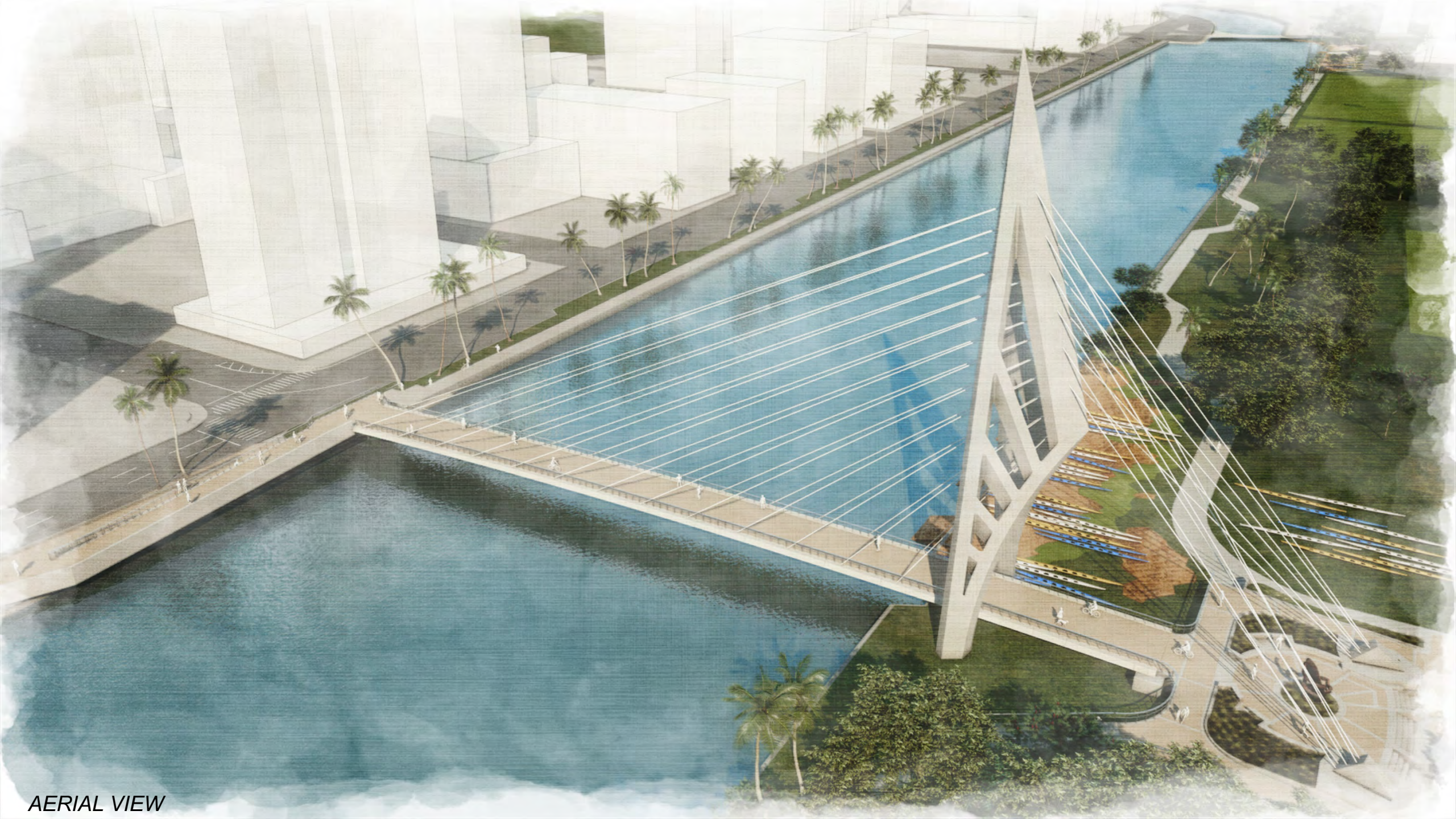
PROPOSED LOCATION

Based on the Alternatives Analysis, Community Feedback, and the Project Purpose and Need the following **criteria were established to evaluate bridge types**:

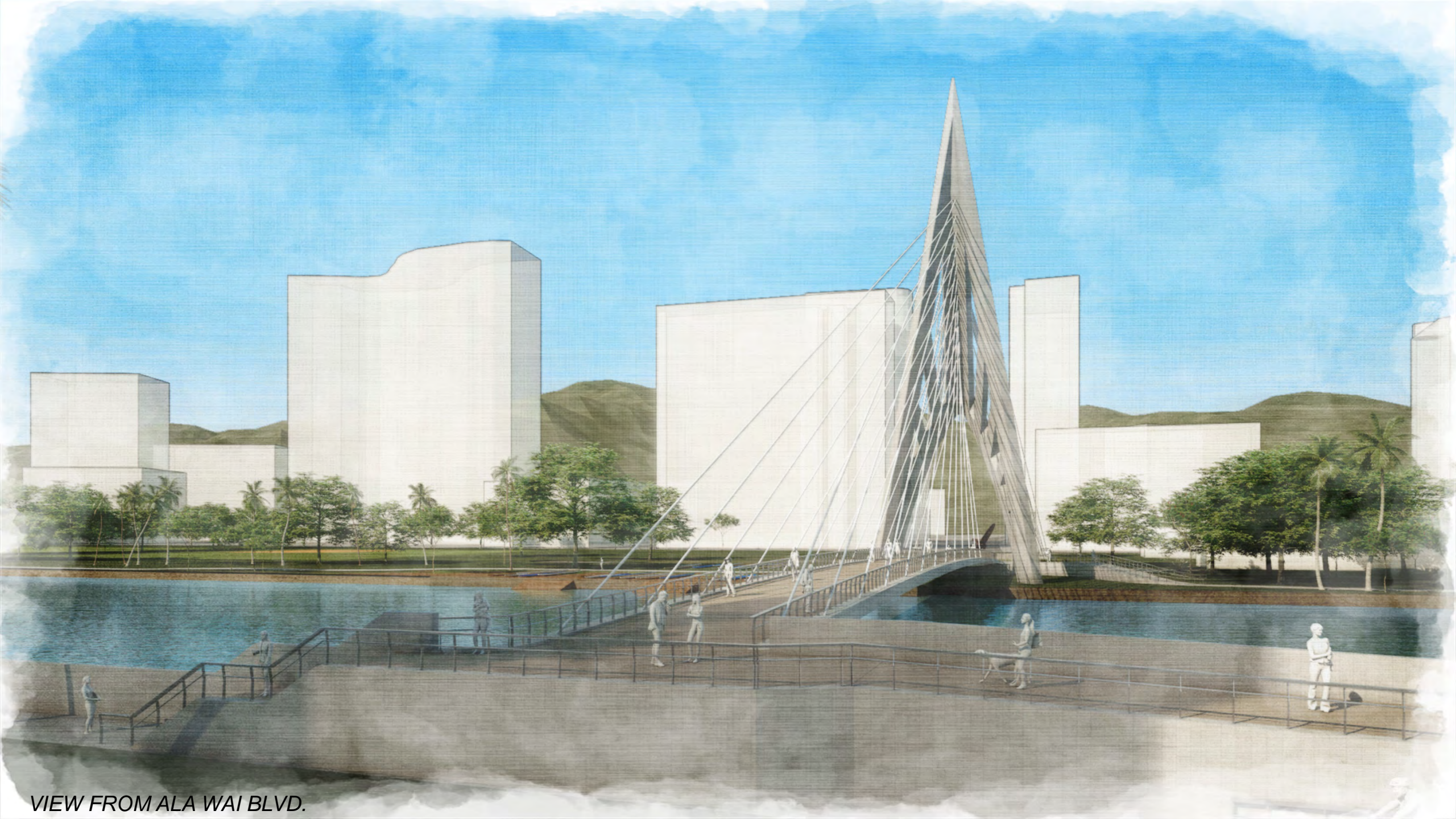
- **User Safety**
- **User Experience**
- **Maintenance**
- **Environmental Stewardship**
- **Aesthetics**
- **Structural Performance**
- **Constructability**
- **Construction Impacts**
- **Ease of implementation**



DESIGN CRITERIA



AERIAL VIEW



VIEW FROM ALA WAI BLVD.



MAUKA LANDING



VIEW FROM UNIVERSITY AVE, LOOKING MAKAI



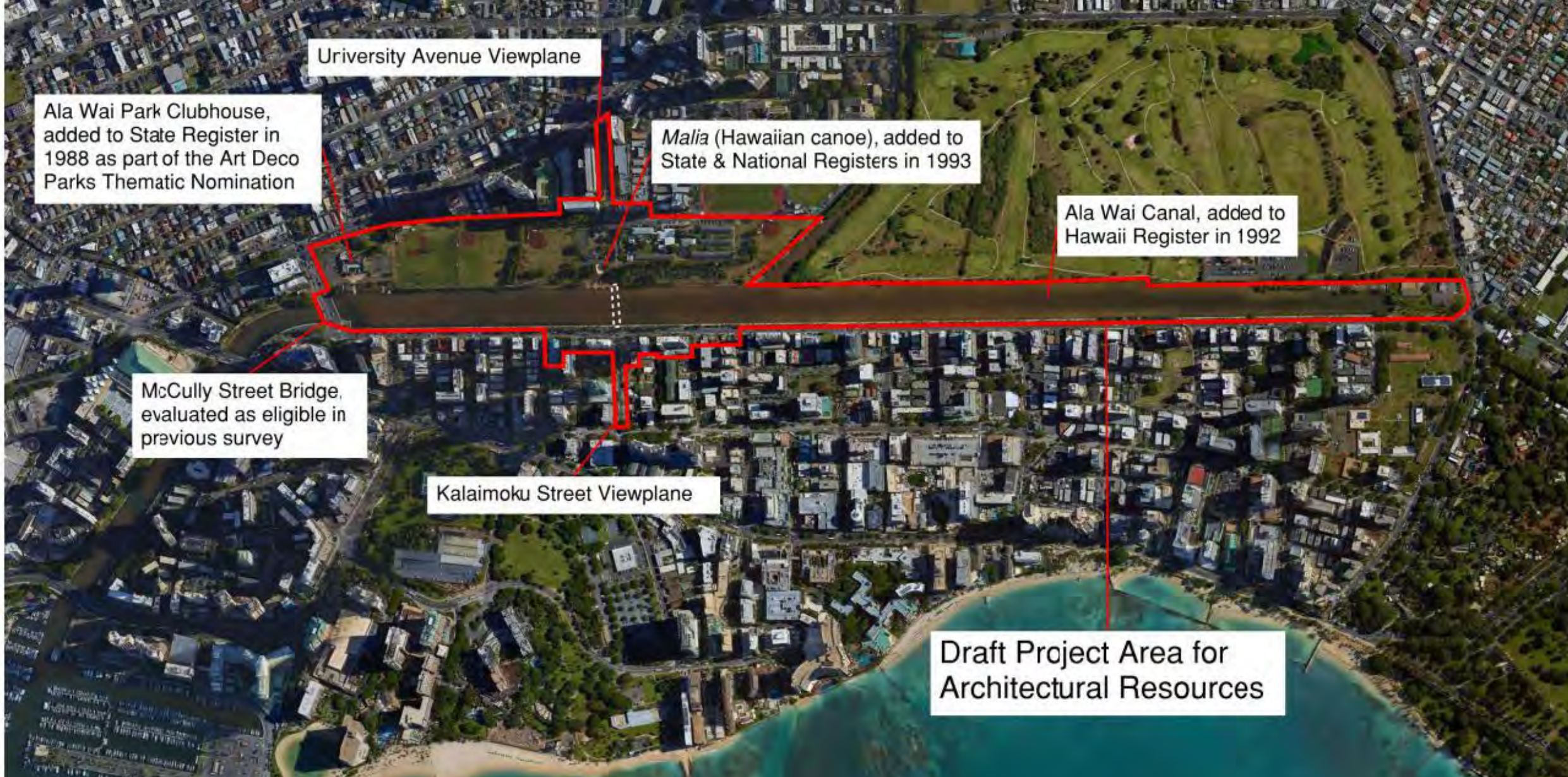
VIEW FROM ALA WAI PROMENADE



VIEW FROM MCCULLY BRIDGE

03

Area of Potential Effects (APE)



AREA OF POTENTIAL EFFECTS

04

**Historic Properties Identified in
the APE**

The project team identified a total of 30 built properties within the APE:

- 12 properties are identified as significant historic properties in the APE; 18 other properties were evaluated as not eligible.
 - 3 properties were already listed on the Hawaii or National Registers of Historic Places:
 - Ala Wai Canal – 1927 (Listed on the Hawaii Register of Historic Places in 1992, under Criterion A) Project Team recommends Criterion C as well
 - Malia Canoe - 1933 (Listed on the Hawaii and National Registers of Historic Places in 1993, under Criteria A and C)
 - Ala Wai Clubhouse - 1936 (Listed on the Hawaii Register of Historic Places in 1988 as part of the Art Deco Parks Thematic Nomination, under Criterion A)

IDENTIFICATION PROCESS



Three Listed Properties



Ala Wai Canal (1927, Criteria A and C)



Malia Koa Canoe (1933, Criterion A)



Ala Wai Clubhouse (1936, Criterion A)

The McCully Street Bridge was previously identified in the State Historic Bridge Inventory as eligible (1959, Criteria A and C)



McCully Street Bridge

Eight properties were also evaluated as eligible:



Single Family Residence at 2107 Ala Wai Blvd. (1937, Criteria A and C)



Duplex at 441 Kalaimoku St. (1941, Criterion A)



Residential Apt at 2153 Ala Wai Boulevard (1949, Criteria A and C)



Waikiki-Kapahulu Library (1952, Criterion C)



Ala Wai Elementary School (1954, Criterion A)



Rosalei Apartments/ tower (1955, Criteria A and C)



Ala Wai Neighborhood Park South Comfort Station (1960, Criterion C)



Ala Wai Plaza Condominium (1970, Criterion C)

The project team identified the following related to archaeological resources within the APE:

- Numerous Land Commission Awards (LCAs) are present within the project APE. One LCA encompasses the area of ground disturbance, LCA 8559B, 'Apana 29 awarded to William C. Lunalilo.
- The proposed area of ground disturbance underwent an archaeological inventory survey in 2015 and 2016 for the Ala Wai 46kV underground cables relocation project and archaeological monitoring during recent geotechnical investigations.
- No human burials or human skeletal remains have been previously documented anywhere within the project APE.

IDENTIFICATION PROCESS



- SIHP #50-80-14-5796 is documented in the area of ground disturbance, the original buried Waikīkī wetland surface. The site consists of deposits of agricultural wetland sediments, non-agricultural wetland sediments, peat sediments, pond sediments, and pond berms dating from the pre-contact era to the early 1900's and has been documented in multiple separate locations. The site has generally been encountered below 4 to 6 ft. (1.2-1.8 m.) of modern and historic land reclamation fill materials. The site was previously documented within the project APE, specifically in a trench just to the south of the area of ground disturbance within the Ala Wai Boulevard and Kalaimoku Street right-of-way.



IDENTIFICATION PROCESS

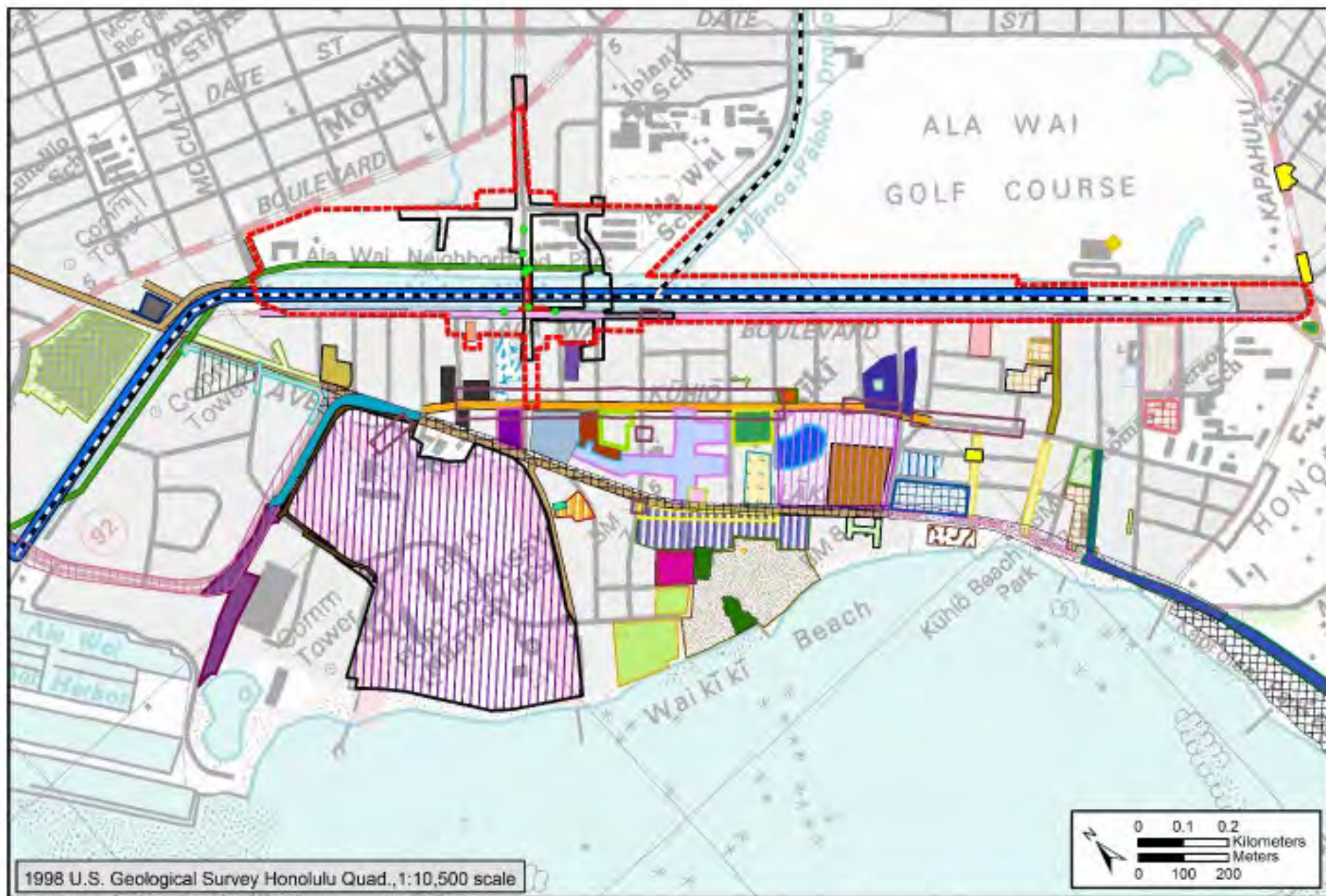


Figure 32. Portion of a 1998 USGS showing previous archaeological studies within approximately 0.5 miles of the APE (no legend)

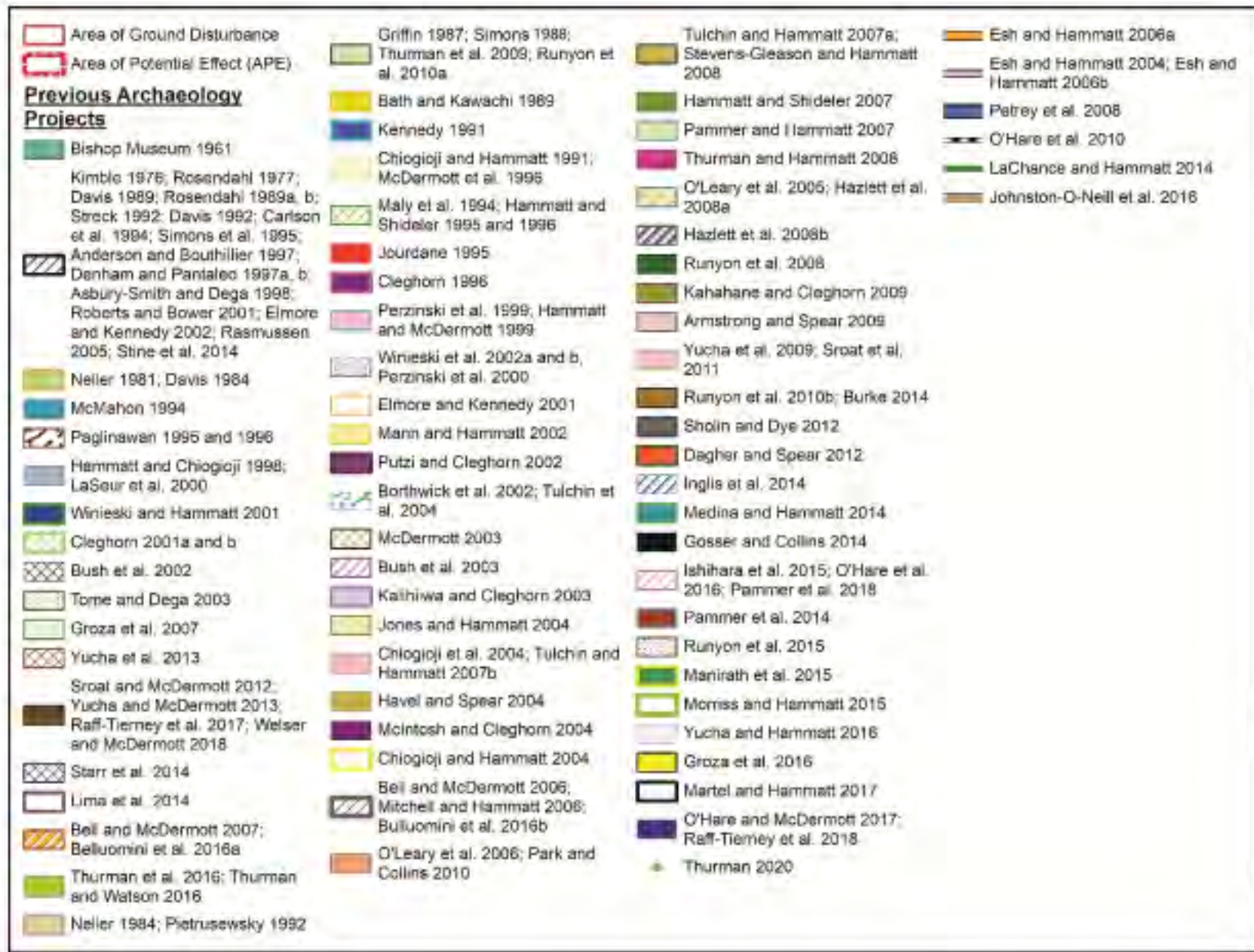


Figure 33. Legend corresponding with the 1998 USGS showing previous archaeological studies near the project APE (Figure 32)

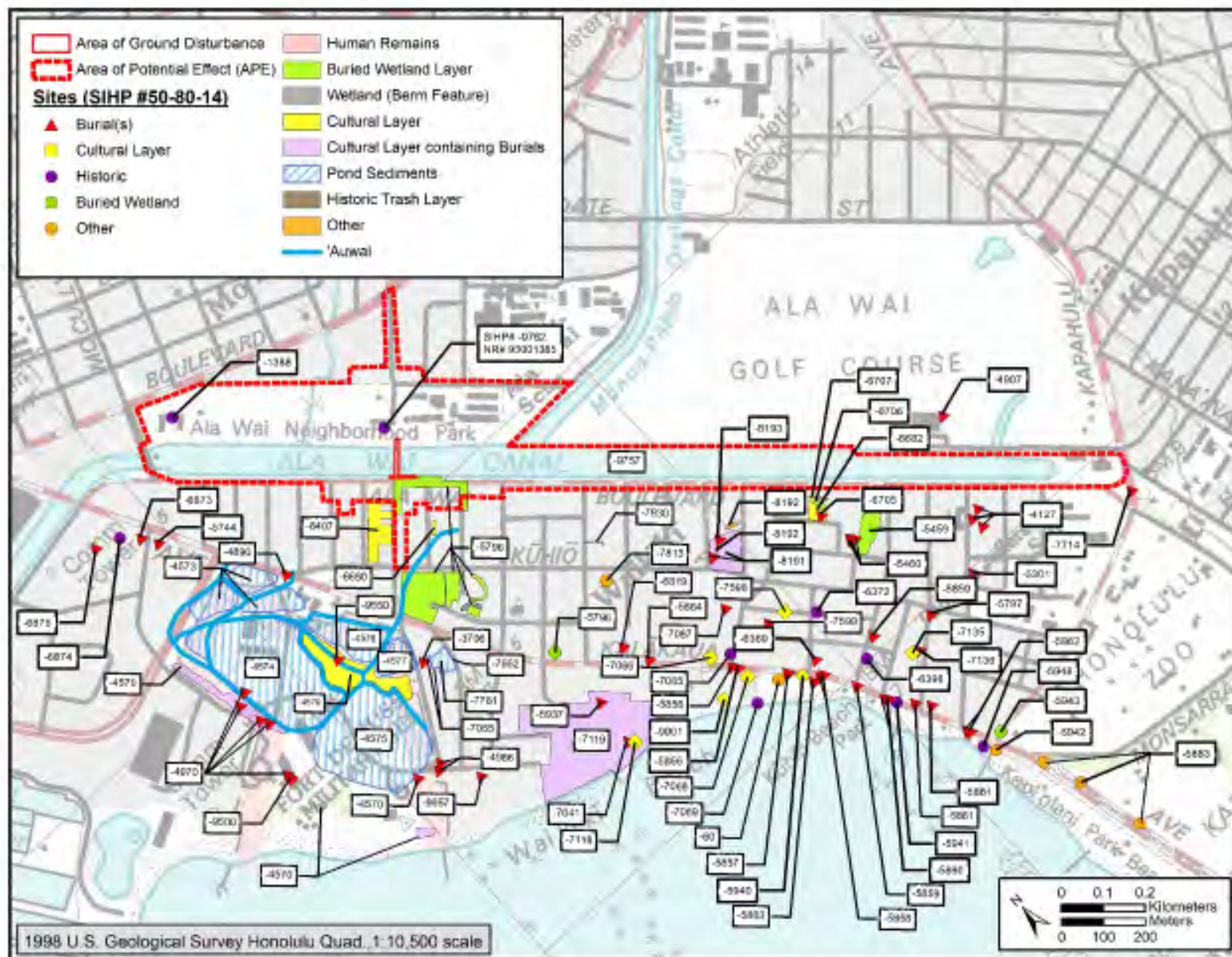


Figure 34. Portion of a 1998 USGS showing historic properties within an approximately 0.5 mile radius of the project APE

05

Potential Effects of the Project

- The criteria of adverse effects are described under Section 106 (Sec. 800.5 a.) as follows:

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.

EFFECTS EVALUATION

- The proposed action was evaluated for its effects on the integrity of historic properties. within the APE that are: either 1) listed on the Hawai'i and/or National Registers, or 2) evaluated in the project team study, or previous studies, as eligible for the Hawai'i or National Registers.
- The only resource with a potential adverse effect evaluation under Section 106 is the Ala Wai Canal.
- There are no archaeological sites identified within the project APE that are likely to be found eligible for the National Register.

EFFECTS EVALUATION



- The proposed project was evaluated as to whether it alters, directly or indirectly, any of the **characteristics** that qualify the Ala Wai Canal for inclusion in the Hawaii Register, in a manner that would diminish the integrity of the property's location, design, **setting**, materials, workmanship, **feeling**, or association.
- **Character Defining Features**
 - Physical - Predominantly below-grade elevation, lava rock and concrete sidewalls and stairwells, and a mixed concrete-lined/unlined canal bed;
 - Functional - Capacity to function as an open waterway, channeling rainwater into the ocean, and providing recreational space for the public;
 - Environmental (Setting) - Continuous, uninterrupted open space and view planes across and along the waterway in the immediate environment as well as prominent views of the rear slope of Diamond Head, and the Ko'olau range

EFFECTS EVALUATION





- The tall, visually striking bridge will extend directly over the canal, diminishing its integrity of **feeling**, **setting**, and minimally affecting its integrity of **association** by introducing a visual element that diminishes its open setting and viewplanes. The proposed bridge design is not compatible with the architectural features of the historic canal.
- However, the bridge will not physically alter the canal's integrity of location, design, materials, or workmanship, and will not diminish integrity to a degree in which the canal would warrant removal from the Hawaii Register of Historic Places.

EFFECTS EVALUATION

06

Resolution of Potential Project Effects

- FHWA, HDOT, and CCH DTS anticipate that a Memorandum of Agreement (MOA) will be required to resolve the potential adverse effect of the project on the Ala Wai Canal.
- The MOA will outline agreed-upon measures that FHWA/HDOT/CCH DTS will take to avoid, minimize, or mitigate the potential adverse effect of the project on the Ala Wai Canal.
- Consulting parties will assist with development of the MOA.

RESOLUTION OF EFFECTS



The following potential preliminary mitigation options are being explored by the project team and will be refined further through input from consulting parties and coordination with FHWA and HDOT.

HABS/HAER
DOCUMENTATION

INTERPRETATIVE
SIGNAGE

UPDATING
NOMINATIONS

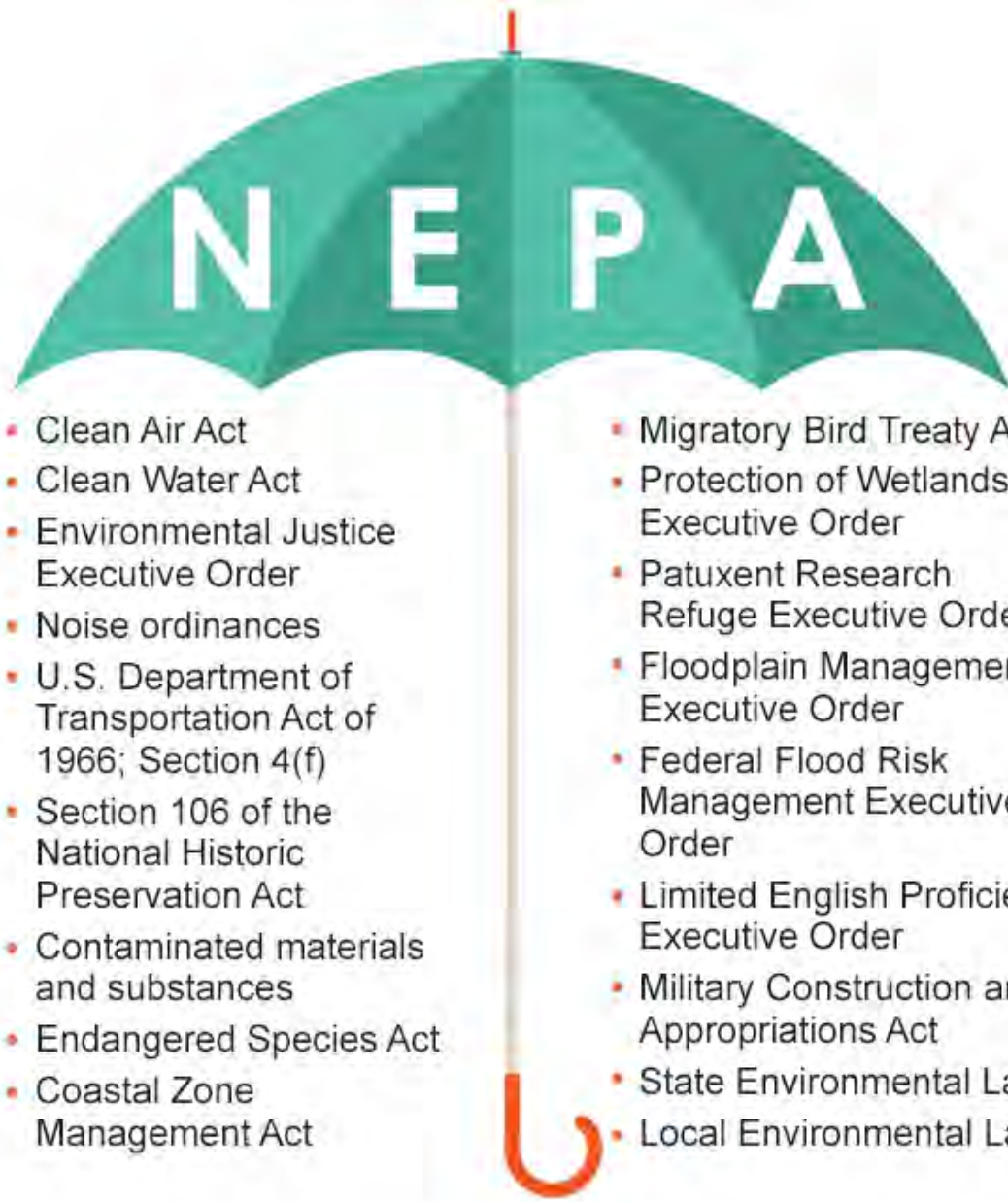
INTEGRATED
CULTURAL ART

SITE
IMPROVEMENTS

POTENTIAL MITIGATION OPTIONS

07

Project Timeline and Next Steps



- Clean Air Act
- Clean Water Act
- Environmental Justice Executive Order
- Noise ordinances
- U.S. Department of Transportation Act of 1966; Section 4(f)
- Section 106 of the National Historic Preservation Act
- Contaminated materials and substances
- Endangered Species Act
- Coastal Zone Management Act

- Migratory Bird Treaty Act
- Protection of Wetlands Executive Order
- Patuxent Research Refuge Executive Order
- Floodplain Management Executive Order
- Federal Flood Risk Management Executive Order
- Limited English Proficiency Executive Order
- Military Construction and Appropriations Act
- State Environmental Laws
- Local Environmental Laws

HAWAII ENVIRONMENTAL PROCESS

- HRS Ch. 343 – Environmental Impacts
- HRS Ch. 6E – Historic Preservation
- Cultural Impact Assessment

FEDERAL AND STATE PROCESSES

PROJECT TIMELINE



WINTER 2020/2021

Draft Environmental Assessment
Released for Public Review

SPRING 2021

HRS Ch. 343 and 6E/NEPA/Section 106 Complete

WINTER 2021/2022

Final Design Complete

WINTER 2021/2022

Begin Construction Authorization

Mahalo!



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Section 106 Consultation

Comments and Preliminary Responses

Ala Wai Bridge Project
Federal-Aid Project No. TAP-0300 (159)

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Monte McComber, Royal Hawaiian Center

Email received June 9, 2020

Comment	Response
<i>Are additional improvements to other portions of the APE planned, as was originally identified earlier in the process as “potential alignments or improvements to existing structures”? If so, where and what are they?</i>	At this time, proposed improvements related to this project are limited to those included in the 30% design submittal for the proposed Ala Wai Bridge project. The alternatives considered but not selected as preferred - such as improvements to the existing structures or alternate alignments - are not moving forward as part of the proposed project.
<i>Do any of the “potential alignments or improvements to existing structures” include addressing water quality in the canal proper?</i>	The proposed project would not directly impact water quality in the canal. The City has an on-going project for stormwater best management practices in the vicinity of the Ala Wai Canal.
<i>What is the height of the lowest part of the bridge from the water’s surface? Does this height include varying water levels throughout the year and/or a special case scenario for rare occurrences of extraordinary water level height?</i>	Since the water in the canal moves up and down with ocean tides, we calculate bridge height based on Mean Sea Level "MSL". The bridge is designed to clear 10.2 FT MSL which was the United States Army Corp of Engineers' (USACE) calculated 100 year flood level for this area.
<i>Will an updated and more detailed Project Timeline be published soon? If so, when?</i>	Current project schedule: <ul style="list-style-type: none"> - Winter 2020/2021 - Draft Environmental Assessment Released for Public Review - Spring 2021 - HRS Ch. 343 & 6E/NEPA/Section 106 Complete - Winter 2021/2022 - Final Design Complete - Winter 2021/2022 - Begin Construction Authorization
<i>Can the FHWA/DOT host a Zoom meeting to allow for video testimony?</i>	Most project stakeholder meetings have been held virtually via Zoom, including the initial 106 Consultation meeting. The City anticipates holding a virtual public meeting upon release of the Draft Environmental Assessment (EA) in early 2021.
<i>Given proper adherence to CDC guidelines, can the FHWA/DOT host in-person meetings at Ala Wai Elementary and/or Kaimukī High School to allow for community members to attend?</i>	The City is obligated to follow not only CDC guidelines, but State and County directives. If permitted, we will hold in person meetings to the extent it can be done so safely. Given current

Comment	Response
	case counts, however, it is more likely that we will proceed with virtual public engagement.
<i>Can the FHWA/DOT produce short, informative videos to post to social media platforms, as a way to increase awareness and engagement?</i>	The project is producing visualizations and interactive exhibits to explain the project which will be available on the project webpage (www.honolulu.gov/completestreets/alapono) and during virtual public engagement.
<i>Considering that Honua Consulting is working on the project, I would like to advocate for the use of current Hawaiian orthography. Specifically, the inclusion of the 'okina and kahakō for all Hawaiian place names.</i>	Although Honua is on the project, their scope of work does not include Hawaiian language editing. The project team holds the position that in project documentation, due to the size of the team and their varying backgrounds, it is better to avoid the improper use of the okina and kahako than to try to include it. However, any signage or Hawaiian language otherwise included in the built project is planned to include Hawaiian orthography, and we agree this is a very important feature.
<i>Can the planning process include student learning? Can the various contractors leading the project take on college interns as part of student learning? It would be nice if student learning was a requirement of the project.</i>	The City and project team agree that this is an opportunity to engage with students throughout the planning, design, and construction of the project. Student learning opportunities may be coordinated with the City on a case by case basis by request. Student learning opportunities are not currently anticipated to be a requirement of the bid.
<i>The word 'properties' is a contemporary term and idea, and rather incongruous with the notion of historic. It is, in the least, short-sighted. The identification should be comprehensive and include sights, landmarks, practices, stories/folklore, history, flora, fauna, etc. in and around the APE. Of course, this identification should be multi-ethnic in its inventory. Again, we point to the importance of student learning throughout the process.</i>	We concur with your interpretation of history as more than landownership. The word properties stems from the National Historic Preservation Act (NHPA) Section 106 process. Properties that do not meet the NHPA definition are considered in the cultural impact assessment.

Konia Freitas, PhD, Waikiki Surf Club

Emailed letter received June 11, 2020

Comment	Response
<i>Waikiki Surf Club states upfront that we do not support the University pedestrian bridge</i>	Thank you for your participation in the Section 106 consultation process.

Comment	Response
<p><i>alternative. As such, we would like to be a part of the 106-consultation process and request that a presentation of project information be provided to our Board of Directors.</i></p>	<p>We appreciate the opportunity to engage through our initial stakeholder meeting (July 8, 2020), a site visit (September 30, 2020), and the first Section 106 Consultation meeting (October 19, 2020).</p> <p>We look forward to continuing the consultation process and working with the Waikiki Surf Club.</p>
<p><i>The report Ala Pono: Ala Wai Alternatives Analysis (January 2020), outlines project alternatives arguing that the most viable location is the University option. The tone of the report seems to imply that the University option is THE option that will be built. We question, however, that the purpose of EA and CIA is to determine the impact of the project. If this process determines an impact shouldn't other alternatives be reconsidered?</i></p>	<p>The purpose of Ala Pono: Ala Wai Alternatives Analysis was to identify the preferred alternative to be further evaluated as part of the preliminary engineering and environmental process. Ala Pono's alternatives analysis and public feedback identified a new crossing in the vicinity of University Avenue as the highest-scoring alternative that best achieves the project's primary purpose of improving multimodal network connectivity and enhancing public safety for people walking and bicycling across the Ala Wai Canal.</p> <p>The City is currently in the environmental and preliminary engineering phase of the project and is preparing a joint HRS Chapter 343/NEPA Environmental Assessment (EA) using 30% design plans. The Public Draft EA will identify the potential impacts of the proposed project along with potential mitigation to avoid, offset, or minimize project impacts. The project design will be progressed with the project environmental impacts and mitigation in mind.</p> <p>As part of the EA, a Cultural Impact Assessment (CIA) is also being prepared to evaluate the cultural beliefs, practices, and resources of Native Hawaiians and other ethnic groups in the project area. Numerous interviews have occurred as part of the development of the CIA, helping to inform the appropriate avoidance, minimization, and mitigation measures that should be included in the EA and project design. The Public Draft EA will be available for public review and comment in early 2021.</p>

Comment	Response
<i>Further, and perhaps the most troubling, is a report from one of our Board members who was at our club site and learned from a construction worker that his company was building concrete pilings for "the bridge". How can this be as the 106 process has not even started and to our knowledge (which may be incorrect hence our request for a presentation) no construction permits or funding have been secured?</i>	No construction work related to the Ala Wai Bridge project has begun. Preliminary geotechnical investigations occurred related to design of the bridge foundations, along with archaeological monitoring of the activities.

Jeff Merz, AICP, Waikiki Neighborhood Board

Emailed letter received June 12, 2020

Comment	Response
<i>Our community has long supported this innovative project and are looking forward to it coming to fruition to serve the health, recreation, transportation equity, and connectivity needs of our neighborhood.</i>	Thank you for your comment.
<i>The area of potential affect is sufficient to frame analysis of any anticipated project impacts. View corridors from public rights-of-way are included and the impact analysis should specifically be focused on the pedestrian and bicycle rider experience.</i>	Renderings for the project have been developed to show the bridge from pedestrian, bicyclist, and paddler perspectives.
<i>Neighborhood Board members (consistent with sunshine law provisions), attended past public outreach meetings for this project. Formal presentations have been completed for community groups in and around the APE over the past year and a half. The range of alternatives is adequate for analysis under NEPA/HEPA and Section 106.</i>	Thank you for your comment.
<i>The engagement of consultants Honua Consulting and Mason Architects, and their proposed level of effort, appears to comply with required provisions of the Section 106 process.</i>	Thank you for your comment.
<i>It is stated that access to the canoe hale at Ala Wai Neighborhood Park would be impacted, and the Ala Wai Canal and parking lot would be closed during construction. While the need for</i>	Construction phasing plans are being developed with input from stakeholders to minimize impacts to the greatest extent possible. Access impacts

Comment	Response
<i>this during the construction phase is understandable, the impacts to cultural, recreational, and community activities and resources in the area, will be disruptive. We request that mitigation be formulated to address the impacts during the construction phase and that the construction phase be expedited to the degree possible.</i>	will be considered in the Cultural Impact Assessment and Environmental Assessment.
<i>We appreciate that these investments are being made in our neighborhood and we agree with your comments that, "the proposed bridge is in support of numerous regional and area plans that have been developed in the last two decades, particularly fulfilling part of the broader Honolulu Complete Streets Program, which implements projects to improve safety, accessibility, and comfort for all people walking, bicycling, accessing transit, and driving". We also believe this pedestrian-bicycle bridge provides a needed evacuation route in the event of tsunami, storm surge and other disasters that may impact Waikiki in the coming years.</i>	Thank you for your comment.

Senior Citizen Taxpayer (anonymous)

Letter received June 23, 2020

Comment	Response
<i>Will there be some type of safety monitoring, such as security cameras on the bridge, or bridge attendants/monitors? Police patrol?</i>	The bridge has been designed to preserve visual access for police from one end to the other to the extent possible. Security cameras, lighting, and other safety measures are also under consideration for the bridge.
<i>It is very nice of you to provide a snail mail address so us seniors with no computer can write to you. Thank you for helping our society!</i>	Thank you for your comments and interest as well.

Kiersten Faulkner, Historic Hawaii Foundation

Emailed letter received July 1, 2020

Comment	Response
<i>Historic Hawaii Foundation accepts the invitation to participate as a consulting party on the proposed undertaking and provides the following comments on the other questions.</i>	Your participation is appreciated.
<i>HHF is pleased that the new pedestrian bridge will avoid alterations to the existing bridges.</i>	Thank you for your comment.
<i>Historic Hawaii Foundation agrees in concept with the proposed APE for direct effects. In addition, visual impacts to and from the Diamond Head State Monument should be included in the APE. It is unclear if the height of the new structure would impinge on established view planes that protect this natural and historic landmark</i>	A viewshed analysis of the proposed bridge structure was considered in the development of the APE, hence the APE has been set to cover such a broad area that goes beyond the direct area of impact from the proposed project construction. The proposed project will create new viewing areas of Diamond Head.
<i>A more detailed map is needed to delineate the presence of historic properties and features within the area of potential effect, especially canal features such as the steps, walls, walkways, etc.</i>	A more detailed map was provided during the initial Section 106 consultation meeting on October 19, 2020, and a copy of the map will be included as part of the Draft Environmental Assessment (EA).
<i>Historic Hawaii Foundation agrees with the approach for the identification of historic and cultural resources within and adjacent to the APE.</i>	Thank you for your comment.
<i>The [Ala Pono] study concluded that a “Bifurcated Arch Bridge” was the preferred design. Historic Hawai‘i Foundation expressed multiple concerns about this design type including:</i> <i>“HHF does not agree that the proposed Bifurcated Arch Bridge meets the threshold for “no adverse effect” to the historic Ala Wai Canal and associated viewshed. The touchdowns, access points, anchors and other structures appear to have direct physical impact (and potential destruction of) walls and railings. Both the footprint and profile are overly large and impactful, and are in no way subordinate or compatible with the historic setting.” (HHF letter to DTS 12.3.2019)</i>	Upon preliminary evaluation of effects, the project team concurs with this assessment.

Comment	Response
<p><i>HHF is extremely concerned that the planning process has not selected a design that avoids or minimizes effects on historic properties, despite there being other feasible and prudent alternatives that could meet the project purpose and need with much less impact.</i></p>	<p>Considerations were given to minimizing impacts to the historic resources with the exploration of design alternatives through the Alternatives Analysis and subsequent design development. At this time, no new bridges have been identified that avoid an adverse effect.</p> <p>The design selected best met the various design criteria requirements for the project, including: User Safety, User Experience, Maintenance, Aesthetics, Environmental Stewardship, Structural Performance, Constructability, Construction Impacts, and Ease of Implementation.</p> <p>For example, a girder bridge design was considered, similar to the existing crossings. The existing crossings are historic and were built under different structural and hydrology requirements. Thus, the new bridge cannot follow the existing forms and scale. Upon evaluation, we found that a girder bridge would require larger foundations on the makai end of the bridge, piers in the Ala Wai Canal itself, a taller and thicker bridge deck height, and a more extensive ramping system along Ala Wai Boulevard. Larger foundations would impact pedestrian flow along Ala Wai Boulevard and may not be technically feasible due to existing infrastructure in the area. Piers in the canal would create an obstruction for paddlers and flood waters and debris in a flood event. The bridge deck, if higher and thicker, could potentially have a greater mass and impact on pedestrian experience. The ramping system, if extended, may interfere with existing historic stairs.</p>

Diann "Karin" Lynn, Individual

Email received July 2, 2020

Comment	Response
As a nearby neighbor and projected beneficiary of this project, I fully support the principles of and purpose and need for the bridge as stated on the attached recent flyer distributed by the City & County. I am likewise 100% supportive of the projected benefits of safety, emergency evacuation and improved access and connectivity. In my opinion, this additional access (in both directions) is long overdue.	Thank you for your comments and support.
I have attended neighborhood programs regarding this project in the past, but was taken aback by the latest illustration of design, and the description in the Public Notice of "a 180-foot tower" which would "straddle a cast-in-place deck that would cantilever over the water." The description and illustration of this structure is far and away more obtrusive than any proposals I have seen heretofore, and is in no way keeping with the character of (any of) the neighborhood(s), nor the minimalist profile I (for one) expected of the design. I trust that the summer public review and 2021 design periods will allow for more incorporation of cultural, historic preservation and neighborhood input that you are likely to receive, and that this 180-foot obstruction to viewplane is not cast in concrete, so to speak.	<p>Consideration were given to minimizing impacts to the historic resources with the exploration of design alternatives through the Alternatives Analysis and subsequent design development. At this time, no new bridges have been identified that avoid an adverse effect.</p> <p>A low profile girder bridge was considered. Upon evaluation, we found that a girder bridge would require larger foundations on the makai end of the bridge, piers in the Ala Wai Canal itself, a taller and thicker bridge deck height, and a more extensive ramping system along Ala Wai Boulevard. Piers in the canal would create an obstruction for paddlers and flood waters and debris in a flood event. The height of the tower is a structural requirement to offset the length of the bridge span.</p> <p>Public review comments are appreciated and considered by the City. The Public Draft Environmental Assessment will be available for review and comment in early 2021.</p>
I urge the City & County to reach out to all affected stakeholders - especially surrounding residential houses, buildings and condominiums - since, once built, the structure will be a very visible and influential part of our landscape for years to come.	<p>Thank you for the recommendation. The City has and will continue to engage with stakeholders in the project vicinity through virtual meetings, neighborhood board presentations, press releases, and website updates as the project progresses.</p> <p>The Draft EA will include a detailed list of outreach activities that have occurred to date.</p>

Rick Egged, Waikiki Beach Special Improvement District (WBSIDA) and Waikiki Beach
Community Advisory Committee

Emailed letter received July 6, 2020

Comment	Response
<p><i>Thank you for the opportunity to review and comment on the proposed project for a pedestrian bridge spanning the Ala Wai Canal. As stated, the purpose of the project is to improve access for people travelling by foot or by bicycle across the Ala Wai Canal in order to connect the Waikiki, McCully, and Moiliili neighborhoods. The proposed bridge will span the historic Ala Wai Canal, which was added to the Hawaii Register of Historic Places in 1992. The proposed bridge and the access provided thereby, is consistent with numerous regional and area plans that have been developed in the last two decades, including the Waikiki Beach Special Improvement District Association's Waikiki Beach Management Plan, Waikiki Special District Guidelines, Waikiki Improvement Association's 2020 Vision Plan and the Waikiki Transportation Management Association goals and objectives among many others.</i></p> <p><i>The Waikiki Beach Special Improvement District Association (WBSIDA) strongly supports this project and feels that the function and benefits of the bridge far outweigh any potential perceived impacts to the surrounding neighborhood.</i></p>	<p>Thank you for your comments and support.</p>

Kiersten Faulkner, Historic Hawaii Foundation

Meeting on July 23, 2020

Comment	Response
<p><i>Was historic preservation was used in the evaluation criteria for the Alternatives Analysis and bridge type development? It appears that the paddling experience was prioritized over historic preservation.</i></p>	<p>The purpose of Ala Pono: Ala Wai Alternatives Analysis was to identify the preferred alternative to be further evaluated as part of the preliminary engineering and environmental process. Considerations were given to minimizing impacts to the historic resources with the exploration of design alternatives through the Alternatives Analysis and subsequent design development. Ala Pono's alternatives analysis and public feedback identified a new crossing in the vicinity</p>

Comment	Response
	<p>of University Avenue as the highest-scoring alternative that best achieves the project's primary purpose of improving multimodal network connectivity and enhancing public safety for people walking and bicycling across the Ala Wai Canal.</p> <p>The City is currently in the environmental and preliminary engineering phase of the project and is preparing a joint HRS Chapter 343/NEPA Environmental Assessment (EA) using 30% design plans. The Public Draft EA will identify the potential impacts of the proposed project along with potential mitigation to avoid, offset, or minimize project impacts. The project design will be progressed with the project environmental impacts and mitigation in mind. The Public Draft EA will be available for public review and comment in early 2021.</p>
<p><i>Did the original 5 bridge types evaluated during preliminary engineering meet the purpose and need?</i></p>	<p>They did meet the purpose and need; however, the purpose and need has evolved.</p> <p><i>[Added after meeting: This additional information – particularly that associated with the 100 year flood elevation (from USACE modeling), existing utilities, and geotechnical conditions – has greatly impacted the design criteria.]</i></p>
<p><i>How could this bridge type be chosen when another less impactful alternative was considered? The low profile alternative appears to have been rejected because of permitting requirements.</i></p>	<p>The bridge is designed to minimize impacts and maintain stormwater drainage in the canal.</p> <p><i>[Added after meeting: Considerations were given to minimizing impacts to the historic resources with the exploration of design alternatives through the Alternatives Analysis and subsequent design development. At this time, no new bridges have been identified that avoid an adverse effect.</i></p> <p><i>The design selected best met the various design criteria requirements for the project, including: User Safety, User Experience, Maintenance, Aesthetics, Environmental Stewardship, Structural Performance, Constructability, Construction Impacts, and Ease of Implementation.]</i></p>

Comment	Response
	<p><i>For example, a girder bridge design was considered, similar to the existing crossings. The existing crossings are historic and were built under different structural and hydrology requirements. Thus, the new bridge cannot follow the existing forms and scale. Upon evaluation, we found that a girder bridge would require larger foundations on the makai end of the bridge, piers in the Ala Wai Canal itself, a taller and thicker bridge deck height, and a more extensive ramping system along Ala Wai Boulevard. Larger foundations would impact pedestrian flow along Ala Wai Boulevard and may not be technically feasible due to existing infrastructure in the area. Piers in the canal would create an obstruction for paddlers and flood waters and debris in a flood event. The bridge deck, if higher and thicker, could potentially have a greater mass and impact on pedestrian experience. The ramping system, if extended, may interfere with existing historic stairs.]</i></p>
<p><i>There are potential cumulative and indirect effects on the mauka side. The project – particularly if it is converted to a vehicular bridge – has potential to impact the land uses leading to the bridge.</i></p>	<p>While the early concepts considered allowing emergency access on the bridge, the design that is moving forward would not accommodate vehicular traffic. The structural capacity would not be substantive enough to hold vehicular loads, nor will vehicles be able to navigate the necessary turning radii that are integrated into the ramp structures.</p> <p><i>[Added after meeting: Cumulative effects on the mauka side will be considered in the effects evaluation.]</i></p>
<p><i>How many responses were received from interested consulting parties?</i></p>	<p>6 total – one individual, 5 organizations. <i>[response as of meeting date]</i></p>
<p><i>Has the impact assessment been completed yet?</i></p>	<p>Not at this time <i>[response as of meeting date]</i></p>
<p><i>HHF is in support of building a new bridge and avoiding impacts to existing historic bridges.</i></p>	<p>Thank you for your support.</p>
<p><i>The project should be avoiding and minimizing adverse effects to the canal rather than</i></p>	<p><i>[Added after meeting: Considerations were given to minimizing impacts to the historic resources</i></p>

Comment	Response
<p><i>mitigating adverse effects (not convinced that the cable stayed design is the solution).</i></p> <p><i>1. Interested in minimizing options: ways to make the action less impactful</i></p> <p><i>2. Mitigation measures if necessary: lessening impact on historic properties</i></p>	<p><i>with the exploration of design alternatives through the Alternatives Analysis further evaluation as part of preliminary engineering. At this time, no new bridges have been identified that avoid an adverse effect.]</i></p>
<p><i>The concrete beam alternative would be more appropriate and less impactful within the historic setting. There are concerns about the scale / mass on either side of the bridge, at the landings, and about the impacts to the pedestrian experience on either side.</i></p>	<p>Information regarding the alternatives that were considered but eliminated will be included in the Draft EA.</p>
<p><i>Concerns are not just focused on direct, physical impacts to the historic resources but also impacts to setting, feeling, and association. This alternative is not subordinate in setting to historic resources and does not maintain unimpeded views. the historic relevance depends on the period of significance, as Waikiki was once wetlands.</i></p>	<p>This project is a way to reconnect two once connected spaces that were separated by the man-made canal structure.</p> <p><i>[Added after meeting: Following this discussion, the City concurred with the assessment of impact, which is included in the preliminary impacts evaluation.]</i></p>
<p><i>When will the 4(f) determination will be complete?</i></p>	<p>The City is coordinating regularly with FHWA & HDOT for all federal compliance processes under the NEPA umbrella, including Sections 4(f) and 106. The Section 4(f) evaluation will be included in the Draft EA.</p>

Konia Freitas, PhD, Waikiki Surf Club

Emailed letter received July 31, 2020

Comment	Response
<p>Parking</p> <p><i>We note that parking spaces will be removed to accommodate the pedestrian pathway leading in and out of the Ala Wai Community Park. According to the redesign plan, there seems to be a slight increase in parking spaces and the existing children's playground will be converted to parking. If the Ala Pono report indicated that parking is a significant issue in the area, this redesign seems to invite non-park users. WSC is concerned about the availability of parking for actual park users as well as the safety of our</i></p>	<p>A parking study in the bridge vicinity is being conducted in the vicinity of the proposed project. We are considering parking management strategies as a mitigation opportunity.</p> <p>Additionally, this new access point into the park provides park users the opportunity to walk or bike to the park, shifting some trips away from car or motorcycle trips and providing more access to low income and other vulnerable populations.</p>

Comment	Response
<i>paddlers given the redesign to accommodate cars.</i>	
<p><i>Vandalism Concerns</i> <i>In 2017, it was reported on several news stations that vandals had defaced every single Hawaiian outrigger canoe that was located along the Ala Wai beginning from the Waikiki Surf Club practice site to the clubs located near the McCully Bridge. We estimate that about twelve to fifteen canoes were vandalized. This incident was a harsh reminder of how callous, detached, and disrespectful our island society has become towards Hawaiian canoe culture. We consider our canoes like our children and family -- you care for them and treat them with aloha. Many of our canoes carry our family names and to have them defaced in this way was painful if not cruel. We fear that increased pedestrian traffic will only increase the incidents of vandalism to our equipment and hālau wa'a.</i></p>	<p>The bridge has been designed to preserve visual access for police from one end to the other to the extent possible. The project will include pedestrian scale lighting. Security cameras and other safety measures are also under consideration for the bridge.</p> <p>Increased pedestrian traffic facilitates natural surveillance, one of the fundamental goals of Crime Prevention Through Environmental Design (CPTED). Studies have shown that increased traffic discourages crime.</p>
<p><i>Canoe Trailer Access into Park</i> <i>Based on the preliminary design for the mauka side of the pedestrian bridge, there will not be enough space to maneuver canoe trailers in and out of the park given the planned design. Further, we do not believe that there will be enough space to maneuver a canoe trailer around the planned roundabout at University Ave and Hihiwai Street. Our trailer can carry three canoes that weigh over 400 pounds and are 40 feet in length each.</i></p>	<p>The design team acknowledges this concern and is reevaluating the access to facilitate access for canoe trailers without mounting any curbs. This will also be considered in the Cultural Impact Assessment.</p>
<p><i>Sediment Movement and Dredging Capacity</i> <i>The presentation by the City and their consultants estimated that, based on their data analysis, the pedestrian bridge is estimated to have a 12.5' clearance (between sea level and the underside of the bridge) at the center point of the bridge span and 10.5' at the edges. Based on many years of paddling in the Ala Wai, we do not believe that 12.5' is adequate considering the increasing tidal swings and the frequency of sediment build up in the Ala Wai. Therefore, will the EA study sediment</i></p>	<p>Dredging under the bridge can be accommodated similar to the other existing bridges along the Ala Wai. The bridge is designed to clear span the canal and should not impact sediment flows.</p> <p>The 12.5 ft clearance above mean sea level (MSL) should be adequate to allow a canoe with seated paddlers, or a stand-up paddler, with no risk of collision. The sediment deltas in the Ala Wai do not affect the water level but do affect the ability to navigate the canal. The highest daily mean</p>

Comment	Response
<p><i>movement and or address sediment build up in the Ala Wai? Further, will there be a commitment to continue to dredge the Ala Wai after the bridge is constructed?</i></p> <p><i>The Ala Wai receives large amounts of sediment from the Mānoa, Pālolo, and Mō'ili'ili drainage areas. Paddlers have witnessed time and again the formation of deltas where the Mānoa-Pālolo canal drains into the Ala Wai. When delta's develop, paddlers are forced to navigate through a very narrow stretch of deep water on the makai side of the canal. During peak paddling season, this navigation involves kayaks, six-man canoes, one-man canoes and an occasional rower negotiating a small width of the canal due to sediment build up on the mauka side.</i></p> <p><i>Based on years of paddling in the Ala Wai, we believe that serious sediment build-up and migration will eventually prevent boats from traversing through the planned pedestrian bridge.</i></p>	<p>water levels typically do not exceed 3 ft above MSL, which would still provide 9 ft clear below the lowest point of the bridge - ample room for use of the canal below. During a flood event the water level could temporarily rise. However these events are anticipated to be rare and would create dangerous conditions not safe for water recreation.</p>
<p><i>Relocating Diamond Head Dock</i></p> <p><i>According to City consultants, the Diamond Head dock will be moved past the last existing dock at the 'Ewa end. This means that paddlers will have to carry canoes over an existing berm. Canoes are about 400 pounds and 40 feet in length each thus carrying canoes this size over berms is excessive.</i></p>	<p>The City acknowledges this concern and will look to regrade the area for easier access.</p>
<p><i>Access to Clean Water</i></p> <p><i>The Ala Wai is polluted. The alternative design includes moving the existing shower facility. We emphasize that paddlers need access to showers to maintain healthy hygiene that now comes with the sport of Hawaiian canoe racing. We note further, however, that canoes need to be washed and cleaned after usage. Thus, access to water spigots is critical to keeping canoes clean from polluted water and animal feces.</i></p>	<p>Provisions for a new shower have been provided on the ewa side of the canoe halau. Existing water spigots will be maintained or relocated.</p>
<p><i>Ala Wai Wall Construction</i></p> <p><i>What is the status of the Ala Wai wall construction? We believe this was a part of the Army Corp of Engineers proposal for an average 4-feet solid reinforced concrete wall around the Ala Wai Canal, Ala Wai Golf course, and Ala Wai</i></p>	<p>Because the U.S. Army Corps of Engineers (USACE) Ala Wai Flood Risk Management is a reasonably foreseeable project it must be considered. While the USACE Ala Wai Flood Risk Management is a separate project, we have coordinated the design of the bridge to ensure</p>

Comment	Response
<i>Park. Does the pedestrian bridge embed this wall project into its design?</i>	that there is no loss of use of the bridge when the future USACE project is constructed, connecting to the Ala Pono bridge.

Kiersten Faulkner, Historic Hawaii Foundation

Meeting on August 5, 2020

Comment	Response
<i>Question from HHF regarding the USACE EIS published in July that states that the wall will be ± 4 ft. along the Ala Wai Canal. How is that number so different from the 10.2' number that is being used as the driver for this design?</i>	The 10.2' MSL (mean sea level) is an elevation, not direct height from ground. Elevation of ground is $\sim 4'$ at makai end, making the required wall height 6.2' above existing grade. The design team continue to coordinate with USACE as the design progresses to ensure that the 10.2' MSL elevation is accurate and is still what should be used as the 100 year flood elevation for this project.
<i>Brief discussion about the possibility of incorporating wall treatments, interpretive materials, and/or art features into the vertical wall at Ala Wai Blvd.</i>	This can be further discussed later in the Section 106 consultation process, upon Determination of Effect.
<i>What happens to the historic stairs on the makai side?</i>	The nearest stairs are in approximate alignment with Launiu Street, outside of the project area. No historic stairs will be impacted by this project.
<i>Can the bridge deck be partially submerged in a similar way as the cantilevered ramp?</i>	The bridge deck needs to clear 10.2' MSL (100 year flood elevation). Requirements for minimal freeboard, to minimize opportunities for the bridge to trap debris in a high water event. A submerged superstructure becomes subjected to large lateral forces from water pushing against the deck with the potential of water overtopping. This would pose a risk to the structure of the bridge, and it would not necessarily be a viable evacuation route during a 100 year flood event. This also creates a backwater concern. When flow is partially impeded, it raises water levels upstream from the bridge.
<i>HHF noted concern about the mauka bridge abutment. Will this be open for people to make this their home? (Slide 22)</i>	The mauka bridge abutment will not have a gap below it and will become buried into the landscape.

Comment	Response
<i>The HECO line is scheduled to be realigned.</i>	The 30% plans are based on the realigned HECO line. That realignment is complete.
<i>Could you consider anything like a floating boat ramp? A bridge that floats up and down with the tides/water levels?</i>	Concepts similar to that were considered early in the design. There are a few specific challenges to this, including the fact that this would be sitting on hard surfaces the majority of the time (not during flood event). Access to/from the landings during a flood event would be further complicated when the height of the landing changes with the water levels.
<i>Ala Wai Golf Course is being considered as a detention basin in the USACE project. Will the water flow from that detention basin, through the community gardens, into the bridge location (mauka side)?</i>	The detention basin is on the Diamond Head side of the Manoa-Palolo Canal; therefore, water will not flow directly from that site to the bridge site.
<i>Everything stems from USACE project.</i>	<p>The driving decision is the 10.2' msl, 100 year flood elevation determined by the USACE modeling.</p> <p><i>[Added after meeting: Because the USACE Ala Wai Flood Risk Management project is a reasonably foreseeable project it must be considered. While the USACE Ala Wai Flood Risk Management is a separate project, we have coordinated the design of the bridge to ensure that there is no loss of use of the bridge when the future USACE project is constructed, connecting to the Ala Pono bridge.]</i></p>

Comment	Response
<i>Could something more like the Kalakaua bridge be considered – low profile with piers in the water?</i>	<p>The proposed project is intended to clear span the Ala Wai Canal in order to maintain stormwater drainage and flood water conveyance, which is the primary purpose of the Ala Wai Canal. Piers in the canal would impact hydraulic flow through the canal.</p> <p>By the sound of this conversation and our previous discussion, it seems HHF's concern is more about the impacts of the access to and from the bridge (ramp structure / grade change). Similar ramping would still be required to reach the same 10.2' msl elevation, regardless of the bridge type.</p> <p>When evaluating bridges with piers in the water, there were more impacts on the bridge approaches. This type of structure would require thicker bridge deck than the current design, because the superstructure would need to span between piers without the benefit of the forestay cables supporting the deck. The thicker bridge deck would require more ramping to get to the higher bridge deck elevation.</p>

Sharlene Akita, Individual

Letter received August 12, 2020

Comment	Response
<i>I believe this bridge will cause the high crime in Waikiki to shift and to spread into McCully/Moiliili. This will endanger all the children, who attend near-by Ala Wai Elementary School and Iolani School and other people in the districts.</i>	<p>The bridge has been designed to preserve visual access for police from one end to the other to the extent possible. The bridge will include pedestrian scale lighting. Security cameras and other safety measures are also under consideration for the bridge.</p> <p>Increased pedestrian traffic facilitates natural surveillance, one of the fundamental goals of Crime Prevention Through Environmental Design (CPTED). Studies have shown that increased traffic discourages crime.</p>
<i>Here in Honolulu, there is an increase of homeless people and encampments. Building this bridge will create more problems and havoc, which Honolulu city and Hawaii State would not be able</i>	<p>The bridge has been designed to preserve visual access for police from one end to the other to the extent possible. The bridge will include pedestrian scale lighting. Security cameras and</p>

Comment	Response
<i>to handle, deal with, and control. Maintenance and enforcement will be overwhelming, if not very difficult!</i>	<p>other safety measures are also under consideration for the bridge.</p> <p>Increased pedestrian traffic facilitates natural surveillance, one of the fundamental goals of Crime Prevention Through Environmental Design (CPTED). Studies have shown that increased traffic discourages crime.</p> <p>Maintenance was an important selection criteria for the bridge type selected. Maintenance agreements will be developed as part of final design to ensure that responsibilities are clearly defined.</p>

Waikiki Surf Club members

Site visit on September 30, 2020

Comment	Response
<i>Members shared strong feelings about Paddling as the State Sport. Strong feelings about appropriate use of tax payer funds. Club is against the bridge being built at the University – Kalaimoku alignment. Strong belief that the golf course alignment would be a better location for pedestrian bridge.</i>	<p>We understand that Waikiki Surf Club opposes the proposed project alternative of a new crossing in the vicinity of University Avenue. We took this feedback seriously and as a result of your input, we revisited the proposed project alternatives and thoroughly investigated both the “no action” alternative and an alternate site to see if either option was feasible as our preferred alternative. However, after additional consideration, the City still believes the University Avenue crossing to be the most feasible alternative and is advancing it as the proposed action alternative in the environmental process.</p> <p>The City remains committed to working with you and the Waikiki Surf Club to identify solutions that support both the project and the sustainability of canoe culture and practice at this site.</p> <p>The City and our department recognize canoe paddling as a traditional cultural practice and appreciate Waikiki Surf Club’s role in maintaining and perpetuating Hawaiian culture through</p>

Comment	Response
	promotion of Hawaiian amateur watersports such as Hawaiian canoe paddling and surfing.
<i>Strong concerns about people throwing things over the sides of the bridge and living under the bridge. When paddling under McCully Bridge they have been hit by things that were thrown over the sides of the bridge and from people living under the bridge. Having a bridge over their practice area would be an even greater safety concern for them, as they would be going back and forth under the bridge during their practice.</i>	<p>Increased pedestrian traffic facilitates natural surveillance, one of the fundamental goals of Crime Prevention Through Environmental Design (CPTED). Studies have shown that increased traffic discourages crime.</p> <p>The design team acknowledges the concern of people living under the bridge and will include measures to block access and/or create unlivable conditions under the bridge itself.</p>
<i>Area behind proposed boat launch relocation has a grassy knoll that will need to be re-graded with sufficient and similar space to existing launch areas. From the canal wall, need space to accommodate 10' concrete pad, 5' buffer, then the canoes (45') between the path and the canal wall.</i>	The City acknowledges this concern and will look to regrade the area for easier access.
<i>Concerns about people coming into area and damaging club property. People have moved the boats into the Ala Wai and floated them away. 3 canoes were lost this way. Vandalism is also a concern. Canoes are chained in place to prevent people from cutting them loose. Homeless frequently move through area as well. Luana sketched saddle idea for canoes to sit in. Would allow for canoe to be locked in place with a chain for storage during season. If amenity was provided to secure canoes, the Waikiki Surf club would want space for a minimum of 12 canoe.</i>	<p>The bridge has been designed to preserve visual access from one end to the other to the extent possible. The bridge will include pedestrian scale lighting. Security cameras and other safety measures are also under consideration for the bridge.</p> <p>Increased pedestrian traffic facilitates natural surveillance, one of the fundamental goals of Crime Prevention Through Environmental Design (CPTED). Studies have shown that increased traffic discourages crime.</p> <p>The City acknowledges the proposed canoe security mitigation. We look forward to continuing to work with Waikiki Surf Club and other consulting parties to resolve potential effects and discuss mitigation options.</p>
<i>Preferred location for shower would be on ewa side of the halau and closer to the canal than the spigot used for washing the canoes down. Grading should ensure that water drains into Ala Wai.</i>	Provisions for a new shower have been provided on the ewa side of the canoe halau. Existing water spigots will be maintained or relocated.

Comment	Response
<p><i>Paddlers, especially kids, have been hit by bicyclists.</i></p> <p><i>Would prefer relocating the bicycle path to the other side of the halau. Beyond the green fence, where the walkway is.</i></p> <p><i>Speed bumps should be provided on the bicycle paths regardless.</i></p> <p><i>Concern that mopeds will also be using the bridge and bicycle path more if the bridge is built.</i></p>	<p>The City acknowledges this concern, and the project team is considering methods to slow people bicycling in the vicinity of the canoe halau.</p>
<p><i>Strong feelings that the golf course location has no parking temptation and thus would be a better site for a pedestrian bridge. Great concern that a bridge aligned with University will tempt people to illegally park in the park parking lot and walk or bike to Waikiki.</i></p>	<p>We understand that Waikiki Surf Club opposes the proposed project alternative of a new crossing in the vicinity of University Avenue. We took this feedback seriously and as a result of your input, we revisited the proposed project alternatives and thoroughly investigated both the “no action” alternative and an alternate site to see if either option was feasible as our preferred alternative. However, after additional consideration, the City still believes the University Avenue crossing to be the most feasible alternative and is advancing it as the proposed action alternative in the environmental process.</p> <p>A parking study is being conducted in the vicinity of the proposed project. We are considering parking management strategies as a mitigation opportunity. Additionally, this new access point into the park provides park users the opportunity to walk or bike to the park, shifting some trips away from car or motorcycle trips and providing more access to low income and other vulnerable populations.</p>
<p><i>Concern that people will mistake the bridge for being an automobile crossing and try to drive onto it despite best intentions to prevent cars from driving on.</i></p>	<p>The City acknowledges the concern. The proposed pedestrian / bicycle connection to University Avenue, along with the parking lot reconfiguration, shifts vehicular access into the park off-alignment with the bridge. Combined with other visual cues such as landscaping, lighting, and paving treatments, the project is</p>

Comment	Response
	mitigating risk of this confusion. Bollards or other physical barriers will prevent vehicular access to the bridge.
<i>Roundabout is a good idea to address speeding at University Ave. and Hihiwai St., but canoe trailers cannot mount any curbs. Any jarring motion will damage the canoe. It is especially difficult and costly for the club to repair koa canoe.</i>	The City acknowledges this concern and is reevaluating alternate intersection improvements that both allow access for canoe trailers and decrease speed of motorists entering the intersection.

Various Consulting Parties

Section 106 Consultation Meeting on October 19, 2020

Comment	Response
<p><i>Konia F. (Waikiki Surf Club) spoke to the history of the Malia. Disappointed that Malia was not on the radar with regard to bridge construction's impact on the integrity of that canoe. Noted that Malia was built as a racing canoe, and was instrumental to growth of Hawaiian outrigger canoe racing in the state.</i></p> <p><i>Konia F appreciated the structures within which the evaluation is taking place. Raised the issue that the overall scale and size of bridge is diminishing the integrity of the canoes.</i></p>	<p>Mason shared that the evaluation was based on National Register guidelines for watercraft.</p> <p>The City appreciates this comment and concur that the Malia is an important resource. Mason will further evaluate effects to the Malia from a 106 perspective. The significance of the canoe and paddling as cultural resource will also be included in the Cultural Impact Assessment.</p>
<i>Ian C. (Waikiki Surf Club) shared that waa have a genealogy and are part of Hawaiian culture and ancestry. Exposing more people to the area is an issue for the waa.</i>	This genealogy is integrated into the Cultural Impact Assessment.
<p><i>Discussed increased visitation as an impact. Kiersten F. (Historic Hawaii Foundation) noted assessments done recently for Haleakala National Park. Change to feeling as well as increase in visitors. Kiersten F. & Konia F. noted concerns of cumulative and indirect impacts to the comfort station / restrooms.</i></p> <p><i>Konia F. noted that the best way to do mitigate impact of increase of people walking or biking is the area is to not build a bridge.</i></p>	Thank you for your comment. The project team looks forward to discussing potential ways to minimize secondary impacts at the upcoming Section 106 Consultation meeting.

Comment	Response
<i>Daniel Hughes (Kamehameha Schools) asked if analysis has been done identifying how many people would be using that connection.</i>	<p>A bridge use forecast was included as part of the Alternatives Analysis.</p> <p><i>[Added after meeting: This found that a new bridge in the vicinity of University Avenue could see a total of 1300-4300 (range of conservative to optimistic) daily trips by people walking or biking.]</i></p>
<i>Daniel H. asked if the project will provide additional lighting, etc. to mitigate night time concerns.</i>	<p>The bridge has been designed to preserve visual access for police from one end to the other to the extent possible. The bridge will include pedestrian scale lighting. Security cameras and other safety measures are also under consideration for the bridge.</p> <p>Increased pedestrian traffic facilitates natural surveillance, one of the fundamental goals of Crime Prevention Through Environmental Design (CPTED). Studies have shown that increased traffic discourages crime.</p>
<i>Kiersten F. asked if the community garden would be included in the assessment.</i>	<p>The community garden was evaluated and was not determined to be a historic site.</p>
<i>Daniel H. asked if this project is being coordinated with other City complete streets projects.</i>	<p>The proposed Ala Wai Bridge is coordinated with the neighboring complete streets projects, creating a link between improvements associated with the University Avenue Complete Streets project (which starts at Hihiwai St. at University) and Ala Wai Boulevard Complete Street project (Kapahulu Avenue to Ala Moana Boulevard).</p>
<i>Ian C raised concern about increased parking demand</i>	<p>A parking study in the bridge vicinity is being conducted in the vicinity of the proposed project. We are considering parking management strategies as a mitigation opportunity.</p> <p><i>[Added after meeting: Additionally, this new access point into the park provides park users the opportunity to walk or bike to the park, shifting some trips away from car or motorcycle trips and providing more access to low income and other vulnerable populations.]</i></p>

Comment	Response
<i>Opportunities to integrate art into project. Ian C. noted that this is an example of where projects can get into trouble. Hawaiian culture is very place based. Would recommend that further in this process that an inclusive broader group of stakeholders from the area be gathered. Could develop prospectus for artwork.</i>	Artwork is being considered as mitigation for the project. The City looks forward to continued discussions of incorporating cultural artwork into the project. Details can be identified as part of the Memorandum of Agreement (MOA).
<i>Kiersten F. agreed that the project will be an adverse effect and that the appropriate place to resolve it is in the MOA. Mitigation should relate to the effect.</i>	The project is anticipating an adverse effect, and concurs that the appropriate place to resolve it is in the Memorandum of Agreement (MOA).
<i>Suggestion of mitigation in the form of education.</i>	The project team looks forward to continued discussions of potential mitigation, such as educational activities, to be included in the MOA.
<i>Other plans and documents that exist for improvements to Waikiki and Moiliili. DOT-Highways Scenic Byways project.</i>	The project team is currently looking into the Byways project to see if there is potential for integration.