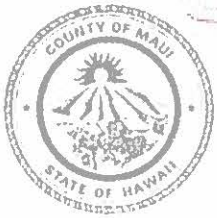
MICHAEL P. VICTORINO
Mayor

LORI TSUHAKO
Director

LINDA R. MUNSELL
Deputy Director



DEPARTMENT OF HOUSING
& HUMAN CONCERNS
COUNTY OF MAUI
2200 MAIN STREET, SUITE 546
WAILUKU, MAUI, HAWAI'I 96793
PHONE: (808) 270-7805

December 11, 2020

Dr. Keith Kawaoka, Acting Director
State of Hawai'i
Department of Health
Office of Environmental Quality Control
235 South Beretania Street, Room 702
Honolulu, Hawai'i 96813

Dear Dr. Kawaoka:

SUBJECT: Proposed Hale Pilina Family Affordable Rental Housing Project; Kahului, Maui, Hawai'i; Publication of the Draft Environmental Assessment and Anticipated Finding of No Significant Impact

With this letter, the County of Maui, Department of Housing and Human Concerns hereby submits the Draft Environmental Assessment and Anticipated Finding of No Significant Impact (DEA-AFONSI) for the Proposed Hale Pilina Family Affordable Rental Housing Project at Tax Map Key (2)3-7-013:026 in Kahului, Maui, Hawai'i, for publication in the next available edition of the Environmental Notice.

In addition to this letter, we have also submitted the electronic version of the Office of Environmental Quality Control Publication Form and a searchable PDF-formatted copy of the DEA-AFONSI through the online submission platform.

If there are any questions, please contact Buddy Almeida of the Housing Division at (808) 270-7351.

Sincerely,

Lori Tsuhako

LORI TSUHAKO, LSW, ACSW
Director of Housing and Human Concerns

xc: Jeff Furuta, GSF LLC
Gary Furuta, GSF LLC
Rick Stack, Catholic Charities Housing Development Corporation
Kari Luna Nunokawa, Munekiyo Hiraga
Buddy Almeida, Housing Administrator

From: webmaster@hawaii.gov
To: HI Office of Environmental Quality Control
Subject: New online submission for The Environmental Notice
Date: Tuesday, December 15, 2020 11:43:04 AM

Action Name

Hale Pilina Family Affordable Rental Housing 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

Judicial district

Wailuku, Maui

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

(2)3-7-013:026

Action type

Applicant

Other required permits and approvals

State of Hawai‘i 1. Hawai‘i Revised Statutes (HRS) Chapter 343 Environmental Assessment 2. National Pollutant Discharge Elimination System (NPDES) Permit, State of Hawai‘i, Department of Health 3. Noise Permit, as applicable 4. HRS Chapter 6E Historic Review 5. Work within State Right-of-Way - State of Hawai‘i, Department of Transportation 6. Use and Occupancy Agreement - State of Hawai‘i, Department of Transportation 7. Stormwater Discharge Permit - State of Hawai‘i, Department of Transportation County of Maui 1. Maui County Code Chapter 2.97, Affordable Housing Approval 2. Building Permit – County of Maui, Development Services Administration (DSA) 3. Driveway Permit – County of Maui, DSA 4. Grading, Grubbing, and Stockpiling Permit – County of Maui, DSA 5. Trenching Permit – County of Maui, DSA 6. Work on County Highway Permit – County of Maui, DSA 7. Drainage and Plan Approval – County of Maui, DSA 8. Sewer Connection and Plan Approval – County of Maui, Wastewater Reclamation Division (WWRD) 9. Water Connection and Plan Approval – County of Maui, Department of Water Supply (DWS)

Discretionary consent required

Maui County Code Chapter 2.97, Affordable Housing Approval

Approving agency

County of Maui, Department of Housing and Human Concerns

Agency contact name

Lori-Ann Tsuhako

Agency contact email (for info about the action)

LoriAnn.Tsuhako@co.maui.hi.us

Email address or URL for receiving comments

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Agency contact phone

(808) 270-7805

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Suite 546
Wailuku, Hawaii 96793
United States
Map It

Applicant

Catholic Charities Housing Development Corporation

Applicant contact name

Gary Furuta

Applicant contact email

gary@gsfhi.com

Applicant contact phone

(808) 429-7815

Applicant address

1388 Ala Moana Boulevard
Suite 7301
Honolulu, Hawaii 96814
United States
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Was this submittal prepared by a consultant?

Yes

Consultant

Munekiyo Hiraga

Consultant contact name

Kari Luna Nunokawa

Consultant contact email

planning@munekiyohiraga.com

Consultant contact phone

(808) 244-2015

Consultant address

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Suite 104
Wailuku, Hawaii 96793
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Map It

Action summary

In response to the current and projected shortage of affordable housing in Maui County, Catholic Charities Housing Development Corporation is proposing the development of the Hale Pilina Family Affordable Rental Housing Project. The project site is comprised of approximately 4.865 acres of land, identified as Tax Map Key No. (2)3-7-013:026 (Parcel 26) and located in Kahului, Maui, Hawai‘i. The subject property is located in the Kahului urban core on Pu‘unēnē Avenue, with South Kaulawahine Street bordering the project site to the west. The proposed project will consist of four (4) three-story buildings containing 178 apartment units for rent and related improvements. Of the 178 rental units, 108 units will be one-bedroom units, while the remaining 70 units will be two-bedroom units. An additional two-bedroom unit will be provided for the Resident Manager. Amenities on property include a community gathering space, mail room, office space for staff, parking stalls, and a private park.

Reasons supporting determination

The Department of Housing and Human Concerns is providing an Anticipated Finding of No Significant Impact, based on the analysis of significance criteria provided in Chapter VI of the Draft Environmental Assessment.

Attached documents (signed agency letter & EA/EIS)

- GSF-Kahului-AH.December-2020.Draft-Environmental-Assessment.pdf
- GSF-Kahului-AH.121120.FONSI-LETTER-FROM-DHHC.pdf

Action location map

- GSF-Kahului-AH.TMKs_.SHAPE.zip

Authorized individual

Kari Luna Nunokawa

Authorization

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

Draft Environmental Assessment

PROPOSED HALE PILINA FAMILY AFFORDABLE RENTAL HOUSING PROJECT

(TMK (2)3-7-013:026)

Prepared for:

Catholic Charities Housing Development Corporation

Approving Agency:

County of Maui,
Department of Housing and Human Concerns

December 2020

MUNEKIYO HIRAGA

Planning. Project Management. Sustainable Solutions.

Draft Environmental Assessment

PROPOSED HALE PILINA FAMILY AFFORDABLE RENTAL HOUSING PROJECT
(TMK (2)3-7-013:026)

Prepared for:

Catholic Charities Housing Development Corporation

Approving Agency:

County of Maui,
Department of Housing and Human Concerns

December 2020

MUNEKIYO HIRAGA

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List of Acronyms

AFONSI	Anticipated Finding of No Significant Impact
AIS	Archaeological Inventory Survey
AM	Morning
AMI	Area Median Income
AMP	Archaeological Monitoring Plan
amsl	above mean sea level
BMPs	Best Management Practices
CCH	Catholic Charities Hawai‘i
CCHDC	Catholic Charities Housing Development Corporation
cfs	cubic feet per second
CMU	Concrete Masonry Unit
CO2 EQ	Carbon Dioxide Equivalent
DWS	Department of Water Supply
EA	Environmental Assessment
FAA	Federal Aviation Administration
Fd	Fill land
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
GHG	Greenhouse Gasses
gpd	gallons per day
HAR	Hawai‘i Administrative Rules
HHFDC	Hawai‘i Housing Finance and Development Corporation
HRS	Hawai‘i Revised Statutes
HUD	U.S. Department of Housing and Urban Development
LOS	Level-Of-Service
MCC	Maui County Code
MECO	Maui Electric Company, Ltd.
mg	million gallon
mgd	million gallons per day
MIP	Maui Island Plan
NPDES	National Pollutant Discharge Elimination System
OSP	Off-site Parking
PER	Preliminary Engineering Report
PM	Afternoon
PZUE	Pu‘uone Sand, 7 to 30 percent slopes
RGB	Rural Growth Boundary
SHPD	State Historic Preservation Division
SLR-XA	Sea Level Rise Exposure Area
SMA	Special Management Area
STB	Small Town Boundary
TIAR	Traffic Impact Analysis Report
UGB	Urban Growth Boundary

Executive Summary

Project Name:	Proposed Hale Pilina Family Affordable Rental Housing Project
Type of Document:	Draft Environmental Assessment
Legal Authority:	Chapter 343, Hawai‘i Revised Statutes
Anticipated Determination:	Anticipated Finding of No Significant Impact (AFONSI)
Applicable Environmental Assessment review "Trigger":	Use of State Funds Potential Use of County Lands (offsite infrastructure improvements)
Location:	Maui Island Kahului TMK No. (2)3-7-013:026
Landowner:	A&B Properties Inc. 11 South Pu‘unēnē Avenue Kahului, Hawai‘i 96732
Applicant:	Catholic Charities Housing Development Corporation c/o GSF, LLC 1388 Ala Moana Boulevard #7301 Honolulu, Hawai‘i 96814 Contact: Gary S. Furuta, Project Manager Phone: (808) 429-7815
Approving Agency:	County of Maui Department of Housing and Human Concerns 2200 Main Street, Suite 546 Wailuku, Hawai‘i 96793 Contact: Lori Tsuhako, Director Phone: (808) 270-7805
Consultant:	Munekiyo Hiraga 305 High Street, Suite 104 Wailuku, Hawai‘i 96793 Contact: Kari Luna Nunokawa Phone: (808) 244-2015
Project Summary:	Catholic Charities Housing Development Corporation (CCHDC) is proposing the development of the Hale Pilina Family Affordable Rental Housing Project. The

Hale Pilina Family Affordable Rental Housing Project will be developed on 4.865 acres of land identified as TMK (2)3-7-013:026. The subject property is located in the Kahului urban core on Puʻunēnē Avenue with South Kaulawahine Street forming the western boundary of the Project site.

The Hale Pilina Family Affordable Rental Housing Project will include the development of four (4) three-story multi-family residential buildings, an onsite park/open space area, parking, and related improvements. The proposed Project will provide 108 one-bedroom units and 70 two-bedroom units for rent to families who earn 60 percent or less of the County's Housing and Urban Development (HUD) Average Median Income (AMI). In addition, one (1) unit will be provided for a resident manager. Hale Mahaolu will provide onsite property management.

The Hale Pilina Family Affordable Rental Housing Project will seek funding assistance from the Hawaiʻi Housing Finance and Development Corporation. The use of State funds and potential use of County lands for offsite infrastructure improvements are triggers for the preparation of an Environmental Assessment (EA) pursuant to Chapter 343, Hawaiʻi Revised Statutes (HRS) and Section 11-200.1, Hawaiʻi Administrative Rules (HAR). As such, this EA has been prepared to evaluate the technical characteristics, environmental impacts, and alternatives, as well as to advance findings relative to the proposed Project. This Project will also be seeking an affordable housing project approval from the Maui County Council pursuant to Chapter 2.97 of the Maui County Code. This EA will serve as the supporting document for the Chapter 2.97 application. The approving agency for the EA will be the County of Maui, Department of Housing and Human Concerns.

PROJECT OVERVIEW

I. PROJECT OVERVIEW

A. PROJECT LOCATION, CURRENT LAND USE, AND OWNERSHIP

Catholic Charities Housing Development Corporation (CCHDC) is proposing the development of the Hale Pilina Family Affordable Rental Housing Project ("Project"), comprised of 178 affordable family housing units off of Puʻunēnē Avenue in Kahului, Maui. The Project will be developed on 4.865 acres of land identified as TMK No. (2)3-7-013:026 (Parcel 026). Parcel 026 is located on Puʻunēnē Avenue with South Kaulawahine Street bordering the west side of the property in the Kahului urban core. See **Figure 1**.

The Project site address is 150 South Puʻunēnē Avenue. The site is bordered by Puʻunēnē Avenue to the east and South Kaulawahine Street to the west. A mix of single-family residential, commercial, and public/quasi-public uses border the property. The Kahului Post Office, County of Maui Coach Spencer Shiraishi Memorial Pool, Salvation Army, and several churches are located in the vicinity of the Project site.

A portion of the subject property was formerly used as the site for the Maui Swap Meet which has since moved to its current location at the University of Hawaiʻi Maui College campus. The Project site is currently vacant.

The Project site is currently owned by A&B Properties Inc. The Applicant, CCHDC, is in the process of acquiring the site from A&B Properties Inc.

B. PROPOSED ACTION

The Project will include the development of four (4) three-story multi-family residential buildings, an onsite park/open space area, parking, and related improvements. See **Figure 2**, **Figure 3**, and **Appendix "A"**. The proposed Project will provide 108 one-bedroom units and 70 two-bedroom units for rent to families who earn 60 percent or less of the HUD Area Median Income (AMI) for Maui County. In addition, one (1) two-bedroom unit will be provided for the resident manager. A multi-purpose room for resident use will be provided on the ground floor of one (1) of the residential buildings.

Depending on funding availability, carports with photovoltaic panels may be developed onsite to offset electrical demand generated by the Project. Photovoltaic panels may also be installed on building rooftops. Please refer to **Appendix "A"** for a site plan of the potential photovoltaic panels on the carports.

Access to the Project will be provided by a new full access driveway along Kaulawahine Street and a new right-in/right-out driveway along Puʻunēnē Avenue.

Figure 1

Hale Pilina Family Affordable Rental Housing Project

Regional Location Map

2500
0 Feet
1250 5000

Prepared for: Catholic Charities Housing Development Corporation

MUNEKIYO HIRAGA

GSF/Kahului AH/Applications/Figures/Regional Location

Source: M & A Hawaii

Figure 2

Hale Pilina Family Affordable Rental Housing Project

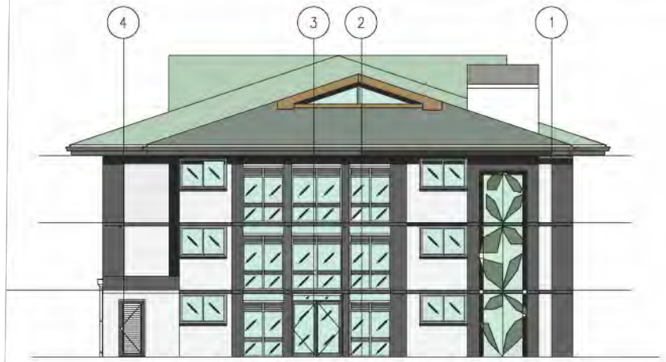
Site Plan

NOT TO SCALE

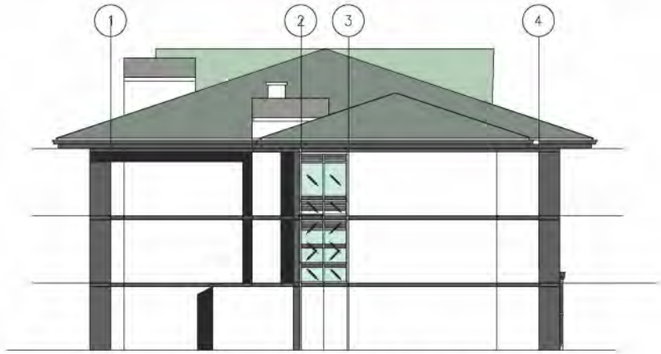
Prepared for: Catholic Charities Housing Development Corporation

MUNEKIYO HIRAGA

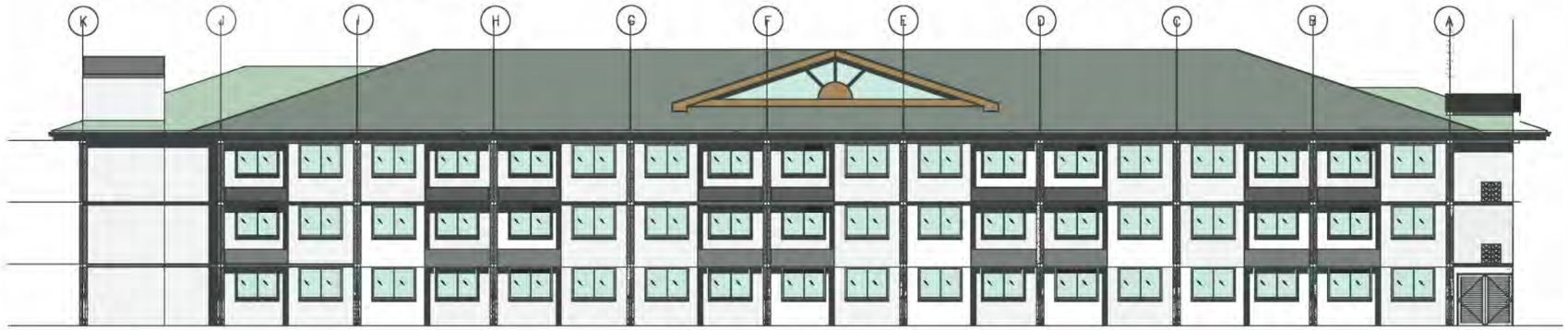
GSF/Kahului AH/Applications/Figures/Site Plan



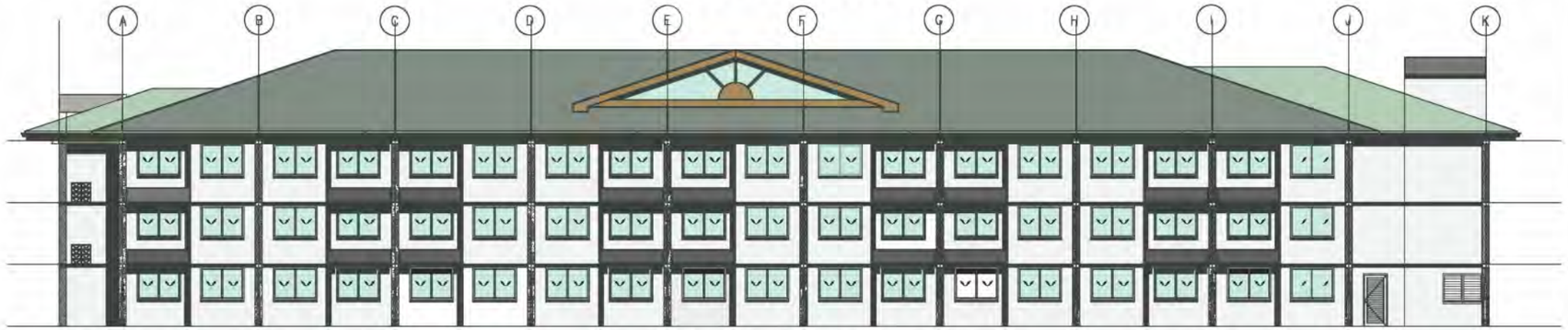
Front Lobby Elevation



Rear Elevation



Side Elevation



Side Elevation

Source: M & A Hawaii

Figure 3

Hale Pilina Family Affordable Rental Housing Project
Building Elevations

NOT TO SCALE

Prepared for: Catholic Charities Housing Development Corporation

MUNEKIYO HIRAGA

K:\DATA\GSF\Kahului AH 2281\Applications\Figures\Building Elevations

The current County of Maui HUD income limits and maximum rents for the 60 percent AMI threshold, as established by the U.S. Department of Housing and Urban Development (HUD) are presented in **Table 1** and **Table 2** below.

Table 1. 2020 HUD Income Limits, 60 Percent AMI

Household Size	Income Limit
1 person	$43,080
2 person	$49,200
3 person	$55,380
4 person	$61,500

Table 2. 2020 Maximum Rent Levels, 60 Percent AMI

Unit Size	Rent
1 bedroom	$1,153
2 bedroom	$1,384

C. PROJECT NEED

Affordable housing has been and continues to be an important need within the County of Maui and State of Hawai‘i as a whole. Population and household growth have exceeded the development of new housing units, exacerbating the demand for housing and increasing housing costs.

The *Hawai‘i Housing Planning Study, 2019* is the latest in an ongoing effort by the State of Hawai‘i, Department of Business, Economic Development, and Tourism (DBEDT) to study the issue of housing in Hawai‘i. The main purpose of this report is to provide the State and Counties with contemporary data on the housing situation in Hawai‘i and to support planning activity. Included in this 2019 report are topics including housing demand, housing supply, housing prices, affordable housing, and needed housing units.

The *Hawai‘i Housing Planning Study, 2019* projected a demand for 10,404 new units in Maui County from 2020-2025. It notes that 2,990 of these new units would be needed for households earning 60 percent of the AMI or less, 2,260 of the projected demand being for rental units. The 2019 study provides a baseline framework for understanding housing demand for new households, but it notes that there are other factors that could change actual demand, such as ability to qualify for a preferred move (i.e., home ownership), and consideration of households that are currently doubled up, which are counted as one (1) household instead of two (2) (SMS, 2019).

According to the study, about 49 percent of those who planned to move said they wanted to buy their next unit, which can be inferred that more than half, 51 percent of those people intend to rent their next unit. It was determined that, among the 53,850 households statewide that intended to rent their next unit, close to half (46%) plan to rent an apartment or other multi-family unit. Further, those on Maui were the most financially prepared to do so (SMS, 2019).

The Project will provide much needed affordable rental housing for families in Central Maui. Existing affordable housing developments throughout Maui have lengthy waiting lists, a testament to the high demand present. In addition, the demand for affordable housing is anticipated to continue to grow.

D. CHAPTER 343, HAWAI'I REVISED STATUTES REQUIREMENTS

The Hale Pilina Family Affordable Rental Housing Project will seek funding assistance from the HHFDC. The use of State funds and potential use of County lands for offsite infrastructure improvements are triggers for the preparation of an Environmental Assessment (EA) pursuant to Chapter 343, Hawai'i Revised Statutes (HRS) and Section 11-200.1, Hawai'i Administrative Rules (HAR). As such, this EA has been prepared to evaluate the technical characteristics, environmental impacts, and alternatives, as well as to advance findings relative to the proposed Project. CCHDC will also be seeking an affordable housing Project approval from the Maui County Council pursuant to Chapter 2.97 of the Maui County Code (MCC). As such, the approving agency for the EA will be the Department of Housing and Human Concerns. The EA will serve as the supporting document for the Project's MCC Chapter 2.97 application.

E. LAND USE ENTITLEMENT REQUIREMENTS

The Project site is designated "Urban" by the State Land Use Commission, "Park" by the Wailuku-Kahului Community Plan, and "Public/Quasi-Public" by Maui County Zoning. As a 100 percent affordable housing project, CCHDC will be seeking an affordable housing approval from the Maui County Council pursuant to Chapter 2.97, MCC. The Chapter 2.97 application process will allow exemptions relating to planning, zoning, construction standards for subdivisions, development and improvement of land, and the construction of dwelling units thereon to support the development of affordable housing. The Chapter 2.97 application will include a request for an exemption from the need to seek a Community Plan Amendment and Change of Zoning for the Project to expedite the delivery of affordable housing. Discussion of the Chapter 2.97 exemption requests is further detailed in Chapter III of this EA.

F. CONSTRUCTION COST AND IMPLEMENTATION TIME FRAME

The development of the proposed Hale Pilina Family Affordable Rental Housing Project will commence upon receipt of regulatory approvals, construction permits, and financing.

The development will be constructed in two (2) phases, with each phase expected to take 16 to 18 months to construct. The estimated cost of construction for the entire Project is approximately $66 million dollars.

II

DESCRIPTION OF THE EXISTING CONDITIONS, POTENTIAL IMPACTS AND MITIGATION MEASURES

II. DESCRIPTION OF THE EXISTING CONDITIONS, POTENTIAL IMPACTS AND MITIGATION MEASURES

A. PHYSICAL SETTING

1. Surrounding Land Uses

a. Existing Conditions

The proposed Project is located within the urban core of Kahului, within walking distance of various commercial centers, as well as the Kahului Harbor, the island's only deep water port. The Kahului Airport, the second busiest airport in the State, is also located in the region and is less than two (2) miles from the subject property. With its proximity to the harbor and airport, the Kahului region has emerged as the focal point for heavy industrial, light industrial, and commercial activities and services. These services include warehousing, baseyard operations, automotive sales and maintenance, and retailing for equipment and material suppliers.

The region is also considered Central Maui's commercial retailing center with the Maui Mall, Kahului Shopping Center, and Queen Kaʻahumanu Center located within a mile radius of each other. Surrounding this commercial core is an expansive residential area. Residential uses encompass the area extending from the Maui Memorial Medical Center to Puʻunēnē Avenue.

The Project site address is 150 South Puʻunēnē Avenue. The site is bordered by Puʻunēnē Avenue to the east and South Kaulawahine Street to the west. The Kahului Post Office will border one part of the north side of the property and the Salvation Army site and County of Maui Coach Spencer Shiraishi Memorial Pool will border part of the subject property on the west.

A single-family residential neighborhood is located south and west of the Project site. The Maui Mall shopping center is located on Kamehameha Avenue, in close proximity to the site, and provides a grocery store, drug store, movie theater, and other retail and dining establishments. Other commercial uses in close proximity to the Project site include Bank of Hawaiʻi's Kahului Banking Center, dining establishments, and a car dealership.

The proposed affordable family residential development will be consistent with surrounding land uses, which include a mix of residential, commercial, and public/quasi-public uses. The site is an ideal location for in-fill housing development, locating new housing in close proximity to existing commercial and public services and infrastructure systems. Building setbacks and landscaping have been incorporated into the site planning and design to provide a buffer between the proposed Project and existing single-familiy residences immediately adjacent to the Project site. Significant adverse impacts to surrounding land uses are not anticipated as a result of the proposed Project.

2. Climate

a. Existing Conditions

Like most areas of Hawai‘i, Maui’s climate is relatively uniform year-round. Characteristic of Hawai‘i’s climate, the Project site experiences mild and uniform temperatures year round, moderate humidity and a relatively consistent northeasterly tradewind. Variation in climate on the island is largely left to local terrain.

The climate of Maui County is defined by average temperatures ranging from 88.0 degrees in the warmest month at Kahului Airport to 63.0 degrees in the coolest month. August and September are historically the warmest months, while January and February are the coolest. Rainfall in the region averages approximately 17.83 inches per year. Winds in the Kahului region are predominantly out of the north and northeast (County of Maui, Office of Economic Development, 2018).

b. Potential Impacts and Mitigation Measures

The proposed action is not anticipated to adversely affect climatic conditions in the area. Landscaping, including shade trees throughout the parking lot, will be incorporated into the Project to take advantage of the natural cooling effects of shading.

3. Topography and Soil Characteristics

a. Existing Conditions

The Project site is relatively flat, having previously been used for the Swap Meet. According to the “Soil Survey of Islands of Kaua‘i, O‘ahu, Maui, Moloka‘i, and Lāna‘i, State of Hawai‘i”, prepared by the United States Department of Agriculture, Soil Conservation Service, underlying the

Project site and surrounding lands are soils belonging to the Pulehu-Ewa-Jaucas association. See **Figure 4**. This soil association is characteristically deep and well-drained, as well as located on alluvial fans and in basins. The soil types specific to the Project site is primarily Puuone Sand, 7 to 30 percent slopes (PZUE) with a small portion comprised of Fill Land (Fd). See **Figure 5**. PZUE soil is typically on sandhills near the ocean and consists of a surface layer approximately 20 inches thick of calcareous sand, over grayish brown cemented sand. Permeability is rapid above the cemented layer, runoff is slow, and the wind erosion hazard is moderate to severe. This soil type is typically used for pasture or residential development. Fd soil consists of areas filled with material from dredging, excavation from adjacent uplands, and bagasse and slurry from sugar mills (U.S. Department of Agriculture, Soil Conservation Service, 1972).

b. Potential Impacts and Mitigation Measures

The proposed Project will result in ground altering activities and minor alterations to existing topographical conditions to provide drainage improvements, utility service, and the necessary finished floor elevations for the proposed residential buildings, parking, and driveways. Grading activities associated with the improvements will be completed in accordance with Chapter 20.08, Soil Erosion and Sedimentation Control, of the Maui County Code (MCC) and the permit requirements of the State of Hawai‘i, Department of Health and the National Pollutant Discharge Elimination System (NPDES). Adverse impacts to topography and soil conditions in the vicinity of the Project site are not anticipated as a result of the proposed action. Erosion and dust control measures will be implemented to mitigate impacts during construction to neighboring public and private facilities. Best Management Practices (BMPs) may include dust screens, frequent watering of exposed soils, vegetative covering of exposed areas, silt fences, storm drain inlet protection, sediment traps, and berms and soil stabilization.

4. Flood and Tsunami Hazards

a. Existing Conditions

The Federal Emergency Management Agency (FEMA) manages the National Flood Insurance Program under which flood-prone areas are identified and flood insurance is made available. FEMA produces Flood

LEGEND

① Pulehu-Ewa-Jaucas association

② Waiakoa-Keahua-Molokai association

③ Honolua-Olelo association

④ Rock land-Rough mountainous land association

⑤ Puu Pa-Kula-Pane association

⑥ Hydrandepts-Tropaquods association

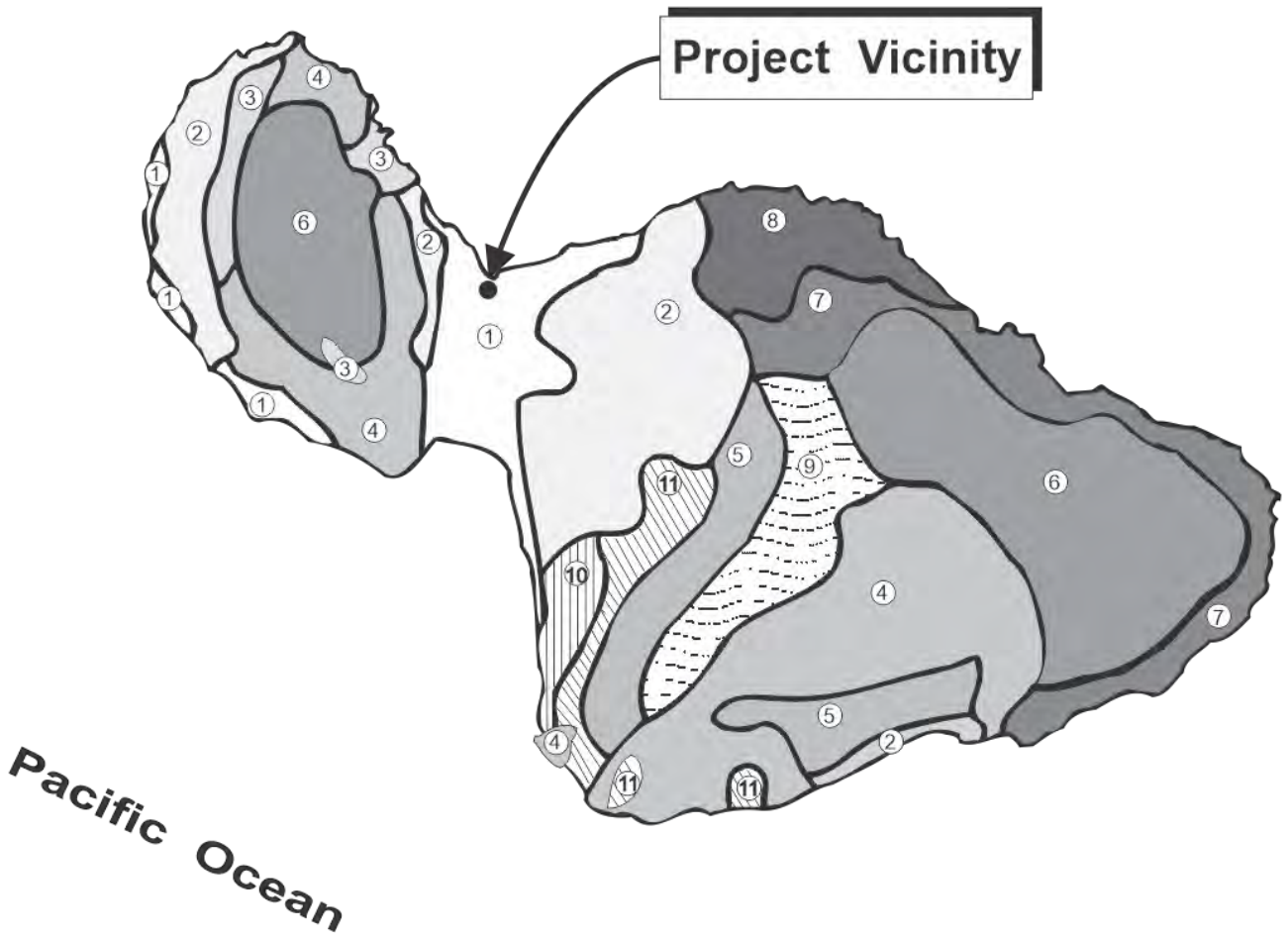
⑦ Hana-Makaalae-Kailua association

⑧ Pauwela-Haiku association

⑨ Laumaia-Kaipoipoi-Olinda association

⑩ Keawakapu-Makena association

⑪ Kamaole-Oanapuka association



Source: USDA Soil Conservation Service

Figure 4

Hale Pilina Family Affordable Rental Housing Project

Soil Association Map

NOT TO SCALE

MUNEKIYO HIRAGA

Prepared for: Catholic Charities Housing Development Corporation

GSF\Kahului AH\Applications\Figures\SOILS

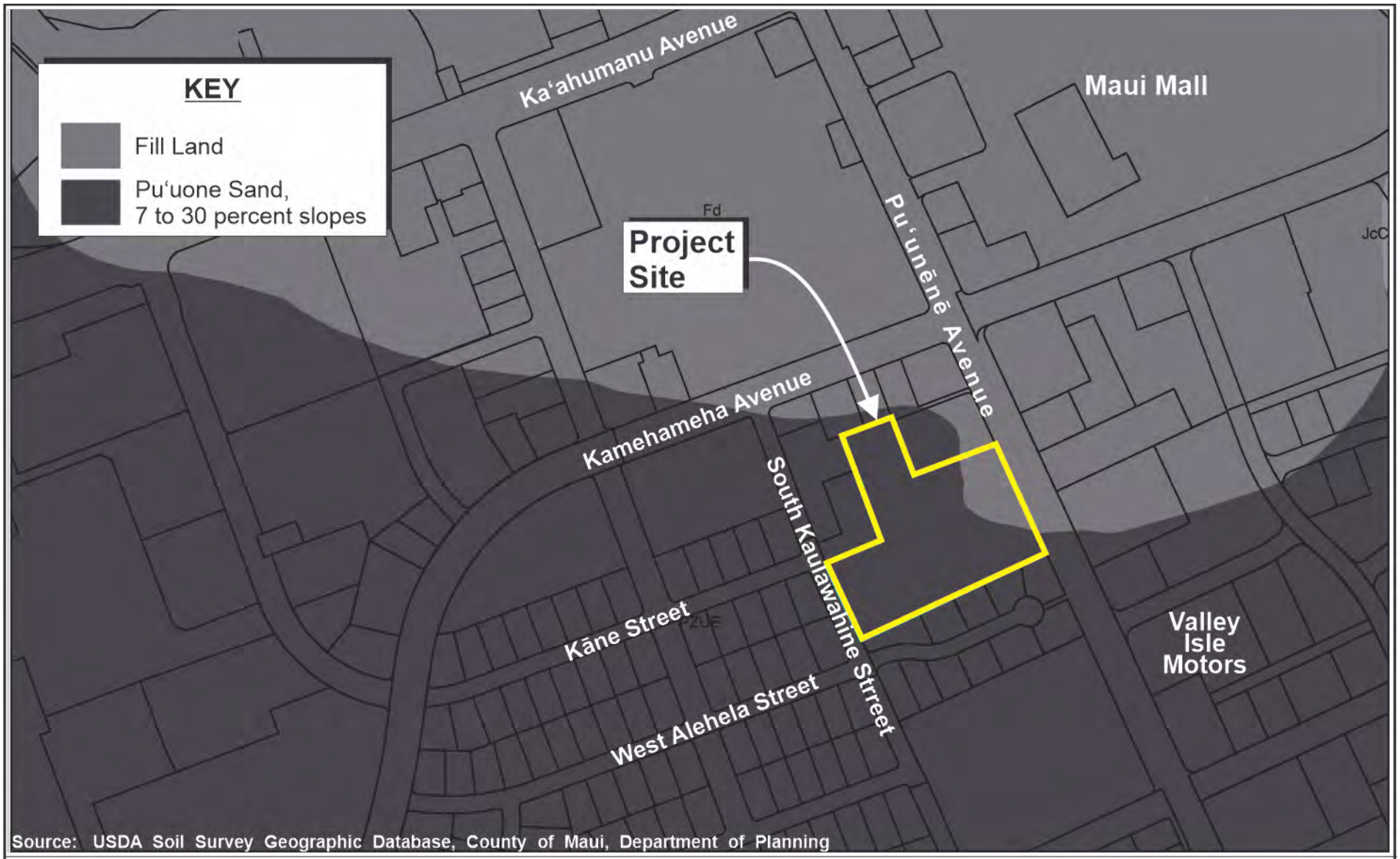


Figure 5

Hale Pilina Family Affordable Rental Housing Project

Soil Classification Map

0 200 Feet
100 400

Prepared for: Catholic Charities Housing Development Corporation

MUNEKIYO HIRAGA

K:\DATA\GSF\Kahului AH 2281\Applications\Figures\Soils Classification

Insurance Rate Maps (FIRM), an insurance and floodplain map that identifies the areas subject to flooding during a 1-percent chance (100-year) flood event, as well as areas inundated by the 0.2-percent annual chance (500-year) flood. The 100-year floodplain is the boundary of the flood that has a 1-percent chance of being equaled or exceeded in any year, while the 500-year floodplain is the boundary of the flood that has a 0.2-percent chance of being equaled or exceeded in any given year. FEMA's FIRM indicates that the subject property is located within Zone X (unshaded). See **Figure 6**.

According to FEMA, Zone X is identified as areas of low flood risk and minimal flooding with no development restrictions. Specifically, Zone X (unshaded) corresponds to areas that are determined to be outside the 0.2-perent annual chance floodplain. Zone AE is identified as areas that lie within the 100-year coastal floodplains. Zone VE is identified as areas that lie within the 100-year coastal floodplains that have additional hazards associated with storm waves.

The proposed Project area is located within the tsunami evacuation zone as designated by the County of Maui, Emergency Management Agency. See **Figure 7**.

b. <u>Potential Impacts and Mitigation Measures</u>

The proposed Hale Pilina Family Affordable Rental Housing Project is located within Flood Zone X, areas of minimal flooding. As such, a Special Flood Hazard Area Development Permit will not be required for Project implementation.

Procedures to organize and direct operations at the Hale Pilina Family Affordable Rental Housing Project in the event of an emergency or civil defense action, such as a tsunami, will be established. The procedures will identify protocol during times of emergency or disruption and specific actions dependent upon the type of emergency or disruption. Hale Mahaolu, the managing organization for the Project, has emergency procedures in place which will be posted and distributed to all residents.

Given the FIRM designation for the Project area and the emergency and civil defense procedures to be established, no significant adverse impacts to flood and tsunami conditions are anticipated with the implementation of the proposed action.

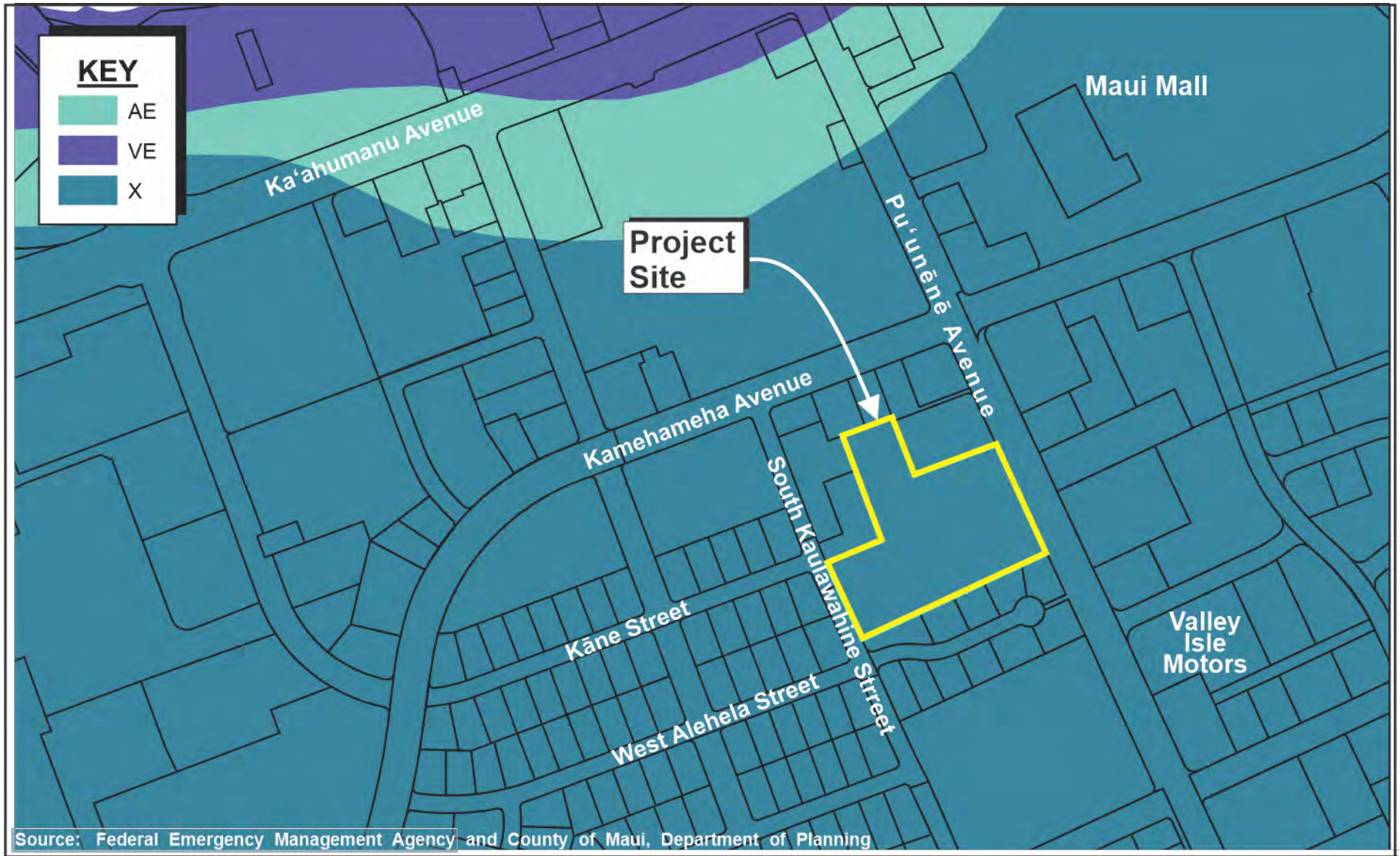


Figure 6

Hale Pilina Family Affordable Rental Housing Project

Flood Insurance Rate Map

200 Feet
0 100 400

Prepared for: Catholic Charities Housing Development Corporation

MUNEKIYO HIRAGA

K:\DATA\GSF\Kahului AH 2281\Applications\Figures\FIRM

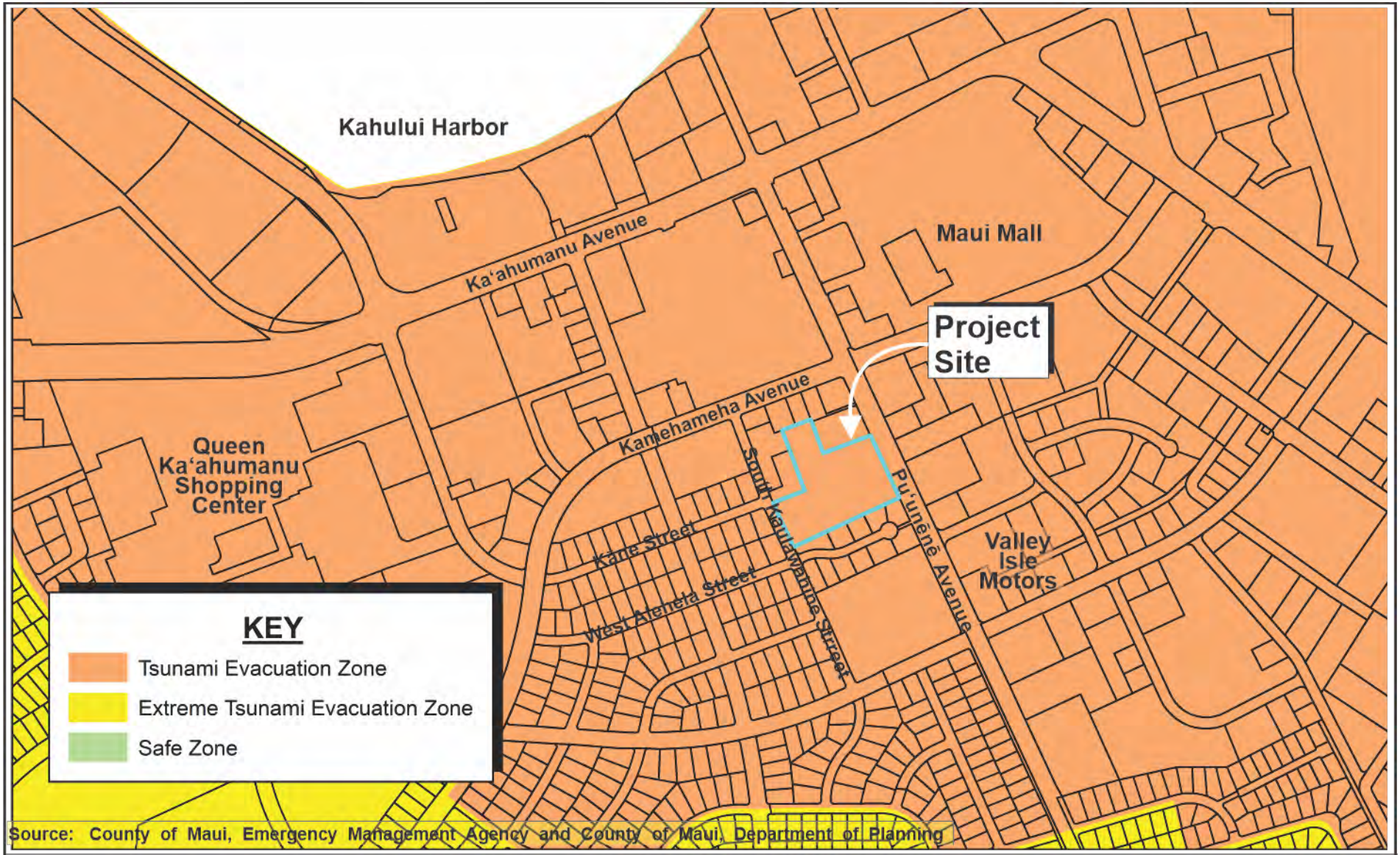


Figure 7

Hale Pilina Family Affordable Rental Housing Project

Tsunami Evacuation Map

0 350 Feet
175 700

Prepared for: Catholic Charities Housing Development Corporation

MUNEKIYO HIRAGA

GSF/Kahului AH/Applications/Figures/Tsunami Evacuation Map

5. Sea Level Rise

a. Existing Conditions

Due to Hawai‘i’s location in the Pacific, it is often faced with risks due to extreme weather events. Changing climatic patterns caused by globalwarming result in impacts, including rising sea levels, storm surge, increased flood potential, and beach erosion for ocean fronting and shoreline parcels. The *Hawai‘i Sea Level Rise Vulnerability and Adaptation Report* (Report) updated in 2018 provided the first State-wide assessment of Hawai‘i’s vulnerability to sea level rise and recommendations to reduce exposure and sensitivity to sea level rise and increase the State’s capacity to adapt. The Report presents a Sea Level Rise Exposure Area (SLR-XA) to depict the area exposed to potential chronic flooding based on modeling of passive flooding, annual high wave flooding, and coastal erosion. Although the Report provides a range of sea level rise projections and vulnerability scenarios, the 3.2-foot sea level rise exposure area was chosen to depict hazards that may occur in the mid to latter half of this century. The Project site is located outside the 3.2-foot sea level rise exposure area (Hawaii Climate Change Mitigation and Adaptation Commission, 2018). See **Figure 8**.

b. Potential Impacts and Proposed Mitigation Measures

The Hale Pilina Family Affordable Rental Housing Project is outside the predicted sea level rise benchmark and, therefore, potential impacts are minimal. Even with the anticipated 3.2 feet of sea level rise as soon as 2060, the proposed Project is well inland from the coast and mitigation measures do not need to be implemented.

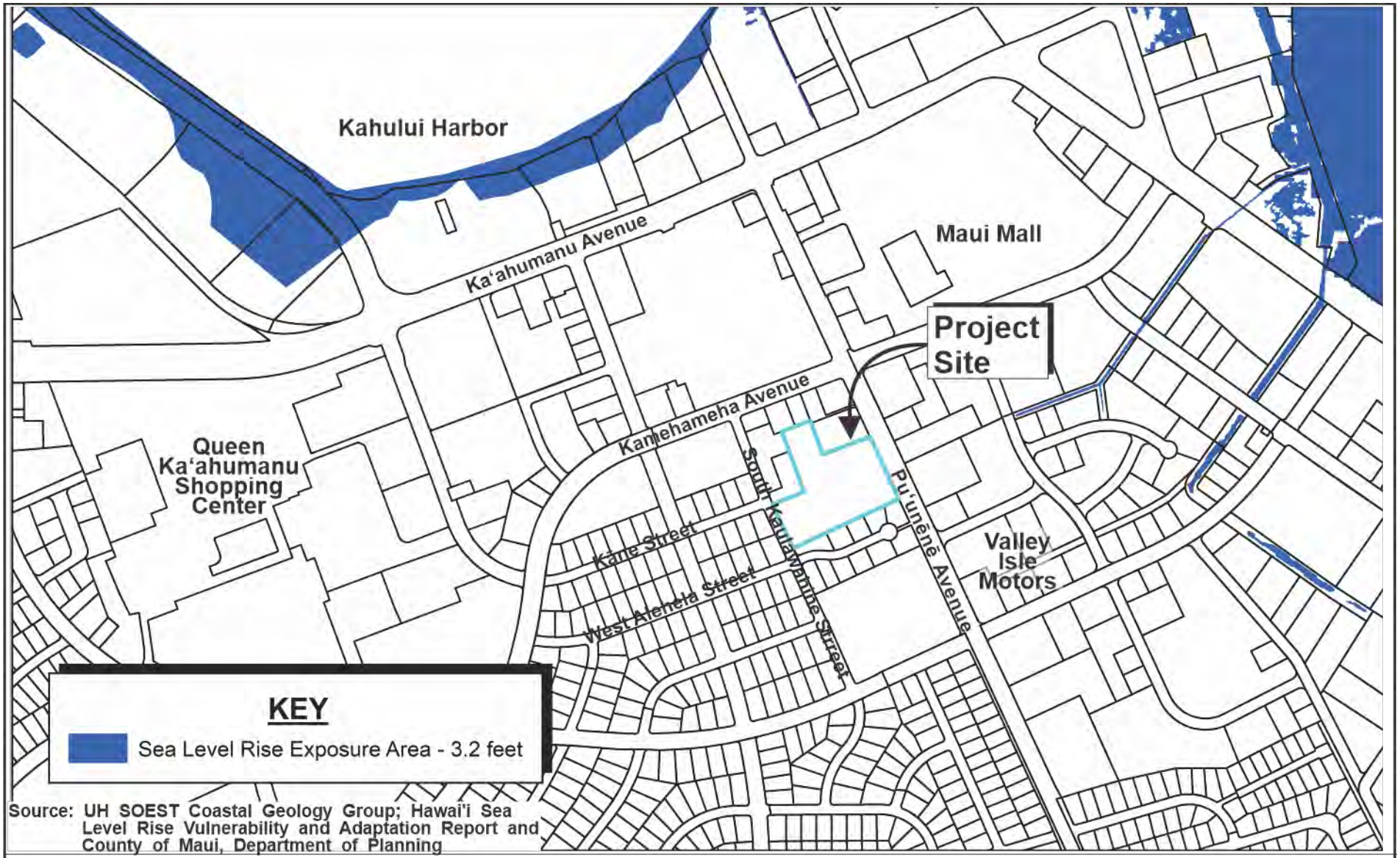
6. Streams and Wetlands

a. Existing Conditions

There are no streams in the vicinity of the Project site. The closest wetland to the Project area is Kanahā Pond, located approximately 0.8 of a mile west of the Project area.

b. Potential Impacts and Mitigation Measures

No adverse impacts on streams or wetlands are anticipated as a result of the proposed Project.



Source: UH SOEST Coastal Geology Group; Hawai'i Sea Level Rise Vulnerability and Adaptation Report and County of Maui, Department of Planning

Figure 8

Hale Pilina Family Affordable Rental Housing Project

Sea Level Rise Exposure Map

0 175 350 700 Feet

Prepared for: Catholic Charities Housing Development Corporation

MUNEKIYO HIRAGA

GSF/Kahului AH/Applications/Figures/SLR

7. Flora, Fauna and Avifauna

a. Existing Conditions

A Botanical and Fauna Survey was conducted for the Project site by Robert Hobdy in May 2020. See **Appendix "B"**. The Project site is located within the urbanized core of Kahului. As such, areas surrounding the Project site are characteristic of the urban nature of Kahului. The subject property is undeveloped and lies on level open ground that has been maintained as a mowed grass lawn that was formerly the site of the Kahului Swap Meet. There are no known rare, endangered, or threatened species of flora within the Project site. Only one (1) native plant species was identified, the pōpolo (*Solanum americanum*), a common indigenous plant in Hawai'i, but also naturally occurring in many other tropical countries and is a species of least environmental concern.

Fauna and avifauna at the Project site are generally characteristic of urban areas. Fauna typically found in the vicinity include mongoose, rats, dogs, and cats. Avifauna typically include mynahs, several types of doves, and house sparrows. There are no rare, endangered, or threatened species of fauna or avifauna found at the Project site.

b. Potential Impacts and Mitigation Measures

There are no known significant habitats or rare, endangered, or threatened species of flora, fauna, and avifauna located within the Project site. Landscaping is proposed as part of the Project. The Botanical and Fauna Survey noted that while no protected seabirds were found on the property, they are known to overfly the area at dawn and dusk to their burrows high in the mountains in the months of March to November. As such, the Survey recommended that outdoor lighting be shielded and downward facing. It was also recommended that the Project utilize native plants in its landscaping.

Various mitigation measures recommended by the U.S Fish and Wildlife Service, as noted in their early consultation comment letter, will be implemented. This includes ensuring that woody plants greater than 15 feet tall not be disturbed, removed, or trimmed during the Hawaiian hoary bat birthing and pup rearing season unless inspected for the presence of the hoary bat, and barbed wire fencing will not be used. Although Blackburn's sphinx moth and its native and nonnative host plants were not identified within the Project site, a survey of Blackburn's sphinx moth and its host plants will be conducted within four (4) to six (6) weeks prior to

construction. Outdoor lights will be shielded to minimize impacts to seabirds, automatic motion sensor switches and controls will be considered for permanent outdoor lighting, and night construction will be avoided between September 15 and December 15. It is noted that this study included a special effort to identify any native Hawaiian Hoary bat presence. No bats were detected on the Project site.

As recommended by the Division of Forestry and Wildlife (DOFAW), the construction site will utilize bait stations for rodents and mongoose and provide covered trash receptacles to minimize attracting vulnerable birds to the Project site. The movement of plant or soil material between worksites will also be carefully monitored to minimize the unintentional introduction of invasive fungal pathogens, vertebrate and invertebrate pests (e.g., Little Fire Ants), or invasive plant parts that could harm the native species and ecosystems. The Maui Invasive Species Committee will be consulted to learn about the high-risk invasive species in the area and ways to mitigate spread. Equipment, materials, and personnel will take care to clean excess soil and debris to minimize the spread of invasive species. A landscape architect will be consulted on the landscape for the Project. Every effort to utilize native plant species will be explored.

8. Archaeological Resources

a. Existing Conditions

Archaeological consultation with the State Historic Preservation Division (SHPD) was initiated on September 24, 2020 by the County of Maui, Department of Housing and Human Concerns. A copy of the 6E, Hawai'i Revised Statutes (HRS) submittal is included in **Appendix "C-1"**. The Project area was the subject of an Archaeological Inventory Survey (AIS) prepared by Xamanek Researches in October 2004 for a previously proposed affordable housing development on the same property. See **Appendix "C-2"**. The AIS was carried out following consultation with the SHPD Maui Office in 2004. Fieldwork included a pedestrian inspection and subsurface investigation consisting of 10 backhoe trenches. All trenches were excavated into the water table. There were no subsurface cultural layers encountered. The AIS (termed an archaeological assessment due to negative findings) was reviewed and accepted by the SHPD on March 4, 2005. See **Appendix "C-3"**.

b. Potential Impacts and Mitigation Measures

As previously mentioned, no historic properties have been identified within the Project site. Due to the presence of sand deposits within the Project area, archaeological monitoring is proposed for Project related ground disturbing activities. Refer to **Appendix "C-1"**. CCHDC will continue to consult with the SHPD and implement agreed upon mitigation measures.

In accordance with Section 6E-43.6, HRS and Chapter 13-300, HAR, if any significant cultural deposits or human skeletal remains are encountered, work will stop in the immediate vicinity and SHPD will be contacted to establish the appropriate protocols and level of mitigation.

9. Cultural Resources

a. Existing Conditions

A Cultural Impact Assessment (CIA) was prepared for the proposed project. See **Appendix "D"**. The Project site is located within the ahupuaʻa of Wailuku, in the district of Wailuku. The ahupuaʻa of Wailuku is part of a greater area, known as Nā Wai ʻEhā, "The Four Waters", named after the four (4) major streams that fed the taro-growing areas of Waikapū, Wailuku, Waiehu, and Waiheʻe.

In traditional times, Kahului appears to have been a marginal settlement location, relative to Wailuku Town and areas to the north. It is noted that before western contact, this area was not suitable for food agriculture and the plains of Kamaʻomaʻo were barren. However, fishing was plentiful and due to the close proximity to the bay, a fishing, and perhaps trading village, existed next to the large natural lagoon.

The Project site, through many decades of urban growth in Kahului, has been subdivided from a larger parcel, first by Hawaiian Commercial Sugar Company and then subsequently, by Alexander and Baldwin and Alexander and Baldwin Properties. What is currently the Project site has never been developed beyond a public park space and overflow parking for the Maui County Fairgrounds and Racing Association, which took place across Puʻunēnē Avenue.

It is noted that the parcel is very flat with an approximate elevation of 4 to 5 feet AMSL. No cultural resources, features, or artifacts were visible. Some adjacent buildings are considered historical heritage sites, including the Kahului Post Office building, the Old National Guard building, and a

concrete slab from the World War II era, which was redeveloped into the Coach Spencer Shiraishi Memorial Pool facility. Refer to **Appendix "D"**.

b. Potential Impacts and Mitigation Measures

The CIA included interviews with three (3) individuals familiar with the Project area to assess any potential impacts the project may have on cultural resources and practices. The testimonies given did not make any reference to cultural practices occurring on the Project site.

Overall, the CIA found that there are no cultural items, artifacts, earthworks, sites or record of any cultural practices at the Project site. No natural resources valuable for the practice of Hawaiian culture was found or reported at the property. There are no historical stories, events, or artifacts significant to the history of Kahului that were found or known to be registered with the State of Hawai'i or any national heritage organization. Due to the absence of cultural and historical artifacts, resources, and practices, the CIA concluded that adverse cultural impacts are not anticipated as a result of the proposed Hale Pilina Family Affordable Housing Project. Refer to **Appendix "D"**.

10. Air Quality

a. Existing Conditions

Air pollution in the Kahului area results from both natural and man-made sources. Natural sources include windblown dust. Man-made sources include industrial sources (e.g., power plants), mobile sources (e.g., vehicular traffic), and agricultural sources.

The proposed Project is located within the urban core of Kahului and the only known sources of pollutant air emissions in the immediate vicinity are associated with fuel combustion emissions from vehicular activity on nearby roadways, and the Hawaiian Electric Company Ltd.'s Kahului Power Plant located adjacent to Kahului Harbor.

Air quality in Hawai'i is relatively high, attributed in part to the consistent trade winds that quickly disperse concentrations of emissions. The rapid dispersion was evident during previous burning of sugar cane in fields which were located to the southeast of the Kahului residential core.

b. Potential Impacts and Mitigation Measures

Airborne particulates, including dust, may be generated during site preparation and construction activities. Dust control measures, such as regular watering and sprinkling and erection of dust fences around the construction site, will be implemented as needed to minimize windblown emissions. In the long term, vehicle-generated emissions from automobiles driving to and from the Project are not anticipated to create significant adverse impacts to local and regional ambient air quality conditions.

11. Noise

a. Existing Conditions

Ambient noise conditions at the Project site are typical of urban environments. Traffic noise from nearby roadways is the predominant source of background noise in the Project vicinity.

b. Potential Impacts and Mitigation Measures

As with air quality, ambient noise conditions will be temporarily impacted by construction activities. Heavy construction equipment, such as bulldozers, front end loaders, and dump trucks and trailers, will be the dominant source of noise during site construction. Construction generated noise will be mitigated through BMPs and construction activities will be limited to daylight work hours only. In addition, precautionary measures will be taken so as to not disrupt the adjacent tenants during the construction process.

In the context of long-term operations, the proposed Hale Pilina Family Affordable Rental Housing Project is not anticipated to significantly affect ambient noise levels.

12. Visual Resources

a. Existing Conditions

The Project area is located within Kahului's commercial core. Properties surrounding the Project site are developed and include the Kahului Post Office, the Salvation Army, the Coach Spencer Shiraishi Memorial Pool, and residential homes. Scenic resources to the west of the Project site include ʻĪao Valley and Mauna Kahalawai. Haleakalā lies east of the

Project site. To the north of the site lies the Kahului Harbor and the Pacific Ocean.

b. Potential Impacts and Mitigation Measures

The proposed Hale Pilina Family Affordable Rental Housing Project is within the urban core of Kahului and is not located in a designated scenic corridor. In the context of the surrounding urbanized and developed land uses, the proposed action is not anticipated to have a significant adverse impact upon the scenic and open space resources of the area. The Project will incorporate a park/open space area for residents onsite. As previously mentioned, building setbacks and landscaping have been incorporated into the site planning and design to provide a buffer between the proposed Project and existing single-familiy residences immediately adjacent to the Project site.

13. Greenhouse Gas Considerations

a. Existing Conditions

Greenhouse gases (GHG) (carbon dioxide, methane, nitrous oxide and fluorinated gases) trap heat in the earth's atmosphere. In the context of climate and ocean warming, increases in levels of atmospheric GHG have been attributed to human activity (IPCC, 2017). Within the State of Hawai'i, the energy sector (including fossil fuel burning to produce electricity, transportation, waste incineration, and natural gas systems) is identified as the source of 89.7 percent of GHG emissions (Hawai'i Department of Health, 2019). Other sources of GHG emissions include industrial facilities, agriculture and forestry, and waste treatment such as landfills, composting, and wastewater treatment.

The Federal Greenhouse Gas Reporting Program (40 CFR Part 98) requires mandatory reporting of GHG emissions from sources that emit 25,000 metric tons or more of carbon dioxide equivalent (CO2 EQ) per year in the United States. Categories of use which are generally associated with this level of reporting include power plants, petroleum and natural gas systems, refineries and other heavy manufacturing processes. On Maui, the facilities operating at or above the 25,000 metric ton level include Hawaiian Electric Company's Kahului Power Plant, Mā'alaea Power Plant and the Central Maui Landfill (U.S. EPA, 2017).

b. Potential Impacts and Mitigation Measures

The proposed action involves the construction of four (4) three-story multi-family buildings, parking stalls, and a park. In the context of the GHG Reporting Program (25,000 metric tons of CO2 EQ), the relative effects GHG emissions (CO2 EQ) is not considered significant.

Commercial and residential sector emissions may include some direct on-site emissions related to fuel combustion or waste management, but are primarily attributable to indirect emissions from fossil fuels burned off-site to generate electricity consumed by businesses and residences (Hawai'i Department of Health, 2019). Combustion of fuel by (Hawaiian Electric or local electrical utility) to provide electrical power for the Project's energy requirements represent the primary source of project-related greenhouse gas (GHG) emissions.

The average energy use per household in Maui County is 581 kWh/month (Hawai'i Energy, 2017). This corresponds roughly to production of 4.9 metric tons CO2 EQ per year (U.S. EPA, 2018). As such, the GHG emissions associated with the proposed development of four (4) three-story multi-family buildings is anticipated to be on the order of 900 metric tons CO2 EQ per year.

The proposed action will involve short term consumption of fuel for construction equipment, vehicles, and machinery during the construction period. This usage is not anticipated to be substantial or excessive within the context of the action's benefits over the lifetime of the Project. After the Project is completed, use of the proposed facilities may result in increased motor vehicle traffic to in the Project area. The Project is anticipated to generate 83 (99) new vehicle trips during the AM (PM) peak hours of traffic, respectively. Statewide, vehicle-related fuel consumption for commercial, industrial, and residential sectors is a less significant contributor to total GHG emissions than emissions attributable to electricity consumption (Hawai'i Department of Health, 2019), and this contribution is anticipated to continue to decrease due to ongoing reduction in vehicle emission standards as well as increased utilization of hybrid and electric vehicles.

The proposed Hale Pilina Family Affordable Rental Housing Project is located in urban Kahului, walking distance to the new Maui bus transit center, shopping centers, grocery stores, the post office, and other amenities. It will be a walkable community which supports the decrease in GHG emissions. Further, this Project is not expected to contribute to an increase in new population. This Project is intended for exisiting Maui

residents. Based on the foregoing, the proposed action is not anticipated to create significant direct and indirect foreseeable GHG emissions. This action does not fall within the threshold of mandatory GHG reporting.

The Project will also incorporate energy saving, sustainable features and green building practices. This includes the use of ENERGY STAR qualified light fixtures in each unit and common areas, appliances including refrigerators, dishwashers, and laundry facilities. ENERGY STAR low emissive roofing products will be used for at least 50 percent of the roof area and at least 25 percent of paved surfaces will use low emissive pavement coatings and materials. The Project may also install photovoltaic panels to provide at least 5 percent of the property's annual energy consumption, if funding is available.

B. SOCIO-ECONOMIC ENVIRONMENT

1. Population

a. Existing Conditions

At the time of the last census in 2010, the County of Maui had a population of 154,834. Approximately 31 percent of the County's population, or 54,400 people, resided in the Waikuku-Kahului Community Plan region, the most populous region in the County (U.S. Census Bureau, 2010). In 2019, the estimated population of the County was 167,417 people, an increase of 8.1 percent since 2010 (U.S. Census Bureau, 2019). Population growth is expected to continue at a steady pace in Maui County, with the resident population expected to increase to 211,500 by 2045 (State of Hawai'i, Department of Business, Economic Development, and Tourism, 2018).

b. Potential Impacts and Mitigation Measures

The Hale Pilina Family Affordable Rental Housing Project is intended to meet the growing need for affordable family housing on Maui. The *Hawai'i Housing Planning Study, 2019* prepared for the State of Hawai'i Department of Business, Economic Development and Tourism, estimates an effective demand for 2,260 family rental units affordable to households earning 60 percent or less of the County's HUD Area Median Income (AMI) by the year 2025 (SMS, 2019). The 2019 study provides a baseline framework for understanding housing demand, but it notes that there are other factors that could change actual demand, such as ability to qualify for a preferred move (i.e., home ownership), and consideration of households that are currently doubled up, which are counted as one (1) household instead of two (2) (SMS, 2019). It is noted that there are lengthy waiting

lists when an affordable family housing project in Maui County is developed.

This Project will support the significant need for affordable rental housing to families in a place situated close to businesses and infrastructure.

Onsite and offsite case management services will be provided by Catholic Charities Hawai‘i, as needed. Residents will be able to take part in the Hale Mahaolu Housing Counseling program designed to help families with financial planning, budgeting, home buyer education, and credit counseling so they can reach their financial goals. Qualified residents will also be able to participate in Hale Mahaolu's Meals Program and Personal Care Program.

2. Economy

a. Existing Conditions

The Kahului region is the island's center of commerce. Combined with neighboring Wailuku, the region's economic character encompasses a broad range of commercial, service, and governmental activities. The Kahului Harbor, a deep sea port, and Kahului Airport, both located in the Wailuku-Kahului region, provide vital links to off-island economies and links through which virtually all imports and exports pass. Visitor arrivals to Maui County totaled 3,071,596 in 2019, with the vast majority traveling through Kahului Airport (Hawai‘i Tourism Authority, 2019).

Hawai‘i's economy through 2019 was strong, with record-setting visitor arrivals and low unemployment. However, the COVID-19 pandemic will have far reaching impacts on the economy on Maui, in Hawai'i, and across the nation and world. Stay-at-home regulations and travel quarantines aimed to curb the spread of the COVID-19 virus in Hawai‘i have caused many businesses to shut down or drastically reduce operations. Unemployment claims have soared. The unemployment rate in September 2020 on Maui island was 24.0 percent, the highest in the State. The Statewide unemployment in September 2020 was 15.3 percent (Department of Labor and Industrial Relations, 2020).

b. Potential Impacts and Mitigation Measures

Short term benefits to the local economy will occur with the provision of construction-related employment and related spending. In the long term, the proposed Project will provide much needed affordable family housing at a central, accessible location in the main urban area of the island.

C. PUBLIC SERVICES

1. Recreational Facilities

a. Existing Conditions

County recreational facilities are administered and maintained by the Department of Parks and Recreation. The Wailuku-Kahului region contains a network of recreational facilities comprised of mini-parks, as well as neighborhood and district parks. The region's seven (7) mini-parks are distributed throughout the area, while the region's eleven (11) neighborhood and three (3) district parks provide a wide range of facilities to meet the recreational needs of the community.

In the vicinity of the Project site, shoreline and ocean recreation activities, such as boating, fishing, diving, surfing, canoeing, kayaking, picnicking, and windsurfing, are available at the Kahului Harbor and nearby beach parks. County parks in the immediate vicinity of the Project site include the adjacent Coach Spencer Shiraishi Memorial Pool, Keōpūolani Park, and the War Memorial Sports Complex.

b. Potential Impacts and Mitigation Measures

The proposed Hale Pilina Family Affordable Rental Housing Project is not anticipated to adversely impact the existing County-owned recreational facilities and services available to Maui County residents. The Project plans include a new park and open space area, which may be utilized by residents for recreational purposes. A multi-purpose room is also included on the ground floor of one (1) of the residential buildings for resident use.

2. Police and Fire Protection

a. Existing Conditions

Police protection for the Wailuku-Kahului region is provided by the County Police Department headquartered on Mahalani Street, just over one (1) mile from the Project site. The region is served by the Department's Central Maui patrol.

Fire prevention, suppression, and protection services for the Wailuku-Kahului region is provided by the County Department of Fire and Public Safety's Wailuku Station, located in Wailuku Town, as well as the Kahului Station located on Dairy Road. The Project site is located approximately one (1) mile from the Kahului Station.

b. Potential Impacts and Mitigation Measures

Police and fire protection services are not expected to be adversely impacted by the proposed Project. The proposed Hale Pilina Family Affordable Rental Housing Project will be located in the Kahului urban area and will not extend existing service area limits for emergency services.

3. Solid Waste

a. Existing Conditions

Single-family residential solid waste collection service is provided by the County of Maui on a weekly basis. Residential solid waste collected by County crews are disposed at the County's Central Maui Landfill, located 4.0 miles southeast of the Kahului Airport. In addition to County-collected refuse, the Central Maui Landfill accepts commercial waste from private collection companies. A privately operated greenwaste recycling facility, Maui Earth Compost Company, is situated at Pulehu Road and Hansen Road, while Eko Compost is operated at the Central Maui Landfill. According to the County of Maui, the Central Maui Landfill has adequate capacity to accommodate residential and commercial waste needs through the year 2026. The County's Department of Environmental Management is currently planning to implement a processing facilities project adjacent to the landfill, which would further extend the projected capacity by an estimated 16 years. The remaining capacity estimate is based on future disposal volumes that assume significant population growth.

b. Potential Impacts and Mitigation Measures

During construction and following Project completion, solid waste for the Hale Pilina Family Affordable Rental Housing Project will be handled by a private refuse collection company. The solid waste generated by the proposed Project is not anticipated to adversely impact the County solid waste capacity of the Central Maui Landfill.

4. Healthcare

a. Existing Conditions

Maui Memorial Medical Center, the only major medical facility on the island, services the Wailuku-Kahului region. Acute, general, and emergency care services are provided by the approximately 214-bed facility. In addition, numerous privately operated medical/dental clinics and offices are located in the area to serve the region's residents.

b. Potential Impacts and Mitigation Measures

The Hale Pilina Family Affordable Rental Housing Project is located within close proximity to existing medical facilities and services in the region, including the Maui Memorial Medical Center. Inasmuch as the proposed Project is intended to accommodate the needs of Maui's existing families, the Project is not anticipated to increase the service demands placed upon emergency healthcare services.

5. Educational Facilities

a. Existing Conditions

The Wailuku-Kahului region is served by the State Department of Education's public school system as well as several privately operated schools accommodating elementary, intermediate, and high school students. Department of Education facilities in the Kahului area include Pōmaikaʻi, Lihikai, and Kahului Schools (Grades K-5), Maui Waena Intermediate School (Grades 6-8), and Maui High School (Grades 9-12). Existing facilities in the Wailuku area include Wailuku Elementary School and Puʻu Kukui Elementary School (Grades K-5), ʻĪao Intermediate School (Grades 6-8), and Baldwin High School (Grades 9-12). The University of Hawaiʻi Maui College is the primary higher education institution serving Maui. The DOE identifies Kahului Elementary, Maui Waena Intermediate, and Maui High as the schools servicing the proposed Hale Pilina Family Affordable Rental Housing Project. All three (3) schools currently exceed facility capacity and the DOE expects that condition that will continue over the next five (5) years.

b. Potential Impacts and Mitigation Measures

The proposed Hale Pilina Family Affordable Rental Housing Project is not expected to place significant new demands upon area schools. The Hale Pilina Family Affordable Rental Housing Project will provide 178 affordable housing units, including 108 one-bedroom units and 70 two-bedroom units for rent and an additional two-bedroom unit for the resident manager. With a majority of the units being one-bedroom units, it is anticipated that the tenant profile will consist of many individuals and two-person households without children. Future tenants of the Hale Pilina Project are expected to be families currently living in the region and doubled up in households, unable to afford their own home. The Project site is located within the Central Maui School Impact Fee District, which was designated pursuant to Chapter 302A-1604, HRS. As such, a School Impact Fee will be assessed. As it stands, the Hale Pilina Family Affordable Rental Housing

Project will have 179 multi-family units (108 one-bedroom units, 70 two-bedroom units, and the additional resident manager (two-bedroom unit). The School Impact Fee per multi-family unit is $2,371.00. This equates to approximately $424,409.00. CCHDC will coordinate with the Department of Education regarding the School Impact Fee requirement.

6. Airports

a. Existing Conditions

The proposed Hale Pilina Family Affordable Rental Housing Project is approximately two (2) miles from Kahului Airport. Kahului Airport, Maui's primary airport, receives both interisland and overseas flights. According to the Air Traffic Statistics report by the Hawai'i Department of Transportation, Kahului Airport experienced a total of 149,160 takeoffs and landings in 2018 (State of Hawai'i Department of Transportation, Airport Division, 2019).

b. Potential Impacts and Mitigation Measures

According to the Noise Exposure Map approved by the Federal Aviation Administration (FAA), the proposed Hale Pilina Family Affordable Rental Housing Project is outside of the designated area restricted from residential development. As such, no adverse impacts are anticipated due to the Project's proximity to the airport.

D. INFRASTRUCTURE

1. Roadways

a. Existing Conditions

A Traffic Impact Analysis Report (TIAR) was prepared for the proposed Project. See **Appendix "E"**. The Wailuku-Kahului region is served by a roadway network which includes arterial, collector, and local roads. Major roadways in the vicinity of the Project include the following:

Kamehameha Avenue

Kamehameha Avenue is a two-way, two-lane, undivided County roadway which provides connectivity within the Kahului area. The posted speed limit along this roadway is 30 mph in the Project's vicinity.

Pu‘unēnē Avenue

Pu‘unēnē Avenue fronts one (1) side of the Project site. It is a two-way, four-lane, County roadway which provides access to destinations throughout the Kahului area. The posted speed limit along this roadway is 30 mph in the Project’s vicinty. Pu‘unēnē Avenue begins at its intersection with Ka‘ahumanu Avenue and transitions into Mokulele Highway or Maui Veteran’s Highway, near its intersection with Hansen Road.

Wakea Avenue

Wakea Avenue is a two-way, two-lane undivided roadway, generally running in an east-west orientation. Wakea Avenue serves adjacent residential and commercial land uses along its corridor. The posted speed limit along this roadway is 30 mph in the Project’s vicinity.

Lono Avenue

Lono Avenue is a two-way, two-lane, undivided roadway running north-south with a posted speed limit of 30 mph in the vicinity of the Project site.

Kaulawahine Street

Kaulawahine Street is a two-way, two-lane undivided roadway which primarily serves the adjacent residential neighborhood. The posted speed limit along this roadway is 20 mph in the Project’s vicinity.

The TIAR included a Level Of Service (LOS) analysis for the various study intersections surrounding the Project area. LOS is a qualitative measure used to describe the conditions of traffic flow at intersections, with values ranging from free-flow conditions at LOS A to congested conditions at LOS F. The TIAR assessed a total of eight (8) intersections surrounding the Hale Pilina Family Affordable Rental Housing Project site. The TIAR stated that during morning (AM) and afternoon (PM) peak traffic, some movements, specifically the left-turn movements, at the Kamehameha Avenue and Pu‘unēnē Avenue and the Pu‘unēnē Avenue and Wakea Avenue intersections operate at LOS E or LOS F levels, primarily due to signal coordination based on traffic volumes. While certain left-turn movements operate at LOS E or LOS F, the overall LOS for signalized intersections are D or better. See **Table 3**.

Table 3. Existing 2020 Overall LOS for Signalized Study Intersection

Intersection	LOS for AM Peak Hour	LOS for PM Peak Hour
Kamehameha Avenue and Lono Avenue	B	B
Kamehameha Avenue and Kaulawahine Street	---	---
Kamehameha Avenue and Puʻunēnē Avenue	C	D
Lono Avenue and Kāne Street	---	---
Kaulawahine Street and Kāne Street	---	---
Wakea Avenue and Lono Avenue	C	B
Wakea Avenue and Kaulawahine Streeet	---	---
Puʻunēnē Avenue and Wakea Avenue	C	D
Source: Austin, Tsutsumi & Associates, Inc., 2020.		

b. Potential Impacts and Mitigation Measures

Access to the Project site will be provided by new driveways off of Puʻunēnē Avenue and Kaulawahine Street. The Puʻunēnē Avenue access will be restricted to right turns in and out of the property. Based on standard Institute of Transportation Engineers trip generation ratios, the Project is forecasted to generate 83 trips during the AM peak hour and 99 trips during the PM peak hour. This translates to an increase of approximately 25 to 30 vehicles in each direction per peak hour. In commute time, people on the road surrounding the Project area during peak hours, may experience a minimal increase of 1 to 4 seconds.

The TIAR included a background traffic analysis to define the future traffic conditions with the proposed Project including all known upcoming Projects within the vicinity. Future traffic growth is dependent on two (2) components, ambient background growth and estimated traffic from other development Projects in the vicinity of the Project area. According to the TIAR, there are numerous developments forecasted to be completed within the Project area that are factored into the future traffic growth. The TIAR assessed traffic conditions in 2025 with and without the Project. Upon completion of the Project, all study intersections are forecast to operate with similar LOS as without the Project in 2025. See **Table 3** and refer to **Appendix "E"**.

Table 4. Overall LOS for Signalized Study Intersections Without and With Proposed Project

Intersection	LOS for AM Peak Hour		LOS for PM Peak Hour	
	Without Project	With Project	Without Project	With Project
Kamehameha Avenue and Lono Avenue	B	B	B	B
Kamehameha Avenue and Kaulawahine Street	---	---	---	---
Kamehameha Avenue and Puʻunēnē Avenue	D	D	D	D
Lono Avenue and Kāne Street	---	---	---	---
Kaulawahine Street and Kāne Street	---	---	---	---
Wakea Avenue and Lono Avenue	C	B	C	B
Wakea Avenue and Kaulawahine Streeet	---	---	---	---
Puʻunēnē Avenue and Wakea Avenue	C	D	C	D
Source: Austin, Tsutsumi, and Associates, 2020.				

Due to generally low traffic increases as a result of the Project, the majority of movement vehicular delays generally increased minimally by 1-4 seconds. The Kamehameha Avenue/ Kaulawahine Street and Wakea Avenue/ Kaulawahine Street intersections are not anticipated to meet the warrant thresholds for traffic signals. The TIAR noted that no roadway improvements are recommended.

There are currently six (6) Maui Bus routes that provide service near the proposed Project location. The nearest sheltered bus stop is on Kamehameha Avenue fronting the Kahului Salvation Army and Kahului Shopping Center. Sidewalks will provide pedestrian connectivity to the site. There is also an existing bicycle lane on Kamehameha Avenue in the vicinity of the Project site. As part of the Chapter 2.97 Maui County Code (MCC) approval, an exemption will be requested to reduce the number of parking stalls provided onsite. One (1) parking stall will be provided for each one-bedroom unit and two (2) parking stalls will be provided for each two-bedroom unit. Guest parking stalls will also be provided.

During construction, traffic control devices and personnel will be utilized to mitigate impacts to pedestrians and to vehicular movement by heavy equipment and construction vehicles.

2. Wastewater

a. Existing Conditions

Domestic wastewater generated in the Wailuku-Kahului region is conveyed to the County's Wailuku-Kahului Wastewater Reclamation Facility located one-half mile south of Kahului Harbor. The County of Maui Department of Environmental Management reports that there is current capacity to service the Project at the Wailuku-Kahului Wastewater Reclamation Facility as well as the current collection system and the downstream wastewater pump station without having to do any system modifications. The capacity allocation for affordable housing projects in this area is set at 340,000 gpd of which 290,000 gpd is available. A property service manhole does not exist on the property site.

Wastewater infrastructure in the Project vicinity includes an existing 10-inch sewermain located on Puʻunēnē Avenue. The 10-inch Puʻunēnē Avenue sewermain connects to a 24-inch sewer north of Kamehameha Avenue, which runs northeast to the Kahului Wastewater Pump Station. The pump station is located approximately 2,800 feet from the Wailuku-Kahului Wastewater Reclamation Facility. See **Appendix "F"**.

b. Potential Impacts and Mitigation Measures

According to the Preliminary Engineering Report (PER) prepared for the Project, the total wastewater flow for the Project is estimated at approximately 51,730 gallons per day (gpd). Refer to **Appendix "F"**. The buildings will connect to the County wastewater system via Puʻunēnē Avenue. Sewer system improvements will be designed to comply with the Design Standards of the Wastewater Reclamation Division of the County of Maui and a property service manhole will be installed prior to connection to the County sewer system.

3. Water

a. Existing Conditions

Domestic water and fire flow for the Kahului area are serviced from the 3.0 million gallon (mg) Mokuhau tank and wells in Happy Valley. There is an existing 12-inch waterline in Puʻunēnē Avenue and an existing 6-inch

waterline in Kaulawahine Street. Currently, there is no exisitng water meter on the property. A Preliminary Engineering Report (PER) was prepared by Mitsunaga & Associates, Inc. for the proposed Project. Refer to **Appendix "F"**. According to the PER, the proposed Hale Pilina Family Affordable Rental Housing Project is located within the Maui County Department of Water Supply's (DWS) Central Maui water system. Water for the proposed Project will be supplied from the waterline on Puʻunēnē Avenue or Kaulawahine Street.

b. Potential Impacts and Mitigation Measures

As noted in the PER, the average daily domestic demand for potable water for the Project is 104,260 gpd, including irrigation demand. The fire flow requirement is 1,500 gallons per minute. Refer to **Appendix "F"**. Fire hydrants will be provided onsite in compliance with the Uniform Fire Code. As mentioned above, the Project site does not have an existing water meter and a water service lateral and meter box will be installed. The water meter will be sized in accordance with the Non-Residential Water Meter Sizing worksheet. A reduced pressure backflow preventer (RPBP) after the water meter will be installed. The potable water system will comply with the latest Water System Standards and Standard Details for Water System Construction for the County of Maui, Department of Water Supply.

Water conserving plumbing fixtures and water conservation landscape irrigation practices will be incorporated into the Project. Water conserving plumbing fixtures will include, but not be limited to Water Sense High Efficiency Toilets, showerheads with rated flow less than 1.75 gallons per minute (gpm), kitchen aerators with rated flow less than 1.5 gpm, and bathroom aerators with rated flow less than 1.0 gpm. Irrigation needs will be minimized by selecting native trees and plants that are appropriate to the site's soil and microclimate.

4. Drainage

a. Existing Conditions

There are no onsite drainage improvements within the Project area.

b. Potential Impacts and Mitigation Measures

The drainage system improvements will be incorporated into the proposed Project. Existing drainage patterns will be maintained to the maximum extent practicable and additional runoff caused by the development will be detained. The proposed apartment buildings and parking lots will drain to

a collection system which leads to either an underground detention system or above ground shallow retention basins.

The PER prepared for the Project estimates that under conditions of a 50-year, 1-hour storm event, runoff from the Project site will be increased approximately 19.2 cubic feet per second (cfs) due to the proposed Project, requiring approximately 34,500 cubic feet of detention storage. Refer to **Appendix "F"**. The stormwater storage required for the 50-year, 1 hour storm event will be installed within the site. The connecting pipes will be designed for the 10-year, 1-hour storm event. The PER estimates that under a 10-year, 1-hour storm event, the proposed flow is 25 cfs. The overflow from the system will either discharge to catch a basin along Kaulawahine Street or a drainage system along Puʻunēnē Avenue. Erosion and dust control measures will be implemented to accommodate neighboring public and private facilities. Further, a hydrodynamic separator is proposed to be installed to meet County stormwater quality requirements and the quality of stormwater being discharged from the site will be addressed by implementing County approved BMPs. The drainage system design will comply with the Rules for the Design of Storm Drainage Facilities in the County of Maui, dated July 1995.

5. Electrical and Telephone Services

a. Existing Conditions

Electrical service to the area is currently provided by Hawaiian Electric Company, Ltd. Telephone service is provided by Hawaiian Telcom. Existing utility infrastructure is located underground.

b. Potential Impacts and Mitigation Measures

The proposed action is not anticipated to impact existing utility facilities and services. Coordination will be carried out with the service providers to ensure timely service capability and capacity. Energy conservation measures have been incorporated into the Project, including use of LED lighting that complies with Hawaiʻi Energy standards for energy efficiency and longevity, photosensors on outdoor lighting, and Energy Star appliances. Carport structures with photovoltaic panels may be provided in the parking lot if finacing is available. Please refer to **Appendix "A"**. Photovoltaic panels may also be installed on building rooftops.

E. CUMULATIVE AND SECONDARY IMPACTS

Pursuant to Section 11-200.1-2 of the Hawai'i Administrative Rules, Chapter 200.1, entitled Environmental Impact Statement Rules, a cumulative impact means:

> *The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.*

The Hale Pilina Family Affordable Rental Housing Project is proposed in an urbanized area of Kahului on lands designated for urban use. The proposed Project is not a phase of a larger action, nor does it represent a commitment to such actions. Given the surrounding development and urban land uses, significant environmental impacts are not anticipated as a result of the Project. Significant impacts to public systems, such as water and wastewater, are not anticipated as a result of the proposed Project. The TIAR prepared for the Project concludes that LOS at nearby roadway intersections will not be significantly impacted by the Project. As such, no cumulative impacts are anticipated as a result of the proposed Project.

Secondary impacts are those which have the potential to occur late in time or farther in distance, but are still reasonably foreseeable. They can be viewed as actions of others that are taken because of the presence of a Project. Given the surrounding development and urban land uses, significant environmental impacts are not anticipated as a result of the Project. Given that the proposed Hale Pilina Family Affordable Rental Housing Project is intended to meet the documented shortage of affordable family housing for the existing population, the Project is not considered a population generator in and of itself. Therefore, with the proposed mitigation measures, the Project is not anticipated to result in significant adverse secondary impacts.

III

RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES, AND CONTROLS

III. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES, AND CONTROLS

This section discusses the relationship between the proposed action and State and County land use plans, policies, and controls for the Central Maui region.

A. STATE LAND USE DISTRICTS

Pursuant to Chapter 205, Hawai'i Revised Statutes (HRS), all lands in the State have been placed into one (1) of four (4) major land use districts by the State Land Use Commission. These land use districts are designated "Urban", "Rural", "Agricultural", and "Conservation". The Project site is located within the "Urban" district. See **Figure 9**. The proposed use of the property is consistent with "Urban" district provisions.

B. HAWAI'I STATE PLAN

Chapter 226, HRS, also known as the Hawai'i State Plan, is a long-range comprehensive plan which serves as a guide for the future long-term development of the State by identifying goals, objectives, policies, and priorities, as well as implementation mechanisms. The Plan consists of three (3) parts. Part I includes the Overall Theme, Goals, Objectives, and Policies; Part II includes Planning, Coordination, and Implementation; and Part III establishes Priority Guidelines. Part II of the State Plan covers its administrative structure and implementation process. An analysis of the Project's applicability to Part I and Part III of the Hawai'i State Plan is provided in **Appendix "G-1"**.

The overall theme of the Hawai'i State Plan is governed by the following general principles.

1. Individual and family self-sufficiency

2. Social and economic mobility

3. Community or social well-being

In consonance with the foregoing principles, the Hawai'i State Plan identifies three (3) clarifying goals:

1. A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawai'i's present and future generations.

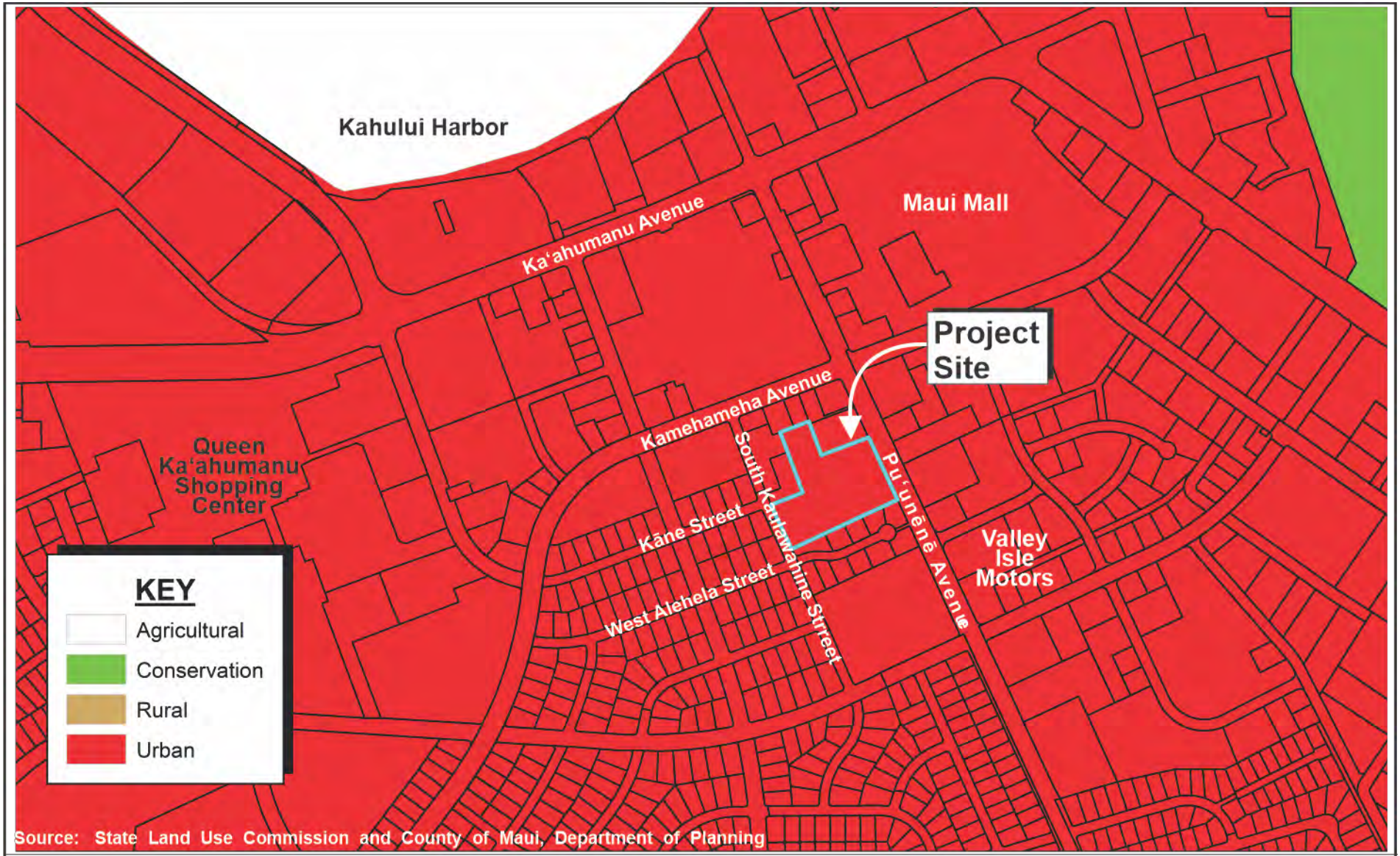


Figure 9

Hale Pilina Family Affordable Rental Housing Project

State Land Use District Map

0 350 Feet
175 700

Prepared for: Catholic Charities Housing Development Corporation

MUNEKIYO HIRAGA

GSF/Kahului AH/Applications/Figures/SLUD

2. A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people.

3. Physical, social, and economic well-being, for individuals and families in Hawai‘i, that nourishes a sense of community responsibility, of caring, and of participation in community life.

This section of the environmental assessment examines the applicability of the proposed action as it relates to the objectives, policies, and priority guidelines of the Hawai‘i State Plan, as set forth in HRS Sections 226-5 through 226-27.

A summary of the Project's relationship to the Hawai‘i State Plan, as detailed in **Appendix "G-1"** is provided below. The methodology for the analysis involves examining the Project's applicability to the Hawai‘i State Plan's goals, objectives, and policies. "Applicability" refers to a Project's need, purpose and effects, and how these advance or promote a particular set of goals, objectives and priority guidelines. In assessing the relationship between a proposed action and the Hawai‘i State Plan, an action may be categorized in one of the following groups:

1. **Directly applicable**: the action and its potential effects directly advances or promotes the objective, policy or priority guideline.

   Example: A county project to develop a new water source and related transmission facilities would be directly applicable to the objectives and policies for Facility Systems-Water (HRS 226-16) which states" *(5) Support water supply services to areas experiencing critical water problems.*

2. **Indirectly applicable**: the action and its potential effects indirectly supports or advances the objective, policy or priority guideline.

   Example: The county water source project cited above supports other related objectives and policies for the economy (HRS 226-6, General), which, by example, states: *(9) Strive to achieve a level of construction activity responsive to, and consistent with, state growth objectives.* In this case, the principle purpose of the project was not to create new construction activities, but nonetheless, supports this policy by creating temporary construction activity during the implementation of the project. In this instance, the proposed action may be deemed to be indirectly applicable to the objective and policy of the Hawai‘i State Plan.

3. **Not applicable**: the action and its potential effects have no direct or indirect relationship to the objectives and policies of the Hawai‘i State Plan.

Example: That same county water source improvement project referenced above, may not have direct or indirect linkage to objectives and policies for the economy-Federal Expenditures (HRS 226-9) which states: *(1) Encourage the sustained flow of federal expenditures in Hawaii that generates long-term government civilian employment*. From the standpoint of the agency proposing the water system improvement, and assuming no Federal Funding for the project, there is an unlikely intent that the proposed water source project would be connected to or reliant upon the foregoing policy. Hence, from the standpoint judiciously applied policy analysis, the proposed action would be considered not applicable to the policy.

In general, a proposed action's applicability the objectives, policies and priority guidelines of the Hawai'i State Plan is judged on the basis of the action's direct or indirect relationship to the respective objectives, policies and priority directions. It is recognized that the categorization of "applicability" is subject to interpretation and should be appropriately considered in the context of local and regional conditions.

The assessment presented below summarizes the objective(s) for each policy/planning category of the Hawai'i State Plan, followed by a response which consolidates the assessments provided in **Appendix "G-1"**. The responses examines whether the proposed action is directly applicable, indirectly applicable or not applicable to the respective Hawai'i State Plan objectives, policies and priority guidelines.

HRS 226-5 Objective and policies for population

The Hawaii State Plan's objective for population is to guide population growth to be consistent with the achievement of physical, economic, and social objectives of HRS 226.

Response: The proposed Project indirectly supports the objectives and policies for population as it will be implemented in a developed area in Central Maui, in close proximity to existing government, business, and commercial destinations at Wailuku and Kahului, thus providing employment opportunities for residents of the Project.

HRS 226-6 Objectives and policies for the economy--in general

In summary, planning for the State's economy in general shall be directed to increased and diversified employment, income and job choice opportunities, and a growing and diversified economic base.

Response: The proposed action indirectly supports the general objectives and policies for the economy by supporting construction activity which contributes to increased employment opportunities, job choices, and living standards. Businesses positively affected by the Project are those which support construction such as material suppliers, equipment rental companies, and landscape companies.

HRS 226-7 Objectives and Policies for the economy—agriculture

> *The objectives for agriculture seek to sustain the viability of sugar and pineapple industries, ensure growth and development of diversified agriculture, and ensure that the agriculture industry continues as an essential component of the State's well-being.*

Response: The Project will be situated in urban Kahului. As such, the state's goals with respect to the economy and the role of agriculture are not applicable to the Project.

HRS 226-8 Objective and policies for the economy—visitor industry

> *The visitor industry objective recognizes that the visitor industry constitutes a major component of Hawaii's steady economic growth.*

Response: The proposed action is not directly or indirectly applicable to the objective and policies for the visitor industry. The proposed action has no implications for enhancement or growth of the visitor industry.

HRS 226-9 Objective and policies for the economy—federal expenditures

> *This objective seeks a stable federal investment base as an integral component of Hawaii's economy.*

Response: The proposed action is not reliant on federal funding, and does not directly or indirectly advance the objective and policies for strengthening or increasing federal expenditures for the betterment of Hawai'i's economy.

HRS 226-10 Objective and policies for the economy—potential growth and innovative activities

> *The objective for potential growth and innovative activities is directed towards the development and expansion of the economy to increase and diversify Hawaii's economic base.*

Response: As a residential Project, the proposed action does not directly or indirectly affect the development and expansion of innovative activities to increase and diversify Hawai'i's economic base.

HRS 226-10.5 Objectives and policies for the economy—information industry

> *The objective for the information industry recognizes that broadband and wireless communication capability and infrastructure are foundations for an innovative economy which will position Hawaii as a leader in this field in the Pacific region.*

Response: The proposed action does not directly or indirectly affect Hawai'i's capacity to be a leader in the broadband and wireless communications industries, nor does it affect these innovative industries in advancing Hawai'i's economic position in the Pacific.

HRS 226-11 Objectives and policies for the physical environment--land-based, shoreline, and marine resources

> *The objectives for land-based, shoreline, and marine resources seeks the prudent use of land-based, shoreline, and marine resources, and the effective protection of Hawaii's unique and fragile environmental resources.*

Response: The proposed Project will utilize Best Management Practices (BMPs) to ensure that natural resources such as the coastal environment are not impacted by construction activities. The use of BMPs also ensures compatibility between land-based and water-based functions, resources, and ecological systems. The biological resources study conducted as part of the environmental review process represents an effort to protect any rare and endangered plant and animal species, and their habitats native to Hawai'i that may be present in the vicinity of the proposed action.

HRS 226-12 Objective and policies for the physical environment- scenic, natural beauty, and historic resources

> *With regard to scenic, natural beauty and historic resources, it is the State's objective to enhance scenic assets, natural beauty and multi-cultural/historical resources.*

Response: The Project has been carefully designed taking into consideration building profiles and massing so as to not adversely impact scenic views and vistas. The proposed Project will be developed in urban Kahului in the vicinity of business buildings and residential subdivisions. Landscape on the property will be carefully considered to provide aesthetic viewplanes. Archaeological investigations identified no historic properties on the site. Landscaping proposed in connection with the Project is intended to enhance the Project's visual relationship with its immediate surrounding environs.

HRS 226-13 Objectives and policies for the physical environment--land, air, and water quality

> *The objectives for land, air, and water quality is directed at the maintenance and pursuit of improved quality of Hawaii's land, air and water resources, and greater public awareness and appreciation of Hawaii's environmental resources.*

Response: The proposed Project will be implemented in a developed area in Central Maui, in proximity to existing infrastructure and services. Maintaining land, air, and water quality are directly and indirectly advanced by the proposed action. Construction BMPs will be used to manage and control erosion control during grading operations to minimize

downstream water quality impacts. Work on the Project is not anticipated to be affected by natural hazards, and the highest standards of design and construction practices has been and will be employed for the Project.

HRS 226-14 Objective and policies for facility systems—in general

> *Having water, transportation, waste disposal, and energy and telecommunications systems that support Statewide social, economic, and physical objectives is the focus of this planning category.*

Response: The proposed action is indirectly applicable to the general objective and policies for facility systems. As an urban infill project, the proposed action can be serviced by existing infrastructure systems.

HRS 226-15 Objectives and policies for facility systems--solid and liquid wastes

> *The objectives for solid and liquid waste addresses the maintenance of basic public health and sanitation standards relating to the treatment and disposal of solid and liquid wastes, and the provision of adequate sewerage facilities in keeping with housing, employment, mobility and related needs.*

Response: The proposed Project indirectly supports the objectives and goals for solid and liquid waste facility systems as it will connect to the County wastewater system. Coordination will be undertaken with the County Department of Environmental Management (DEM) as it relates to connection to the County's wastewater system. Furthermore, construction waste will be disposed at the County's Central Maui Landfill or appropriate construction recycling centers.

HRS 226-16 Objective and policies for facility systems—water

> *The objective for water is to adequately accommodate domestic, agricultural, commercial, industrial, recreational and related needs within resource capabilities.*

Response: The Project indirectly supports the objective and polices for water facility systems enhancement as it is located in an area that is serviced by existing County water infrastructure. Coordination will be undertaken with the County Department of Water Supply (DWS) regarding connection to the County's water system.

HRS 226-17 Objectives and policies for facility systems—transportation

> *An integrated multi-modal transportation system that meets statewide needs and promotes the efficient, economic, safe and convenient movement of people and goods, and which will accommodate planned growth is the objective for facility systems—transportation.*

Responses: The proposed Project indirectly supports the objectives and policies of transportation facility systems as it is located in very close proximity to existing public bus routes.

HRS 226-18 Objectives and policies for facility systems—energy

> *The objective for energy is multi-pronged, seeking dependable, efficient, and economic statewide energy systems; increased energy security and self-sufficiency; greater diversification of energy generation; reduction, avoidance or sequestration of greenhouse gas emissions, and prioritizing utility customers from a social and financial interest standpoint.*

Response: The Project will utilize energy efficient fixtures and appliances. Should funding be available, photovoltaic solar panels will be installed to reduce the development's dependence on fossil-fuel based energy.

HRS 226-18.5 Objectives and policies for facility systems—telecommunications

> *A dependable, efficient and economical statewide telecommunications system along with adequate, reasonably priced, and dependable telecommunications services to accommodate demand are the objectives for telecommunications.*

Response: The proposed action does not directly or indirectly affect telecommunications systems dependability, efficiency, and cost parameters. In particular, the Project does not promote research and development of telecommunications systems and resources and does not advance efficient management and use of existing telecommunications systems and services.

HRS 226-19 Objectives and policies for socio-cultural advancement--housing

> *The objectives for housing encompass greater opportunities for Hawaii's people to secure reasonably priced, safe, sanitary and livable homes; the orderly development of residential areas sensitive to community needs and other land uses; and the development and provision of affordable rental housing.*

Response: The proposed Project is directly applicable to the objectives and policies related to housing as it provides needed additional affordable housing in Kahului. In addition, the Project will be implemented in a developed area in Central Maui, in proximity to existing infrastructure and services.

HRS 226-20 Objectives and policies for socio-cultural advancement—health

> *Fulfillment of basic individual health needs, maintenance of sanitary and environmentally healthful community conditions; and elimination of health*

disparities by identifying and addressing the social determinants of health are the objectives for health.

Response: The proposed action does not directly or indirectly affect the objectives and policies for health. The proposed action does not affect individual health needs, sanitation and health conditions, and health disparities.

HRS 226-21 Objective and policies for socio-cultural advancement—education

The provision of a variety of educational opportunities that enable individuals to fulfill their needs, responsibilities and aspirations is the objective for education.

Response: Through the payment of impact fees, the proposed Project indirectly supports the objectives and policies for education by supporting the provision of adequate and accessible educational services and facilities in Central Maui.

HRS 226-22 Objective and policies for socio-cultural advancement--social services

The objective for social services is improved public and private social services and activities that enables individuals, families and groups to become more self-reliant and confident to improve their well-being.

Response: The objective and policies for improving public and private social services are directly supported by the proposed action through the provision of affordable housing opportunities and onsite and offsite case management provided by Catholic Charities Hawai‘i, as needed. Further, residents will be able to take part in the Hale Mahaolu Housing Counseling program designed to help families with financial planning, budgeting, home buyer education, and credit counseling so they can reach their financial goals. Qualified residents will be able to participate in Hale Mahaolu’s Meals Program and Personal Care Program as well.

HRS 226-23 Objective and policies for socio-cultural advancement—leisure

The objective for leisure is the adequate provision of resources to accommodate diverse cultural, artistic, and recreational needs for present and future generations.

Response: As a residential Project, the proposed action does not directly or indirectly advance the objective and policies for leisure.

HRS 226-24 Objective and policies for socio-cultural advancement--individual rights and personal well-being

The individual rights and personal well-being objective seeks to increase opportunities and protection of individual rights to enable achievement of socio-economic needs and aspirations.

Response: The proposed residential Project does not directly or indirectly affect the objective and policies related to individual rights and personal well-being.

HRS 226-25 Objective and policies for socio-cultural advancement--culture

> *Enhancement of cultural identities, traditions, values, customs, and arts of Hawaii's people reflects the objective for culture.*

Response: A Cultural Impact Assessment (CIA) was prepared for the proposed Project as part of the environmental review process. The CIA fosters increased knowledge of Native Hawaiian cultural practices, as well as the history of the Project area. In this context, the proposed action indirectly advances the objective and policies related to culture.

HRS 226-26 Objectives and policies for socio-cultural advancement--public safety

> *The objectives for public safety seek to provide assurance of public safety and adequate protection of life and property for all people; optimum organizational readiness and capability in emergency management during civil disruptions, wars, natural disasters, and other major disturbance; and promotion of a sense of community responsibility for the welfare and safety of Hawaii's people.*

Response: The proposed action does not directly or indirectly affect the objectives and policies for public safety. In particular, the Project does not address protection of life and property parameters, organizational readiness and capacity, and community responsibility for peoples' welfare and safety.

HRS 226-27 Objectives and policies for socio-cultural advancement--government

> *The objective for government encompasses efficient, effective and responsive government services and fiscal integrity, and responsibility, and efficiency in state and county governments.*

Response: The proposed action has indirect applicability to the objectives and policies for government. In particular, the Project will comply with regulatory requirements which advance transparency in the flow of Project-related information to the public. Such requirements include the Chapter 343, HRS environmental review process.

Priority Guidelines

"Priority guidelines" means those guidelines which shall take precedence when addressing areas of statewide concern. This section addresses applicability criteria to the priority guidelines set forth in HRS 226-103.

Priority guidelines of the Hawai'i State Plan covers the economy, population growth and land resources, crime and criminal justice, affordable housing, quality education,

sustainability, and climate change adaptation. Applicability assessment for each of the foregoing issue areas are presented below:

1. **Economic Priority Guidelines**

   Response: The proposed action indirectly supports the economic priority guidelines by supporting construction activity which contributes to increased employment opportunities, job choices, and living standards. Pending funding availability, the Project will include photovoltaic systems for the development, thereby advancing measures to lessen dependence on fossil fuel based energy.

2. **Population Growth and Land Resources Priority Guidelines**

   Response: The proposed Project supports population growth and land resources priority guidelines as it will be developed on urban, infill land, in Kahului. In addition, the Project will be implemented in a developed area in Central Maui, in proximity to existing infrastructure and services.

3. **Crime and Criminal Justice Priority Guidelines**

   Response: The proposed action does not directly or indirectly affect the priority guidelines for crime and criminal justice.

4. **Affordable Housing Priority Guidelines**

   Response: The proposed Project directly affects the priority guidelines for affordable housing as it will be developed on urban, infill land, in an area that is close to the government, business, and commercial centers of Wailuku and Kahului.

5. **Quality Education Priority Guidelines**

   Response: The proposed action does not directly or indirectly affect the priority guidelines for education.

6. **Sustainability Priority Guidelines**

   Response: As an urban infill project, the proposed action supports smart growth principles. A variety of sustainability measures has been incorporated into the Project design.

7. **Climate Change Adaptation Priority Guidelines**

   Response: The proposed Project indirectly supports the climate change priority guidelines as it will be implemented in an area that is outside of natural landscape

features such as flood zones as well as the projected sea level rise exposure area in order to avoid impacts related to climate change.

C. STATE FUNCTIONAL PLANS

A key element of the Statewide Planning System is the Functional Plans which set forth the policies, statewide guidelines, and priorities within a specific field of activity. There are 13 Functional Plans which have been developed by the state agency primarily responsible for a given functional area. Together with the County General Plans, the State Functional Plans establish more specific strategies for implementation. In particular, State Functional Plans provide for the following:

- Identify major Statewide priority concerns
- Define current strategies for each functional area
- Identify major relationships among functional areas
- Provide direction and strategies for departmental policies, programs, and priorities
- Provide a guide for the allocation of resources
- Coordinate State and County roles and responsibilities in the implementation of the Hawai‘i State Plan

Table 3 provides an assessment of the relationship between the proposed action and each of the 13 Functional Plans.

Table 3. Relation Between the Proposed Hale Pilina Family Affordable Rental Housing Project and the State Functional Plans

No.	State Functional Plan	State Coordinating Agency	Purpose	Analysis
1	Agriculture Functional Plan (1991)	Department of Agriculture	Continued viability of agriculture throughout the State	The proposed Project will be developed on urban, infill land in Kahului. As such, the proposed action will not contravene the objectives and policies of this functional plan.
2	Conservation Lands State Functional Plan (1991)	Department of Land and Natural Resources	Addresses issues of population and economic growth and its strain on current natural resources; broadening public use of natural resources while protecting lands and shorelines from overuse; additionally, promotes the aquaculture industry	The proposed Project will not utilize any State Conservation lands. Similarly, the Project is located inland, and not near the coastline. The proposed action is not anticipated to contravene the objectives and policies of this functional plan.
3	Education State Functional Plan (1989)	Department of Education	Improvements to Hawaii's educational curriculum, quality of educational staff, and access to adequate facilities	The Project will comply with the requirement for school impact fees and will coordinate with the Department of Education on appropriate school impact fees. The proposed action is not anticipated to contravene the objectives and policies of this functional plan.
4	Employment State Functional Plan (1990)	Department of Labor and Industrial Relations	Improve the qualifications, productivity, and effectiveness of the State's workforce through better education and training of workers as well as efficient planning of economic development, employment opportunities, and training activities	The proposed action will result in the creation of construction jobs throughout the development period. This will provide local residents with opportunities to successfully compete in the workforce. The proposed action is not anticipated to contravene the objectives and policies of this functional plan.
5	Energy State Functional Plan (1991)	Department of Business, Economic Development and Tourism	Lessen the reliance on petroleum and other fossil fuels in favor of alternative sources of energy so as to keep up with the State's increasing energy demands while also becoming a more sustainable island state; achieving dependable, efficient, and economical statewide energy systems	The Project will explore the option of solar photvoltaic panels for electricity, if feasible. The proposed action is not anticipated to contravene the objectives and policies of this functional plan.

Table 3. Relation Between the Proposed Hale Pilina Family Affordable Rental Housing Project and the State Functional Plans

No.	State Functional Plan	State Coordinating Agency	Purpose	Analysis
6	Health State Functional Plan (1989)	Department of Health	Improve health care system by providing for those who don't have access to private health care providers; increasing preventative health measures; addressing 'quality of care' elements in private and public sectors to cut increasing costs	The proposed action is not anticipated to contravene the objectives and policies of this functional plan.
7	Higher Education Functional Plan (1984)	University of Hawaii	Prepare Hawaii's citizens for the demands of an increasingly complex world through providing technical and intellectual tools	The proposed action is not anticipated to contravene the objectives and policies of this functional plan.
8	Historic Preservation State Functional Plan (1991)	Department of Land and Natural Resources	Preservation of historic properties, records, artifacts and oral histories; provide public with information/education on the ethnic and cultural heritages and history of Hawai'i	A previous archaeological inventory survey (AIS) was done on the 4.865-acre site and no historic properties were found. Archaeological monitoring is proposed for project-related ground disturbing activities. Consultation with the State Historic Preservation Division has been initiated pursuant to Chapter 6E, HRS. A Cultural Impact Assessment (CIA) was prepared for the Proposed Hale Pilina Family Affordable Rental Housing Project and concluded that adverse impacts to cultural resources are not anticipated. The proposed action is in consonance with this functional plan.
9	Housing State Functional Plan (1989)	Hawaii Housing Finance and Development Corporation	Provide affordable rental and for-sale housing; increase homeownership and amount of rental housing units; acquiring public and privately-owned lands for future residential development; maintain a statewide housing data system	The proposed Project provides additional affordable rental housing to households earning up to 60 percent of AMI in close proximity to transit and various public, recreational, and commercial services. In addition, the Project will be implemented in a developed area in Central Maui, in proximity to existing infrastructure and services. The proposed action is in consonance with this functional plan.
10	Human Services State Functional Plan (1989)	Department of Human Services	Refining support systems for families and individuals by improving elderly care, increasing preventative measures to combat child/spousal abuse and neglect; providing means for 'self-sufficiency'	The proposed action is not anticipated to contravene the objectives and policies of this functional plan.

Table 3. Relation Between the Proposed Hale Pilina Family Affordable Rental Housing Project and the State Functional Plans

No.	State Functional Plan	State Coordinating Agency	Purpose	Analysis
11	Recreation State Functional Plan (1991)	Department of Land and Natural Resources	Manage the use of recreational resources via addressing issues: (1) ocean and shoreline recreation, (2) mauka, urban, and other recreation opportunities, (3) public access to shoreline and upland recreation areas, (4) resource conservation and management, (5) management of recreation programs/facilities/areas, and (6) wetlands protection and management	The proposed action is not anticipated to contravene the objectives and policies of this functional plan.
12	Tourism State Functional Plan (1991)	Department of Business, Economic Development and Tourism	Balance tourism/economic growth with environmental and community concerns; development that is cognizant of the limited land and water resources of the islands; maintaining friendly relations between tourists and community	The proposed action is not anticipated to contravene the objectives and policies of this functional plan.
13	Transportation State Functional Plan (1991)	Department of Transportation	Development of a safer, more efficient transportation system that also is consistent with planned physical and economic growth of the state; construction of facility and infrastructure improvements; develop a transportation system balanced with new alternatives; pursue land use initiatives which help reduce travel demand	The proposed Project will be implemented in proximity to existing State and County roadway facilities. A Traffic Impact Analysis Report (TIAR) has been prepared to assess the projected increase in traffic on these roadways. The TIAR that was prepared determined that the Project will have minimal impact on area roadways. As such, the TIAR determined that no roadway improvements were needed.

D. GENERAL PLAN OF THE COUNTY OF MAUI

As indicated by the Maui County Charter, the purpose of the general plan shall be to:

> *... indicate desired population and physical development patterns for each island and region within the county; shall address the unique problems and needs of each island and region; shall explain opportunities and the social, economic, and environmental consequences related to potential developments; and shall set forth the desired sequence, patterns and characteristics of future developments. The general plan shall identify objectives to be achieved, and priorities, policies, and implementing actions to be pursued with respect to population density, land use maps, land use regulations, transportation systems, public and community facility locations, water and sewage systems, visitor destinations, urban design, and other matters related to development.*

Chapter 2.80B of the Maui County Code, relating to the General Plan and Community Plans, implements the foregoing Charter provision through enabling legislation which calls for a Countywide Policy Plan and a Maui Island Plan.

1. Countywide Policy Plan

The Countywide Policy Plan was adopted in March 2010 and is a comprehensive policy document for the islands of Maui County to the year 2030. The plan replaces the General Plan of the County of Maui 1990 Update and provides the policy framework for the development of the Maui Island Plan as well as for updating the nine (9) detailed Community Plans. The Countywide Policy Plan provides broad goals, objectives, policies and implementing actions that portray the desired direction of the County's future. Goals are intended to describe a desirable condition of the County by the year 2030 and are intentionally general. Objectives tend to be more specific and may be regarded as milestones to achieve the larger goals. Policies are not intended as regulations, but instead provide a general guideline for County decision makers, departments, and collaborating organizations toward the attainment of goals and objectives. Implementing actions are specific tasks, procedures, programs, or techniques that carry out policy. Discussion of the proposed Project's applicability to the relevant goals, objectives, policies, and implementing actions of the Countywide Policy Plan is provided in **Appendix "G-2"**.

As with the Hawai'i State Plan, the methodology for assessing a project's relationship to the Countywide Policy Plan involves examining the project's applicability to the Plan's goals, objectives, and policies. "Applicability" refers to a project's need, purpose and effects, and how they advance or promote a particular set of goals, objectives and policies. In assessing the relationship between a

proposed action and the Countywide Policy Plan, an action may be categorized in one of the following groups:

1. **Directly applicable:** the action and its potential effects directly advances, promotes or affects the relevant goal, objective, or policy.

   Example: Using the same example as that provided for the Hawai'i State Plan, that of a County project to develop a new water source and related transmission facilities, such an action would be directly applicable to improving physical infrastructure. The relevant objective states: "*Improve water systems to assure access to sustainable, clean, reliable, and affordable sources of water*" (Objective I.1). A policy within this objective category states: *"Ensure that adequate supplies of water are available prior to approval of subdivision or construction documents"* (Policy I.1.a).

   In this instance, the proposed action is considered to be directly applicable to the cited objective and policy.

2. **Indirectly applicable:** the action and its potential effects indirectly supports, advances or affects the objective, policy or priority guideline.

   Example: The county water source project cited above supports the objective to: *Improve land use management and implement a directed-growth strategy* (Objective J.1). A related policy encompassed by this objective states: *"Direct new development in and around communities with existing infrastructure and service capacity, and protect natural, scenic, shoreline, and cultural resources"* (Policy J.1.h). In this case, the principle purpose of the Project is not to create source specifically intended to improve land use management. Nonetheless, the proposed action indirectly supports the Countywide Policy Plan's directives relating to appropriate locations for new development.

3. **Not applicable:** the action and its potential effects have no direct or indirect relationship to the objectives and policies of the Countywide Policy Plan.

   Example: The county water source improvement project referenced above, may not have direct or indirect linkage to Objective D.1, which states: *"In cooperation with the Federal and State governments and nonprofit agencies, broaden access to social and healthcare services and expand options to improve the overall wellness of the people of Maui County"*. Hence, from a policy analysis and linkage standpoint, the proposed action would be considered not applicable to this set of objectives and policies.

It is recognized that policy analysis is subject to interpretation and is best considered in the context of the proposed action's local and regional conditions.

The assessment presented below restates the goal for each policy/planning category followed by a response which consolidates and summarizes the assessments provided in **Appendix "G-2"**. The responses examine whether the proposed action is directly applicable, indirectly applicable or not applicable to the respective Countywide Policy Plan objectives, policies and implementing actions.

PROTECT THE NATURAL ENVIRONMENT

Goal:

Maui County's natural environment and distinctive open spaces will be preserved, managed, and cared for in perpetuity.

Response: The Project indirectly improves the opportunity for Maui County families to experience, live, and thrive in the natural beauty of our island home. This land will be cared for in years to come while also providing much needed affordable housing. The Project has been carefully designed taking into consideration building profiles and massing so as to not adversely impact scenic views and vistas. The proposed buildings will blend into the surrounding commercial, urban landscape.

The proposed Project will utilize BMPs to ensure that natural resources such as the coastal environment is not impacted by construction activities. The use of BMPs also ensures compatibility between land-based and water-based functions, resources, and ecological systems. The biological resources study conducted as part of the environmental review process represents an effort to protect any rare and endangered plant and animal species, and their habitats that may be present in the vicinity of the proposed action.

PRESERVE LOCAL CULTURES AND TRADITIONS

Goal:

Maui County will foster a spirit of pono and protect, perpetuate, and reinvigorate its residents' multi-cultural values and traditions to ensure that current and future generations will enjoy the benefits of their rich island heritage.

Response: This development is an appropriate development in an urban area, away from culturally sensitive areas. A CIA was prepared for the

proposed Project as part of the environmental review process. The CIA fosters increased knowledge of Native Hawaiian cultural practices, as well as the history of the Project area. In this context, the proposed action advances the objective and policies related to preserving local cultures and traditions.

Archaeological investigations were conducted and determined that there are no historic properties on the site. Consultation is ongoing with the State Historic Preservation Division pursuant to Chapter 6E, HRS.

IMPROVE EDUCATION

Goal:

Residents will have access to lifelong formal and informal educational options enabling them to realize their ambitions.

Response: Through the payment of impact fees to the Department of Education, the proposed Project indirectly ensures the provision of adequate and accessible educational services and facilities in Central Maui. It will afford many families the opportunity to be closer in proximity to schools and services that can support their educational experience.

STRENGTHEN SOCIAL AND HEALTHCARE SERVICES

Goal:

Health and social services in Maui County will fully and comprehensively serve all segments of the population.

Response: Indirectly, this proposed Project will support access to services. By providing affordable housing to families in a centrally located area, they will have easier access to utilize social and healthcare services, if needed.

EXPAND HOUSING OPPORTUNITIES FOR RESIDENTS

Goal:

Quality, island-appropriate housing will be available to all residents.

Response: The proposed Project provides additional affordable home opportunities for Maui County families in an area that is close to the businesses, schools, and commercial centers. In addition, the Project will

be implemented in a developed area in Central Maui, in proximity to existing infrastructure and services.

STRENGTHEN THE LOCAL ECONOMY

Goal:

Maui County's economy will be diverse, sustainable, and supportive of community values.

Response: During construction, this Project will provide job opportunities. After completion, families residing in the Project will support the businesses surrounding them, thus indirectly impacting the economy.

IMPROVE PARKS AND PUBLIC FACILITIES

Goal:

A full range of island-appropriate public facilities and recreational opportunities will be provided to improve the quality of life for residents and visitors.

Response: The proposed residential Project will indirectly support the goal, objective, and policies of expanding access to recreational opportunities and community facilities to meet the needs of residents. The central location of the site of this Project will provide easy access to existing recreational activities and community facilities. The Project will also incorporate an onsite park and multipurpose room for residents.

DIVERSIFY TRANSPORTATION OPTIONS

Goal:

Maui County will have an efficient, economical, and environmentally sensitive means of moving people and goods.

Response: The TIAR prepared for this Project determined that the impact of this Project on existing and projected traffic is minimal. As such, it was concluded that road improvements were not needed. The Project is directly and indirectly applicable to the goals and objectives around providing affordable, effective, and convenient ground transportation. The urban location of the Project also allows for easy access to public transit for residents.

IMPROVE PHYSICAL INFRASTRUCTURE

Goal:

Maui County's physical infrastructure will be maintained in optimum condition and will provide for and effectively serve the needs of the County through clean and sustainable technologies.

Response: The Project indirectly supports this objective and related policies as it is located in an area that is serviced by existing County water and wastewater infrastructure. Coordination will be undertaken with the DWS to determine if certain improvements to the County's water system will be required to service the Project. Coordination will be undertaken with the DEM regarding connection. Construction waste will be disposed at the County's Central Maui Landfill or appropriate construction recycling centers. The proposed development may include solar photovoltaic panels for electricity, if feasible.

PROMOTE SUSTAINABLE LAND USE AND GROWTH MANAGEMENT

Goal:

Community character, lifestyles, economies, and natural assets will be preserved by managing growth and using land in a sustainable manner.

Response: The proposed Hale Pilina Family Affordable Rental Housing Project will be developed on urban, infill land in Kahului, within the Urban Growth Boundary as designated by the County of Maui's Maui Island Plan. The Project is located in a developed area in Central Maui, in proximity to existing infrastructure and services. The Project will be developed in an area outside of the sea level rise exposure area.

As an urban infill Project, the proposed action supports smart growth principles.

STRIVE FOR GOOD GOVERNANCE

Goal:

Government services will be transparent, effective, efficient, and responsive to the needs of residents.

Response: The design and environmental review processes involves opportunities for the public to provide input throughout the environmental

review process. Public meetings and requests for comments were included which provided the space for engagement and feedback opportunities. Furthermore, community input was welcomed in two (2) virtual meetings for the public to provide input and comment on the proposed Hale Pilina Family Affordable Rental Housing Project.

2. Maui Island Plan

The Maui Island Plan (MIP) is applicable to the island of Maui only, providing more specific policy-based strategies for population, land use, transportation, public and community facilities, water and wastewater systems, visitor destinations, urban design, and other matters related to future growth.

As provided by Chapter 2.80B, the MIP shall include the following components:

1. *An island-wide land use strategy, including a managed and directed growth plan*
2. *A water element assessing supply, demand and quality parameters*
3. *A nearshore ecosystem element assessing nearshore waters and requirements for preservation and restoration*
4. *An implementation program which addresses the County's 20-year capital improvement requirements, financial program for implementation, and action implementation schedule*
5. *Milestone indicators designed to measure implementation progress of the MIP*

The MIP addresses a number of planning categories with detailed policy analysis and recommendations which are framed in terms of goals, objectives, policies and implementing actions. These planning categories address the following areas:

1. *Population*
2. *Heritage Resources*
3. *Natural Hazards*
4. *Economic Development*
5. *Housing*
6. *Infrastructure and Public Facilities*
7. *Land Use*

Additionally, an essential element of the MIP is its directed growth plan which provides a management framework for future growth in a manner that is fiscally, environmentally, and culturally prudent. Among the directed growth management tools developed through the MIP process are maps delineating urban growth boundaries (UGB), small town boundaries and rural growth boundaries. The respective boundaries identify areas appropriate for future growth and their corresponding intent with respect to development character.

The proposed Project is located within the UGB of the MIP. In this regard, it is consistent with the directed growth strategy defined via growth maps adopted in the MIP. See **Figure 10**.

A summary of the Project's relationship to the Maui Island Plan (MIP), as detailed in **Appendix "G-3"** is provided below. Following the assessment methodology used for the Hawai'i State Plan and the Countywide Policy Plan, the proposed action was reviewed with respect to its applicability to goals, objectives, and policies of the MIP. "Applicability" refers to a Project's need, purpose and effects, and how these advance or promote a particular set of goals, objectives and priority guidelines. In assessing the relationship between a proposed action and the MIP, an action may be categorized in one of the following groups:

1. **Directly applicable:** the action and its potential effects directly advances or promotes the objective, policy or priority guideline.

   Example: Again, using a county project to develop a new water source and related transmission facilities as an example, a project of this nature would be directly applicable to the MIP's Objective 6.3.2, which states: *"Increase the efficiency and capacity of the water systems in striving to meet the needs and balance the island's water needs".* As well, this action would directly advance the MIP's Policy 6.3.2.f, which states: *"Acquire and develop additional sources of potable water".* The need, purpose and effects of the proposed new water source project is directly applicable to the foregoing objective and policy.

2. **Indirectly applicable:** the action's potential effects indirectly supports or advances the objective, policy or priority guideline.

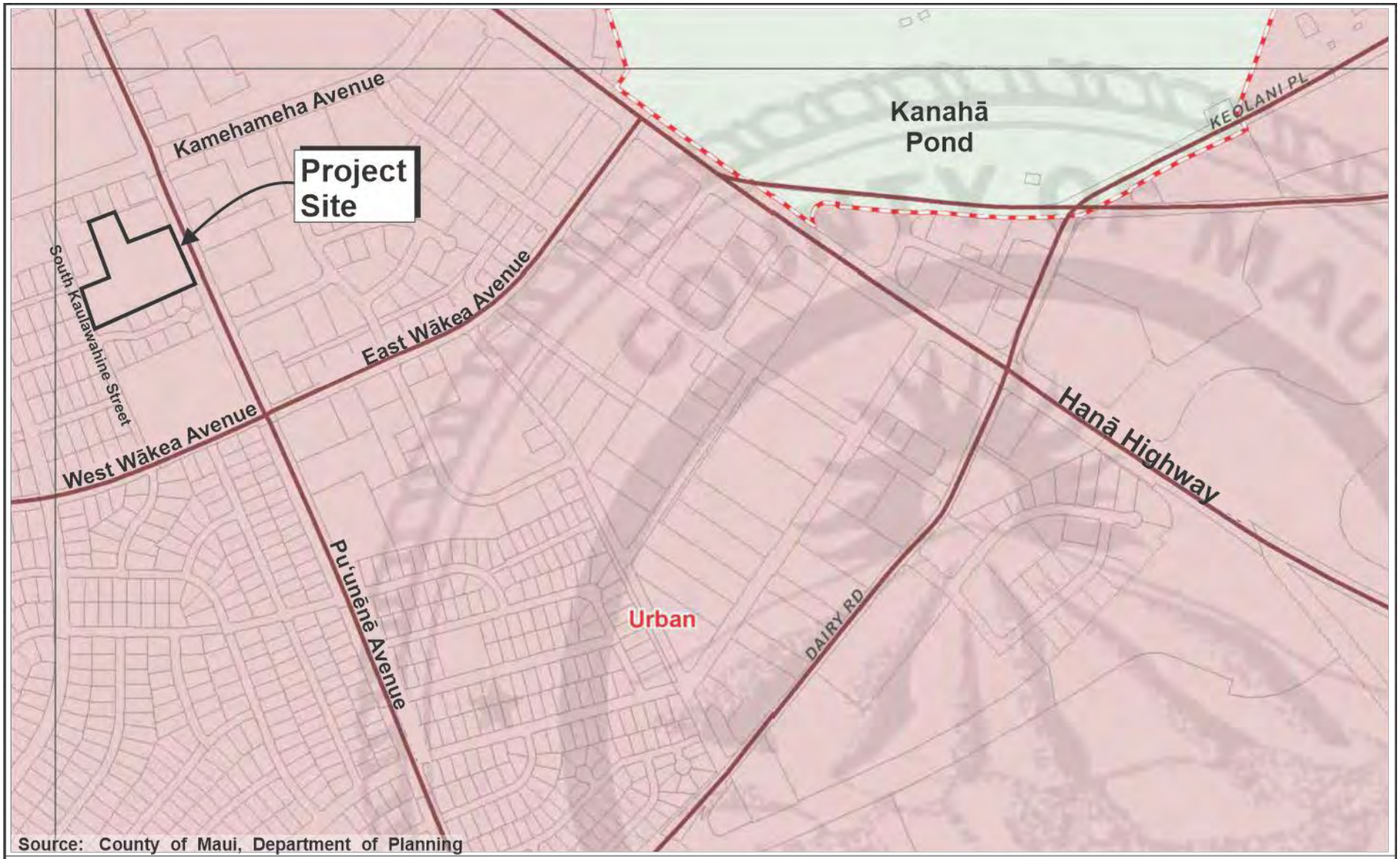


Figure 10

Hale Pilina Family Affordable Rental Housing Project

Maui Island Plan Map

2500
0 Feet
1250 5000

Prepared for: Catholic Charities Housing Development Corporation

MUNEKIYO HIRAGA

GSF/Kahului AH/Applications/Figures/Maui Island Plan

Example: The county water source project cited above supports the MIP's Objective 7.3.2 which states: *"Facilitate more self-sufficient and sustainable communities".* Additionally, this kind of action is indirectly applicable to the related MIP Policy 7.3.2.f, which states: *"Facilitate the development of housing by focusing projects in locations where land and infrastructure costs facilitate the development of affordably-priced housing".* In this case, the principle purpose of the Project was not to specifically facilitate the development of affordably-priced housing. However, the Project's contribution to adequate infrastructure systems is supportive of the policy. In this instance, the proposed action may be deemed to be indirectly applicable to the objective and policy of the MIP.

3. **Not applicable:** The action and its potential effects have no direct or indirect relationship to the objectives and policies of the Maui Island Plan.

Example: That same county water source improvement project referenced above, may not have direct or indirect linkage to the MIP's Objective 4.2.1, which states: *"Increase the economic contribution of the visitor industry to the island's environmental well-being for the island's residents' quality of life"*. In this case, there is no reasonably deduced direct or indirect relationship between the proposed action and Objective 4.2.1. Hence, the proposed action would be considered not applicable to the objective.

In general, a proposed action's applicability to the MIP is assessed on the basis of the action's direct or indirect relationship to the respective objectives, policies and implementing actions.

The assessment presented below summarizes the goals for each policy/planning category of the MIP, followed by a response which consolidates and summarizes the assessments provided in **Appendix "G-3"**. The responses examines whether the proposed action is directly applicable, indirectly applicable or not applicable to the respective MIP objectives, policies and implementing actions.

CHAPTER 1--POPULATION

Goal:

Maui's people, values, and lifestyles thrive through strong, healthy, and vibrant island communities.

Response: The proposed Project provides additional affordable housing opportunities for Maui county families in Kahului. Further, the proposed Project will provide for additional housing options for local

families seeking to live on Maui island to be closer to their families and local employment, education, and social opportunities.

CHAPTER 2--HERITAGE RESOURCES

2.1 Cultural, Historical, and Archaeological Resources

Goal:

Our community respects and protects archaeological and cultural resources while perpetuating diverse cultural identities and traditions.

Response: The objective and policies related to respecting and protecting archaeological and cultural resources are indirectly applicable to the proposed Project. A CIA was prepared for the proposed Project as part of the environmental review process. The CIA fosters increased knowledge of Native Hawaiian cultural practices, as well as the history of the Project area. In this context, the proposed action advances the objective and policies related to preserving local cultures and traditions. Archaeological investigations identified no historic properties within the Project site. Landscaping proposed in connection with the Project is intended to enhance the Project's visual relationship with its immediate surrounding environs.

2.2 Shoreline, Reefs, and Nearshore Waters

Goal:

An intact, ecologically functional system of reef, shoreline, and nearshore waters that are protected in perpetuity.

Response: The proposed Project is located inland, and not in close proximity to the shoreline. With the spatial separation, there are no direct Project considerations as it relates to shoreline management programming, reef health, coastal water quality, marine life or shoreline lands and access rights. However, inasmuch as the proposed action does involve grading and earth moving activities, the Project may be considered to have indirect applicability to objectives and policies relating to coastal water quality. As such, appropriate BMPs will be implemented during construction to ensure that soil erosion and runoff do not adversely affect coastal waters.

2.3 Watersheds, Streams and Wetland

Goal:

Healthy watersheds, streams, and riparian environments.

Response: The proposed Project is not directly or indirectly applicable to the goal of maintaining healthy watersheds, streams, and riparian environments.

2.4 Wildlife and Natural Areas

Goal:

Maui's natural areas and indigenous flora and fauna will be protected.

Response: The environmental review process for the proposed action included a flora and fauna survey addressing biological resources in the Project area. This assessment addresses the objective of identification and protection (as applicable) restoration of wildlife habitats.

2.5 Scenic Resources

Goal:

Maui will continue to be a beautiful island steeped in coastal, mountain, open space, and historically significant views that are preserved to enrich the residents' quality of life, attract visitors, provide a connection to the past, and promote a sense of place.

Response: The objectives and policies relating to protecting and maintaining scenic resources are indirectly applicable to the proposed Project. The proposed Project will be implemented along Puʻunēnē Avenue, which provides views of Haleakalā and Mauna Kahalawai (the West Maui Mountains). The Project has been carefully designed taking into consideration building profiles and massing so as to not adversely impact scenic views and vistas.

CHAPTER 3--NATURAL HAZARDS

Goal:

Maui will be disaster resilient.

Response: The objectives and policies related to making Maui disaster-resilient are not directly or indirectly applicable to the proposed Project.

The proposed action is limited to the development of a new multifamily affordable housing project for Maui County families.

CHAPTER 4—ECONOMIC DEVELOPMENT

4.1 Economic Diversification

Goal:

Maui will have a balanced economy composed of a variety of industries that offer employment opportunities and well-paying jobs and a business environment that is sensitive to resident needs and the island's unique natural and cultural resources.

Response: The proposed Project will generate short term construction-related employment opportunities, as well as supporting the construction industry as a whole, including local businesses that rely on said industry. Further, the proposed action will indirectly affect the local economy, as it is anticipated that residents of the Project will support small businesses nearby. The proposed Project also provides affordable housing options for Maui County families.

4.2 Tourism

Goal:

A healthy visitor industry that provides economic well-being with stable and diverse employment opportunities.

Response: The proposed Project does not have direct or indirect relationships to the goal for tourism and its accompanying objectives for increasing the visitor industry's contributions to our island's quality of life, managing future visitor unit expansion, and maximizing residents' benefits from the visitor industry.

4.3 Agriculture

Goal:

Maui will have a diversified agricultural industry contributing to greater economic, food, and energy security and prosperity.

Response: The proposed Project does not have direct or indirect relationships to the goal for agriculture and its related objectives for consumption for locally produced fruits and vegetables, maintaining or increasing agriculture's share in the local economy, and expanding

diversified agricultural production. The proposed Project is located on urban infill land. Further, the proposed action is a prudent use of land that has been vacant for many years to benefit Maui County families.

4.4 Emerging Sectors

Goal:

A diverse array of emerging economic sectors.

Response: The proposed Project does not have direct or indirect relationships to the goal for emerging sectors. The accompanying objectives for increased investment in and expansion of emerging industries, and increased development of renewable energy technologies are not affected by the proposed action.

4.5 Small Business Development

Goal:

Small businesses will play a key role in Maui's economy.

Response: The proposed Project consists of the development of a new multifamily affordable housing complex in urban Kahului. Though the goal of making small businesses play a key role in Maui's economy is not directly applicable to the proposed Project, it is anticipated that residents of the Project will support small, locally-owned businesses that are in the vicinity. As such, the objective and policies related to small-business development are indirectly applicable to the proposed action.

4.6 Health Care Sector

Goal:

Maui will have a health care industry and options that broaden career opportunities that are reliable, efficient, and provide social well-being.

Response: The proposed Project does not have direct or indirect relationships to the goal for the health care and its related objectives for expanding the economic benefits of the health care sector, increasing efficiency of the health care delivery system, minimizing the costs of health care, and expanding Maui's alternative health care system.

4.7 Education and Workforce Development

Goal:

Maui will have effective education and workforce development programs and initiatives that are aligned with economic development goals.

Response: The goal for education and workforce development is not directly or indirectly applicable to the proposed action. As well, the related objectives of improving preschool and K-12 education, increasing higher education certificates and degrees, and developing more jobs in the STEM-related sectors are not affected by the proposed Project.

CHAPTER 5—HOUSING

Goal:

Maui will have safe, decent, appropriate, and affordable housing for all residents developed in a way that contributes to strong neighborhoods and a thriving island community.

Response: The proposed Project provides affordable housing opportunities for Maui County families in Kahului and Wailuku. The proposed development will be located near other urban areas, making prudent use of existing infrastructure and resources.

CHAPTER 6—INFRASTRUCTURE AND PUBLIC FACILITIES

6.1 Solid Waste

Goal:

Maui will have implemented the ISWMP thereby diverting waste from its landfills, extending their capacities.

Response: Solid waste generated by the Project during construction will be recycled to the extent practicable and disposed at appropriately permitted construction waste disposal sites.

6.2 Wastewater

Goal:

Maui will have wastewater systems that comply with or exceed State and Federal regulations; meet levels-of-service needs; provide adequate capacity to accommodate projected demand;

ensure efficient, effective, and environmentally sensitive operation; and maximize wastewater reuse where feasible.

Response: The proposed Project will connect to the County wastewater system. Coordination will be undertaken with the DEM regarding connection to the County system.

6.3 Water

Goal:

Maui will have an environmentally sustainable, reliable, safe, and efficient water system.

Response: The goal related to water systems is indirectly applicable to the Project. The Project is located in an area that is serviced by existing County water infrastructure. Coordination will be undertaken with the DWS regarding connection to the County's water system.

6.4 Transportation

Goal:

An interconnected, efficient, and well-maintained, multimodal transportation system.

Response: The Project site is located in close proximity to bus stops at the Kahului Shopping Center and the proposed Maui Transit Hub Station. Pedestrian connectivity will be provided by sidewalks fronting the Project site. There is a bicycle lane on Kamehameha Avenue in the vicinity of the Project site. Given its location, the Project indirectly supports the objectives of providing a safe, interconnected roadway, bicycle, and pedestrian network, as well as a multimodal transportation system that respects and enhances the natural environment, scenic views, and the surrounding community's character.

6.5 Transit

Goal:

An island-wide transit system that addresses the needs of residents and visitors and contributes to healthy and livable communities.

Response: The proposed Project will indirectly affect the goals and objectives for transit, specifically those relating to the advancement of an integrated island-wide transit system. The Project is located in close

proximity to the new Maui Transit Hub Station and existing bus stops on Kamehameha Avenue.

6.6 Parks

Goal:

Maui will have a diverse range of active and passive recreational parks, wilderness areas, and other natural-resource areas linked, where feasible, by a network of greenways, bikeways, pathways, and roads that are accessible to all.

Response: Though the proposed Project mainly consists of the development of a new multifamily affordable housing complex, the proposed action also consists of the inclusion of a park for residents. The Project site is located next to the Coach Spencer Shiraishi Memorial Pool, a County owned and maintained park facility. With the inclusion of sidewalks to connect the development to existing parks and infrastructure, the objective and policies relating to linking existing residential areas is directly and indirectly supported by this Project.

6.7 Public Facilities

Goal:

Maui will have adequate public facilities that meet the diverse needs of residents.

Response: The proposed action does not have direct or indirect relationships to the goal for public facilities. In this context, the Project does not advance or promote the objective or more effective planning for public facilities which meet community needs.

6.8 Schools and Libraries

Goal:

Maui will have school and library facilities that meet residents' needs and goals.

Response: Through the payment of impact fees to the DOE, the proposed Project indirectly ensures the provision of adequate and accessible educational services and facilities in Central Maui. Further, the objective and policy related to providing a more expansive network of safe and convenient pedestrian-friendly streets, trails, pathways, and bikeways

between neighborhoods and schools is indirectly supported by the proposed action, as there are sidewalks along the Project site.

6.9 Health Care

Goal:

All of Maui residents will have the best possible health care to include healthy living, disease prevention, as well as acute and long-term care.

Response: The proposed action does not have direct or indirect relationships to the goal for healthcare. In this context, the Project does not advance or promote the objectives for greater healthcare system autonomy, increase long-term care capacity and alternatives, support home care and community based programs, and improve preventative medicine and primary health care.

6.10 Energy

Goal:

Maui will meet its energy needs through local sources of clean, renewable energy, and through conservation.

Response: The proposed Project will incorporate the use of energy efficient fixtures and appliances and will potentially install photovoltaic panels, if feasible. With this information in mind, the objectives and policies of the goal to meeting Maui's energy needs through local sources of clean, renewable energy and through conservation are indirectly applicable to the proposed Project.

6.11 Harbors and Airports

Goal:

Maui will have harbors and airports that will efficiently, dependably, and safely facilitate the movement of passengers and cargo.

Response: The goal for harbors and airports are not applicable to the proposed Project. In particular, the Project does not advance or promote the upgrading of harbor and airport facilities, and establishing appropriately planned and functional small boat harbors.

CHAPTER 7—LAND USE

7.1 Agricultural Lands

Goal:

Maui will have a prosperous agricultural industry and will protect agricultural lands.

Response: The Project will be developed on urban infill land in Kahului, situated between residential neighborhoods and commercial buildings. Implementation of the proposed Project will not adversely affect agriculture productivity on Maui.

7.2 Rural Areas

Goal:

Maui will have a rural landscape and lifestyle where natural systems, cultural resources and farm lands are protected and development enhances and compliments the viability and character of rural communities.

Response: The proposed Project is located within the Urban Growth Boundaries as designated by the County of Maui MIP. The proposed Project is directly and indirectly applicable with these policies related to keeping Maui's rural landscape protected. A main goal of the Hale Pilina Family Affordable Rental Housing Project is to connect this development to existing infrastructure and the surrounding community.

7.3 Urban Areas

Goal:

Maui will have livable human-scale urban communities, an efficient and sustainable land use pattern, and sufficient housing and services for Maui residents.

Response: The proposed Project provides affordable housing opportunities for Maui County families in Kahului. The Project site is in urban Kahului, in proximity to businesses and public facilities that are offered to the community. This multifamily development will be consistent with the character of Kahului while also staying respectful of open space by including a park within the complex. Further, the proposed Project has and continues to seek community involvement and input in the land use planning process. Ongoing coordination with various State and County

agencies ensures that the proposed action accounts for and mitigates, to the extent possible, long term cumulative impacts resulting from the development.

CHAPTER 8—DIRECTED GROWTH PLAN

8.1 Urban and Small Town Growth Area

Goal:

Maui will have well-serviced, complete, and vibrant urban communities and traditional small towns through sound planning and clearly defined development expectations.

Response: The proposed Project is located within the Urban Growth Boundary of the County of Maui's MIP. The Project is in consonance with the objective and policies of the MIP and within an area planned for growth.

8.2 Rural Growth Area

Goal:

Maui will maintain opportunities for agriculture and rural communities through sound planning and clearly defined development expectations

Response: The proposed Project is located within the Urban Growth Boundary of the MIP and the objectives and policies related to Rural Growth Boundaries are not applicable as the development will lie within an urban area, thus protecting and preserving the Rural areas of Maui.

8.3 Protected Area Policy

Policy:

The Protected Areas in Diagram E-1, NW-1, N-1, NE-1, S-1, SE-1, and WC-1 should be concurrently reviewed with Table 8-2 and with any proposed land uses that may result inan adverse impact on a Protected Area. The County Council and the Administration should be notified if a Protected Area may be compromised by a development proposal.

Response: Protected areas, as defined in Table 8-2 of the MIP are those lands categorized as preservation, park, greenbelt, greenway, and sensitive land. The proposed action does not occur on protected areas as delineated on Diagram WC-1.

E. WAILUKU-KAHULUI COMMUNITY PLAN

The Project site is located within the Wailuku-Kahului Community Plan region, one (1) of nine (9) community plan regions established in the County of Maui. Each region's growth and development is guided by a Community Plan. The County's Community Plan reflects current and anticipated conditions in the Wailuku-Kahului region and advances planning goals, objectives, policies, and implementation considerations to guide decision-making in the region. The primary purpose of the Community Plan is to outline a detailed agenda for carrying out these policies and objectives. The Wailuku-Kahului Community Plan was adopted by the County of Maui through Ordinance Number 3061, and became effective on June 5, 2002.

The Community Plan land use map designates the 4.865-acre Project site as "Park" by the Community Plan. See **Figure 11**. As a 100 percent affordable housing project, CCHDC will be seeking exemptions through the MCC Chapter 2.97 which would allow for development on this land designation. Specifically, an exemption will be sought from MCC 2.80B which requires Community Plan land use consistency to allow the Project to proceed without obtaining a Community Plan Amendment to "Multi Family".

Further, the proposed Project is consistent with the following goal and objectives and policies of the Wailuku-Kahului Community Plan as outlined below.

CULTURAL RESOURCES

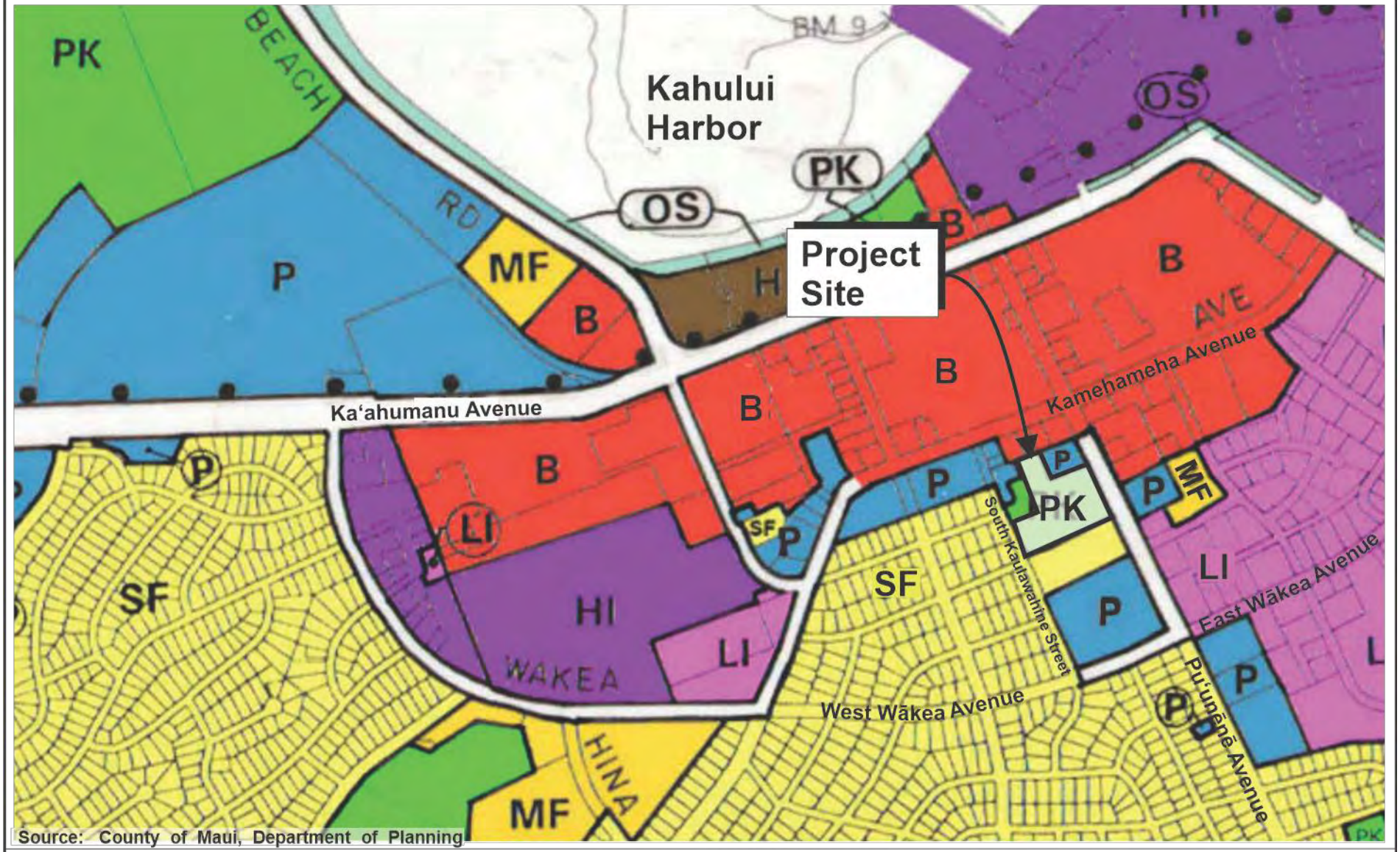
Goal:

Identification, protection, preservation, enhancement, and where appropriate, use of cultural practices and sites, historic sites and structures, and cultural landscapes and view planes that:

- *Provide a sense of history and define a sense of place for the Wailuku-Kahului region; and*

Objective and Policy:

- *Preserve the character and integrity of historic sites in the Wailuku-Kahului region.*



Source: County of Maui, Department of Planning

Figure 11

Hale Pilina Family Affordable Rental Housing Project

Wailuku-Kahului Community Plan Map

NOT TO SCALE

Prepared for: Catholic Charities Housing Development Corporation

MUNEKIYO HIRAGA

GSF/Kahului AH/Applications/Figures/WK Community Plan

Discussion and Response: Consultation has been initiated with the SHPD pursuant to Chapter 6E, HRS. An AIS was prepared in 2004 for the 4.865-acre area in Kahului. In its acceptance letter of the AIS, the SHPD concurred with the AIS and further stated that an Archaeological Monitoring Plan (AMP) would suffice should any ground disturbing construction take place. Should any archaeological resources be discovered during ground altering activities, work shall cease in the immediate area of the find and mitigation coordination will be undertaken with the SHPD. In addition, a CIA was prepared for the Proposed Hale Pilina Family Affordable Rental Housing Project and noted that based on historical research and oral testimonies, no cultural or historical artifacts, resources, or practices were found at the Project site. Further, no adverse cultural impacts are anticipated as a result of the proposed Project.

HOUSING

Goal:

A sufficient supply and choice of attractive, sanitary and affordable housing accommodations for the broad cross section of residents, including the elderly.

Objectives and Policies:

- *Provide sufficient land areas for new residential growth which relax constraints on the housing market and afford variety in type, price, and location of units. Opportunities for the provision of housing are presently constrained by a lack of expansion areas. This condition should be relieved by a choice of housing in a variety of locations, both rural and urban in character.*
- *Seek alternative residential growth areas within the planning region, with high priority given to the Wailuku and Kahului areas. This action should recognize that crucial issues of maintaining important agricultural lands, achieving efficient patterns of growth, and providing adequate housing supply and choice of price and location must be addressed and resolved.*

Discussion and Response: The proposed Project will be developed on urban, infill land in Kahului. It will provide much needed affordable housing opportunities for Maui county families in an area that is close to existing residential developments as well as businesses, schools, and the commercial centers of Kahului and Wailuku.

GOVERNMENT

Goal:

Government that demonstrates the highest standards of fairness; responsiveness to the needs of the community; fiscal integrity; effectiveness in planning and implementation of programs and projects; a fair and equitable approach to taxation and regulation; and efficient, results-oriented management.

Objective and Policy:

- *Ensure that adequate infrastructure is or will be available to accommodate planned development.*

Discussion and Response: The proposed housing Project will be implemented in a developed area in Central Maui, in proximity to existing infrastructure and services.

F. COUNTY ZONING

The land underlying the proposed Project site is zoned "Public/Quasi-Public" by the Maui County Zoning Ordinance. See **Figure 12**. However, as previously discussed, the Project will be seeking approval through MCC Chapter 2.97. Specifically, an exemption will be sought from the requirements of MCC 19.31 pertaining to the "Public/Quasi Public" zoning district and allow the use of "A-2, Apartment" district standards instead. This exemption will permit the development of multi-family residential uses without the need to obtain a Change of Zoning. Discussion of the MCC Chapter 2.97 exemption requests is provided in Section H of this Chapter.

G. HAWAIʻI COASTAL ZONE MANAGEMENT PROGRAM

The Hawaiʻi Coastal Zone Management Program (HCZMP), as formalized in Chapter 205A-2, HRS, establishes objectives and policies for the preservation, protection, and restoration of natural resources of Hawaiʻi's coastal zone. Although the proposed improvements are not within the County of Maui's Special Management Area (SMA), the applicability of coastal zone management considerations applies to all lands in the State of Hawaiʻi and, as such, has been reviewed and assessed as follows.

1. Recreational Resources

Objective:

Provide coastal recreational opportunities accessible to the public.

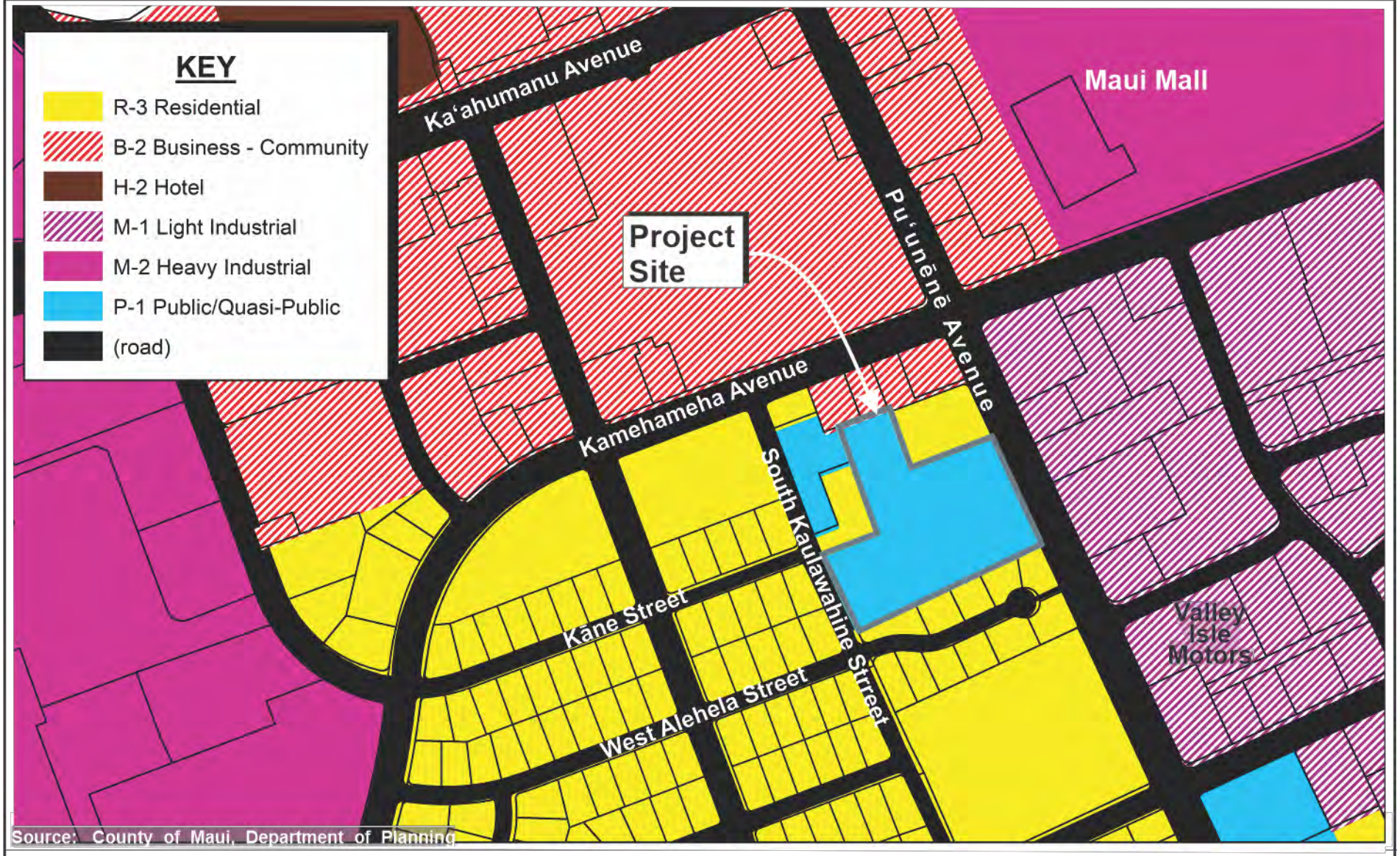


Figure 12

Hale Pilina Family Affordable Rental Housing Project

Maui County Zoning Map

0 200 100 400 Feet

Prepared for: Catholic Charities Housing Development Corporation

MUNEKIYO HIRAGA

GSF/Kahului AH/Applications/Figures/Zoning

Policies:

a. Improve coordination and funding of coastal recreational planning and management; and

b. Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by

i. Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;

ii. Requiring restoration of coastal resources that have significant recreational and ecosystem value, including but not limited to coral reefs, surfing sites, fishponds, sand beaches, and coastal dunes when these resources will be unavoidably damaged by development; or requiring monetary compensation to the State for recreation when restoration is not feasible or desirable;

iii. Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;

iv. Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;

v. Ensuring public recreational uses of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;

vi. Adopting water quality standards and regulating point and nonpoint sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;

vii. Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and

viii. Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, and county authorities; and crediting that dedication against the requirements of section 46-6.

Response: The Project site is located inland and away from the coastline. The proposed action is not anticipated to impact coastal recreational opportunities or affect existing public access to and along the shoreline.

2. Historic/Cultural Resources

Objective:

Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.

Policies:

a. Identify and analyze significant archaeological resources;

b. Maximize information retention through preservation of remains and artifacts or salvage operations; and

c. Support state goals for protection, restoration, interpretation, and display of historic resources.

Response: Consultation with the SHPD has been initiated pursuant to Chapter 6E, HRS. An AIS was prepared in 2004 for the 4.865-acre area in Kahului. In its acceptance letter of the AIS, the SHPD concurred with the AIS and further stated that an Archaeological Monitoring Plan (AMP) would suffice should any ground disturbing construction take place. Should any archaeological resources be discovered during ground altering activities, work shall cease in the immediate area of the find and mitigation coordination will be undertaken with the SHPD. In addition, a CIA was prepared for the Proposed Hale Pilina Family Affordable Rental Housing Project and noted that there are no cultural or historical artifacts, resources, or practices at the Project site and no adverse cultural impacts are anticipated as a result of the proposed Project.

3. Scenic and Open Space Resources

Objective:

Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.

Policies:

a. Identify valued scenic resources in the coastal zone management area;

b. Ensure that new developments are compatible with their visual environment by designing and locating those developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;

c. Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and

d. Encourage those developments that are not coastal dependent to locate in inland areas.

Response: As indicated previously, the Project is located inland and not on or near the shoreline. The proposed Project is not anticipated to adversely impact coastal scenic and open space resources.

4. Coastal Ecosystem

Objective:

Protect valuable coastal ecosystems, including reefs, beaches, and coastal dunes, from disruption and minimize adverse impacts on all coastal ecosystems.

Policies:

a. Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;

b. Improve the technical basis for natural resource management;

c. Preserve valuable coastal ecosystems of significant biological or economic importance, including reefs, beaches, and dunes;

d. Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and

e. Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.

Response: The proposed Project is located inland, away from coastal ecosystems and is, therefore, not anticipated to have adverse impacts on coastal/shoreline resources, including reefs and marine resources. Appropriate BMPs will be utilized to ensure that construction runoff is appropriately detained, minimizing any impact on coastal waters. In addition, an application for a National Pollutant Discharge Elimination System (NPDES) permit for construction will be submitted to the State Department of Health (DOH) for review and approval prior to the start of construction.

5. Economic Use

Objective:

Provide public or private facilities and improvements important to the State's economy in suitable locations.

Policies:

a. Concentrate coastal dependent development in appropriate areas;

b. Ensure that coastal dependent development and coastal related development are located, designed, and constructed to minimize exposure to coastal hazards and adverse social, visual, and environmental impacts in the coastal zone management area; and

c. Direct the location and expansion of coastal development to areas designated and used for that development and permit reasonable long-term growth at those areas, and permit coastal development outside of designated areas when:

i. Use of designated locations is not feasible;

ii. Adverse environmental effects and risks from coastal hazards are minimized; and

iii. The development is important to the State's economy.

Response: The proposed Project is not a coastal dependent development. The Project site is located inland from the shoreline. The proposed Project will stimulate the economy through the generation of construction jobs. The proposed Project does not contravene the objective and policies for economic use.

6. Coastal Hazards

Objective:

Reduce hazard to life and property from coastal hazards.

Policies:

a. Develop and communicate adequate information about the risk of coastal hazards;

b. Control development, including planning and zoning control, in areas subject to coastal hazards;

c. Ensure that developments comply with requirements of the National Flood Insurance Program; and

d. Prevent coastal flooding from inland projects.

Response: According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for the area, the Project site falls within Zone X (shaded), an area of minimal flooding. In addition, the Project site is not located within the projected 3.2-foot sea level rise exposure area. Drainage improvements will be designed in accordance with the Drainage Standards of the County of Maui

to ensure that the Project will not adversely affect downstream properties from the effects of flooding and erosion. Adverse impacts to hazard-sensitive areas are not anticipated.

The Project is located in the Tsunami Evacuation zone. Procedures to organize and direct operations at the Hale Pilina Family Affordable Rental Housing Project in the event of an emergency or civil defense action, such as a tsunami, will be established. The procedures will identify protocol during times of emergency or disruption and specific actions dependent upon the type of emergency or disruption.

7. Managing Development

Objective:

Improve the development review process, communication, and public participation in the management of coastal resources and hazards.

Policies:

a. Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;

b. Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements; and

c. Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the public to facilitate public participation in the planning and review process.

Response: Opportunities for agency and public review of the proposed action are provided pursuant to Chapter 343, HRS. The Project was also discussed at two (2) community meetings. A summary of the outreach efforts is provided in Chapter IX.

8. Public Participation

Objective:

Stimulate public awareness, education, and participation in coastal management.

Policies:

a. Promote public involvement in coastal zone management processes;

b. Disseminate information on coastal management issues by means of

educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and

c. *Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.*

Response: The Project has, and will continue to address public awareness, education, and participation objectives. As noted above, the applicant has undertaken outreach activities with a number of community agencies and community members. Refer to Chapter IX. Opportunities for agency and public review of the proposed action are also provided through the comment processes pursuant to Chapter 343, HRS.

9. Beach and Coastal Dune Protection

Objective:

A. *Protect beaches and coastal dunes for:*

(i) Public use and recreation;

(ii) The benefit of coastal ecosystem; and

(iii) Use as natural buffers against coastal hazards; and

B. *Coordinate and fund beach management and protection.*

Policies:

a. *Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;*

b. *Prohibit construction of private shoreline hardening structures, including seawalls and revetments, at sites having sand beaches and at sites where shoreline hardening structures interfere with existing recreational and waterline activities;*

c. *Minimize the construction of public shoreline hardening structures, including seawalls and revetments at sites having sand beaches and at sites where shoreline hardening structures interfere with existing recreational and waterline activities;*

d. *Minimize grading of and damage to coastal dunes;*

e. *Prohibit private property owners from creating a public nuisance by inducing or cultivating the private property owner's vegetation in a beach transit corridor; and*

f. *Prohibit private property owners from creating a public nuisance by*

allowing the private property owner's unmaintained vegetation to interfere or encroach upon a beach transit corridor; and

Response: The Project site is located inland, away from the shoreline and is not anticipated to impact shoreline processes.

10. Marine and Coastal Resources

Objective:

Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

Policies:

a. Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;

b. Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;

c. Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;

d. Promote research, study, and understanding of ocean and coastal processes, impacts of climate change and sea level rise, marine life, and other ocean resources to acquire and inventory information necessary to understand how coastal development activities relate to and impact ocean and coastal resources; and

e. Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

Response: The Project is located inland, away from the ocean and is, therefore, not anticipated to have an impact on marine or coastal resources.

H. CHAPTER 2.97, MAUI COUNTY CODE AFFORDABLE HOUSING APPROVAL

As a 100 percent affordable housing project, CCHDC will be seeking an affordable housing approval from the Maui County Council pursuant to Chapter 2.97 of the Maui County Code (MCC). The Chapter 2.97 application process will allow exemptions relating to planning, zoning, construction standards for subdivisions, development and improvement of land, and the construction of dwelling units thereon to support the development of affordable housing. The specific exemptions that will be requested as part of the Chapter 2.97 approval are presented in **Table 5**.

Table 5. Chapter 2.97 Exemption Requests

Development Standard or Requirement	Relevant Section/ Requirement	Requested Exemption and Estimated Value Where Appropriate	Rationale for Request
1. Requirement for requiring disposal permit and payment of disposal charges	Title 8, Health and Safety, Maui County Code (MCC) Chapter 8.04, Refuse Collection and Landfills	Exemption for project to dispose of construction waste during the construction of the project without the need to apply for a disposal permit and pay for disposal charges.	An exemption from the requirements to apply for a disposal permit and pay associated charges will provide cost savings.
2. Requirement for payment of wastewater assessment fees	Title 14, Public Services, MCC Section 14.35, Wastewater Assessment Fees for Facility Expansion for the Wailuku/Kahului Wastewater Treatment System	Exemption to allow the project to receive its building permits without the need to pay wastewater assessment fees. Section 14.34.080, Exemptions, exempts developments comprised of 100% residential workforce housing units from the provisions of this chapter.	An exemption from the requirements to pay the wastewater assessment fee for the Wailuku/Kahului Wastewater Treatment System will advance the affordability objectives of the Project.
3. Requirement for payment of permit and inspection fees	Title 16, Buildings and Construction, MCC: Sections 16.04C, Fire Code 16.18B, Electrical Code 16.20B, Plumbing Code 16.26B, Building Code	Exemptions from MCC Chapters: • 16.04C, Fire Code, • 16.18B, Electrical Code, • 16.20B, Plumbing Code, and • 16.26B, Building Code, to exempt the project from fire, electrical, plumbing, and building permit, plan review, and inspection fees.	These exemptions provide savings to ensure the Project is financially feasible. The Project intends to meet all inspection and code requirements.
4. Requirement for General Plan, Community Plan land use consistency and Change in Zoning	MCC 2.80B General Plans and Community Plans	Exemptions to permit the project to proceed without obtaining a Community Plan Amendment (CPA) and a Change of Zoning (CIZ). The project site is designated as “Park” in the Wailuku-Kahului Community Plan Map and zoned “Public/Quasi-Public” in zoning. The appropriate land use designation for the proposed project is “Multi Family” and “A-2, Apartment”, respectively.	These exemptions would expedite the delivery of affordable workforce housing. The Project site is located within the Urban Growth Boundary of the Maui Island Plan.

Development Standard or Requirement	Relevant Section/ Requirement	Requested Exemption and Estimated Value Where Appropriate	Rationale for Request
5. Requirement for payment of permit and inspection fees	Title 20, Environmental Protection, MCC: Chapter 20.08, Soil Erosion and Sedimentation Control Section 20.08.090, Grubbing and Grading Permit Fees	An exemption is sought to the submittal of grubbing and grading permit and inspection fees. Section 20.08.090(D) exempts developments comprised of 100% residential workforce housing units from the grubbing and grading permit fee.	This exemption provides savings to ensure the Project is financially feasible. The Project intends to meet all inspection and code requirements.
6. Requirements of all provisions relating to "Public/Quasi-Public" to allow the use of the "A-2, Apartment" district zoning standards.	Title 19, Zoning, MCC: Chapter 19.31, Public/Quasi-Public Districts	An exemption is sought to permit the development and use of the property for multi-family residential use according to the permitted uses, accessory uses and buildings, and development standards of the A-2 Apartment District pursuant to the provisions set forth in Chapter 19.12, Apartment District.	The Project site is zoned "Public/Quasi-Public". This exemption would expedite the delivery of affordable workforce housing by allowing the Project to be developed in accordance with the A-2, Apartment District zoning provisions, which are more applicable to the proposed development, without the need to obtain a Change of Zoning.
7. Requirement for number of parking stalls and number and sizes of loading areas	Title 19, Zoning, MCC: Chapter 19.36B, Off-Street Parking and Loading Sections 19.36B.020 Designated Number of Off-Street Parking Spaces 19.36B.030 Designated Number of Loading Spaces	An exemption from Section 19.36B.020 (Designated Number of Off-Street Parking Spaces) and Section 19.36B.030 (Designated Number of Loading Spaces) to allow for the flexibility in the number of parking stalls and number and sizes of loading areas required. The Applicant is seeking an exemption to allow one (1) parking stall to be provided for each one-bedroom unit, instead of two (2) parking stalls typically required for dwelling units of 3,000 sq. ft. or less. Two (2) parking stalls will be provided for each two-bedroom unit, consistent with code. Additional stalls will be provided for visitors.	The proposed Project will provide adequate parking for residents and the exemption will enable flexibility in the number of parking stalls and number and sizes of loading areas for the Project. This will further the affordability of the Project.

Development Standard or Requirement	Relevant Section/ Requirement	Requested Exemption and Estimated Value Where Appropriate	Rationale for Request
8. Water System Development Fees	Title 14 – Public Services, MC: Chapter 14.07 – Water System Development Fees	Exemption requested from Section 14.07.030 Water system development fee schedule as set forth in the annual budget for the water system development fee.	An exemption from the requirements to pay the water system development fees will advance the affordability objectives of the Project.
9. Improvements to Public Streets	Chapter 16.26B.3600 – Improvements to Public Streets	Exemption requested from Chapter 16.26B.3600 improvements to public streets. Applicant is seeking exemption to underground overhead utilities and other improvements to adjacent public streets.	An exemption from the requirements of Chapter 16.26B.300 will advance the affordability objectives of the Project.

IV ALTERNATIVES TO THE PROPOSED ACTION

IV. ALTERNATIVES TO THE PROPOSED ACTION

The applicant, Catholic Charities Housing Development Corporation (CCHDC), has considered a variety of alternatives for accommodating the proposed Project.

A. PREFERRED ALTERNATIVE

The proposed Project, outlined in Chapter I, Project Overview, represents the preferred alternative. The preferred alternative involves the construction of 178 affordable rental housing units and one (1) resident manager's unit. The units will provide housing for families earning up to 60 percent of the County's Area Median Income (AMI). A park, parking, and related improvements are also proposed. The preferred alternative provides affordable family rental units to meet the growing demand for affordable housing.

B. NO ACTION ALTERNATIVE

The proposed Project will provide much needed affordable family housing in Central Maui. The no action alternative would involve the continued underutilization of lands identified for "Urban" use in the heart of Kahului and would not meet the growing housing needs for the local population. As such, the no action alternative was rejected.

C. DEFERRED ACTION ALTERNATIVE

Similar to the no action alternative, the deferred action alternative does not address the affordable housing needs of Maui County, which will continue to be exacerbated if new housing supply is not provided in response to the growing demand. For this reason, the deferred action alternative was not deemed appropriate.

D. DESIGN ALTERNATIVE

Various site design alternatives were considered by CCHDC in the early stages of planning and design for the Project. Previous alternatives considered a different mix of one- and two-bedroom units. However, based on feedback from Hale Mahaolu, the property manager, the unit mix presented in the preferred alternative was determined to be the optimum mix of one- and two-bedroom units to meet community needs.

The original design and layout were presented to the community during the public meetings held on October 5 and October 7, 2020. Based on feedback from attendees, the architect made revisions to increase the setback of one of the buildings that would be adjacent to the residential area on West Alehela Street. This will serve to provide more privacy to existing homeowners and allow a greater buffer between the Project and the single-family homes. Further, the developer and architect switched the layout of the buildings so that the Resident Manager unit would be situated at the entrance of the

property site off of Kaulawahine Street. This will help to increase the safety and security of all residents.

V

SUMMARY OF UNAVOIDABLE IMPACTS AND COMMITMENTS OF RESOURCES

V. SUMMARY OF UNAVOIDABLE IMPACTS AND COMMITMENTS OF RESOURCES

The development of the Project will result in certain unavoidable construction-related environmental impacts as outlined in Chapter II.

In the short term, construction associated with the proposed development will generate noise impacts. These impacts will be limited to the immediate vicinity of the Project construction areas. Sound attenuating construction equipment will be used, where practicable, to mitigate noise impacts caused by construction.

Unavoidable air quality impacts will also arise as a result of construction activities, such as the generation of dust and other airborne pollutants. Appropriate Best Management Practices (BMPs) will be incorporated in the construction process to mitigate adverse impacts, including frequent watering of exposed surfaces and regular maintenance of construction equipment to minimize construction-related impacts. Temporary BMPs, such as silts fences, storm drain inlet protection, sediment traps, berms, and soil stabilization that conform to the approved Erosion and Sediment Control Plans, will also be utilized. Compliance to all applicable regulations as it relates to removal and transport of any hazardous materials or waste will be followed. Personal protective equipment will be required for those authorized to access the construction site. Employment of BMPs, required as conditions of the National Pollutant Discharge Elimination System (NPDES), will be followed.

The Project will commit approximately 4.865 acres of vacant land designated for “Urban” use to affordable family housing. The proposed Project will provide housing for 178 affordable family households in an area that is previously undeveloped. Infrastructure improvements required to service the proposed Project will be provided by the Applicant, Catholic Charities Housing Development Corporation. Drainage improvements have been designed to fully retain the increase in runoff generated by the Project. A Traffic Impact Assessment Report has also been prepared for the Project and determined that Levels of Service at study intersections will not be significantly impacted by the Project. Furthermore, due to the presence of sand deposits within the Project area, archaeological monitoring is proposed for project-related ground disturbing activities. CCHDC will continue to consult with the SHPD and implement agreed upon mitigation measures.

Construction of the proposed Project, as with all development proposals, will result in unavoidable environmental impacts in the form of changes to existing landforms related to ground-altering construction activities. These impacts, in consideration of the Project’s benefits in providing needed affordable housing, are not considered significant.

Development of the proposed Project will also involve a commitment of energy, labor, fiscal, and material resources. The use of these resources, when weighed against the expected benefit to be derived from the Project, is not considered an adverse commitment.

SIGNIFICANCE CRITERIA ASSESSMENT

VI

VI. SIGNIFICANCE CRITERIA ASSESSMENT

The "Significance Criteria", Section 13 of the Administrative Rules, Title 11, Chapter 200.1, "Environmental Impact Statement Rules", were reviewed and analyzed to determine whether the proposed Project will have significant impacts to the environment. The following criteria and preliminary analysis are provided.

1. Irrevocably commit a natural, cultural, or historic resource.

The proposed Project commits approximately 4.865 acres of vacant land designated for "Urban" use for affordable housing. There are no endangered species or critical habitats in the Project area. Consultation has been initiated with the State Historic Preservation Division (SHPD) pursuant to Chapter 6E, HRS. An archaeological inventory survey previously conducted for the property did not identify any historic properties onsite. No significant impacts to historic or cultural resources are anticipated as a result of the proposed Project. Due to the presence of sand deposits within the Project area, archaeological monitoring is proposed for project-related ground disturbing activities. CCHDC will continue to consult with the SHPD and implement agreed upon mitigation measures. The Cultural Impact Assessment concluded that no adverse impacts to cultural resources are anticipated as a result of the Project.

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

The proposed Project will not curtail the range of beneficial uses of the environment. Best Management Practices (BMPs) have been identified and will be implemented to minimize any construction-related impacts. The Project will provide much needed affordable housing in Central Maui.

3. Conflicts with the State's environmental policies or long-term environmental goals established by law.

The proposed Project does not conflict with the State's long-term environmental goals.

4. Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community or State.

On a short term basis, the Project will support construction and construction-related employment and have a beneficial impact on the local economy during the period of construction. From a long term perspective, the Project will provide much needed affordable rental housing for families earning less than 60 percent of the Area Median Income (AMI). Therefore, implementation of the proposed action will be beneficial to the overall social welfare of the residents in the Central Maui area.

5. Have a substantial adverse effect on public health.

The proposed Project is not anticipated to have any significant adverse impacts to public health.

6. Involves adverse secondary impacts, such as population changes or effects on public facilities.

The proposed Project will provide 178 affordable rental units for families in the existing urban core of Kahului. It is anticipated that the Project will serve to meet the documented shortage of housing for the existing population and projected population growth that would occur with or without the Project. The Project, in and of itself, is not a direct population generator.

The proposed Project will include provision of infrastructure to service the development, including appropriate water, wastewater, drainage, and traffic improvements. As such, substantial secondary impacts are not anticipated as a result of the proposed Project.

7. Involves a substantial degradation of environmental quality.

The Project is not anticipated to have a significant adverse impact upon the natural environment. During construction, recommended BMPs will be implemented for erosion and sedimentation control. Drainage system design will comply with the Rules for Design of Storm Drainage Facilities in the County of Maui dated July 1995. Other appropriate mitigation measures will be developed in consultation with the applicable governmental agencies during the Project design process.

8. Be individually limited but cumulatively have substantial adverse effect upon the environment or involves a commitment for larger actions.

The Hale Pilina Family Affordable Rental Housing Project is proposed in an urbanized area of Kahului. The proposed Project is not part of a larger action nor does it represent a commitment to such actions. Given the surrounding development and urban land uses, significant environmental impacts are not anticipated as a result of the Project. As such, no cumulative impacts are anticipated as a result of the proposed Project.

9. Have a substantial adverse effect on a rare, threatened, or endangered species, or its habitat.

There are no known significant habitats or rare, endangered, or threatened species of flora, fauna, and avifauna located within the Project site. Landscaping is proposed as part of the Project. Nevertheless, various mitigation measures recommended by the U.S. Fish

and Wildlife Service and State of Hawai‘i, Division of Forestry and Wildlife wil be implemented.

10. Have a substantial adverse effect on air or water quality or ambient noise levels.

Construction activities will result in short-term air quality and noise impacts. Dust control measures, such as regular watering and sprinkling, and installation of dust screens will be implemented to minimize wind-blown emissions. In the short term, noise impacts will occur primarily from construction equipment and measures to remove blue rock. Equipment mufflers or other noise attenuating equipment, as well as proper equipment and vehicle maintenance, will be used during construction activities. Construction noise impacts will be mitigated through compliance with the provisions of the State of Hawai‘i, Department of Health Administrative Rules Title 11, Chapter 46, “Community Noise Control”. These rules require a noise permit if the noise levels from construction activities are expected to exceed the allowable levels set forth in the Chapter 46 rules.

From a long term perspective, the proposed Project is not anticipated to significantly impact ambient air or noise quality in the region.

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

The subject property is located in Flood X (unshaded). This designation denotes an area of low flood risk and minimal flooding with no development restrictions. The subject property is located within the tsunami evacuation zone. Emergency and civil defense procedures to provide the necessary guidance to organize and direct operations at the facility in the event of an emergency or civil defense action, such as a tsunami, will be established. The Project site is not located within the 3.2 foot sea level rise exposure area.

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

The proposed Hale Pilina Family Affordable Rental Housing Project is not located in a designated scenic corridor and lies within an urbanized area of Maui. In the context of the surrounding urbanized and developed land uses, the proposed action is not anticipated to have a significant adverse impact upon the scenic and open space resources of the area.

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

The proposed Project will involve the commitment of fuel for construction equipment, vehicles, and machinery during construction and maintenance activities. Coordination

with Hawaiian Electric Company, Ltd. (HECO) will be undertaken during the electrical plans preparation phase of work to ensure all operational parameters are addressed for the proposed Project. The Project will incorporate energy saving, sustainable features, including the use of ENERGY STAR fixtures and appliances and the development of photovoltaic solar panels, if funding is available.

In the context of the GHG Reporting Program (25,000 metric tons of CO2 EQ), the relative effects GHG emissions (CO2 EQ) is not considered significant for this proposed Project.

In summary, the proposed Project will provide 178 units of much needed affordable family housing in Kahului. Based on the foregoing analysis, this Draft EA for the Project will be published in the Office of Environmental Quality Control's (OEQC) Environmental Notice as an Anticipated Finding of No Significant Impact (AFONSI).

LIST OF PERMITS AND APPROVALS

VII

VII. LIST OF PERMITS AND APPROVALS

The following list of permits and approvals are anticipated to be needed for Project implementation.

State of Hawai'i

1. Hawai'i Revised Statutes (HRS) Chapter 343 Environmental Assessment
2. National Pollutant Discharge Elimination System (NPDES) Permit, State of Hawai'i, Department of Health
3. Noise Permit, as applicable
4. HRS Chapter 6E Historic Review
5. Work within State Right-of-Way - State of Hawai'i, Department of Transportation
6. Use and Occupancy Agreement - State of Hawai'i, Department of Transportation
7. Stormwater Discharge Permit - State of Hawai'i, Department of Transportation

County of Maui

1. Maui County Code Chapter 2.97, Affordable Housing Approval
2. Building Permit – County of Maui, Development Services Administration (DSA)
3. Driveway Permit – County of Maui, DSA
4. Grading, Grubbing, and Stockpiling Permit – County of Maui, DSA
5. Trenching Permit – County of Maui, DSA
6. Work on County Highway Permit – County of Maui, DSA
7. Drainage and Plan Approval – County of Maui, DSA
8. Sewer Connection and Plan Approval – County of Maui, Wastewater Reclamation Division (WWRD)
9. Water Connection and Plan Approval – County of Maui, Department of Water Supply (DWS)

VIII

PARTIES CONSULTED DURING THE PREPARATION OF THE DRAFT ENVIRONMENTAL ASSESSMENT; LETTERS RECEIVED AND RESPONSES TO SUBSTANTIVE COMMENTS

VIII. PARTIES CONSULTED DURING THE PREPARATION OF THE DRAFT ENVIRONMENTAL ASSESSMENT; LETTERS RECEIVED AND RESPONSES TO SUBSTANTIVE COMMENTS

The following agencies were consulted during preparation of the Draft Environmental Assessment (EA). Agency comments and responses to substantive comments are included herein.

1. Kahana Stone, Soil Conservationist
Natural Resources Conservation Service
U.S. Department of Agriculture
77 Hookele Street, Suite 202
Kahului, Hawai'i 96732

2. Larry Yamamoto, State Conservationist
Natural Resources Conservation Service
U.S. Department of Agriculture
P.O. Box 50004
Honolulu, Hawai'i 96850-0001

3. Ryan Okahara, Field Office Director
U. S. Department of Housing and Urban Development
1132 Bishop Street, Suite 1400
Honolulu, Hawai'i 96813-4918

4. Michelle Bogardus, Island Team Leader
U. S. Fish and Wildlife Service
300 Ala Moana Blvd., Rm. 3-122
Honolulu, Hawai'i 96850

5. Major General Kenneth Hara, Adjutant General
Hawai'i State Civil Defense
3949 Diamond Head Road
Honolulu, Hawai'i 96816

6. Senator Gill Keith-Agaran
Hawai'i State Senate
Hawai'i State Capitol, Room 221
415 S. Beretania Street
Honolulu, Hawai'i 96813

7. Representative Justin Woodson
House of Representatives
Hawai'i State Capitol, Room 304
415 S. Beretania Street
Honolulu, Hawai'i 96813

8. Curt Otaguro, Comptroller
State of Hawai'i
Department of Accounting and General Services
1151 Punchbowl Street, #426
Honolulu, Hawai'i 96813

9. Denise Albano, Chair
State of Hawai'i
Department of Agriculture
1428 South King Street
Honolulu, Hawai'i 96814-2512

10. Mike McCartney, Director
State of Hawai'i
Department of Business, Economic Development & Tourism
P.O. Box 2359
Honolulu, Hawai'i 96804

11. Christine Kishimoto, Superintendent
State of Hawai'i
Department of Education
P.O. Box 2360
Honolulu, Hawai'i 96804

12. Heidi Meeker,
State of Hawai'i
Department of Education
Office of Business Services
3633 Waialae Avenue, Room C-209
Honolulu, Hawai'i 96816

13. William Aila, Jr., Interim Chair
State of Hawai'i
Department of Hawaiian Home Lands
P.O. Box 1879
Honolulu, Hawai'i 96805

14. Bruce Anderson PhD, Director
State of Hawai'i
Department of Health
1250 Punchbowl St., Room 325
Honolulu, Hawai'i 96813

15. Alec Wong P.E., Chief
State of Hawai'i
Department of Health
Clean Water Branch
Hale Ola, Room 225
2827 Waimano Home Road
Pearl City, Hawai'i 96782

16. State of Hawai'i
Department of Health
Environmental Health Administration
P.O. Box 3378
Honolulu, Hawai'i 96801

17. Mr. Lene Ichinotsubo
State of Hawai'i
Department of Health
Solid and Hazardous Waste Branch
2827 Waimano Road, Suite 100
Pearl City, Hawai'i 96782-1407

18. Patti Kitkowski, Director
State of Hawai'i
Department of Health
Maui Sanitation Branch
54 South High Street, Room 300
Wailuku, Hawai'i 96793

19. Keith Kawaoka, Acting Director
State of Hawai'i
Department of Health
Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, Hawai'i 96813

20. Suzanne Case, Chairperson
State of Hawai'i
Department of Land and Natural Resources
P. O. Box 621
Honolulu, Hawai'i 96809

21. **(VIA: DLNR.INTAKE.SHPD@HAWAII.GOV)**
Dr. Alan Downer, Administrator
State of Hawai'i
Department of Land and Natural Resources
State Historic Preservation Division
601 Kamokila Blvd., Room 555
Kapolei, Hawai'i 96707

22. Jade Butay, Director
State of Hawai'i
Department of Transportation
869 Punchbowl Street
Honolulu, Hawai'i 96813

23. Denise Iseri-Matsubara, Interim Executive Director
State of Hawai'i
Hawai'i Housing Finance and Development Corporation
677 Queen Street
Honolulu, Hawai'i 96813

24. Dr. Sylvia Hussey, Interim Chief Executive Officer
State of Hawai'i
Office of Hawaiian Affairs
560 N. Nimitz Highway, Suite 200
Honolulu, Hawai'i 96817

25. Mary Alice Evans, Director
State of Hawai'i
Office of Planning
P. O. Box 2359
Honolulu, Hawai'i 96804

26. Eric Nakagawa, Director
County of Maui
Department of Environmental Management
2050 Main Street, Suite 2B
Wailuku, Hawai'i 96793

27. Chief David Thyne, Chief
County of Maui
Department of Fire and Public Safety
200 Dairy Road
Kahului, Hawai'i 96732

28. Lori Tsuhako, Director
County of Maui
Department of Housing and Human Concerns
2200 Main Street, Suite 546
Wailuku, Hawai'i 96793

29. Karla Peters, Director
County of Maui
Department of Parks and Recreation
700 Halia Nakoa Street, Unit 2F
Wailuku, Hawai'i 96793

30. Michele Chouteau McLean, Director
County of Maui
Department of Planning
2200 Main Street, Suite 315
Wailuku, Hawai'i 96793

31. Rowena Dagdag-Andaya, Director
County of Maui
Department of Public Works
200 South High Street
Wailuku, Hawai'i 96793

32. Marc Takamori, Director
County of Maui
Department of Transportation
David Trask Building, Suite 102
2145 Kaohu Street
Wailuku, Hawai'i 96793

33. Jeffrey Pearson, Director
County of Maui
Department of Water Supply
200 South High Street, 5th Floor
Wailuku, Hawai'i 96793

34. JoAnn Inamasu, Director
County of Maui
Office of Economic Development
2200 Main Street, Suite 305
Wailuku, Hawai'i 96793

35. Mayor Michael Victorino
County of Maui
Office of the Mayor
200 South High Street
Wailuku, Hawai'i 96793

36. Chief Tivoli Faaumu
County of Maui
Police Department
55 Mahalani Street
Wailuku, Hawai'i 96793

37. Honorable Keani Rawlins-Fernandez,
Council Vice Chair
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793

38. Honorable Alice Lee, Council Chair
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793

39. Honorable Tasha Kama
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793

40. Honorable Riki Hokama
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793

41. Honorable Kelly King
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793

42. Honorable Mike Molina
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793

43. Honorable Tamara Paltin
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793

44. Honorable Shane Sinenci
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793

45. Honorable Yuki Lei Sugimura
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793

46. Debbie Cabebe, Chief Executive Officer
Maui Economic Opportunity
99 Mahalani Street
Wailkuku, Hawai'i 96793

47. Hawaiian Telecom
60 South Church St
Wailuku, Hawai'i 96793

48. Michael Grider, Manager, Engineering
Maui Electric Company, Ltd.
P.O. Box 398
Kahului, Hawai'i 96733

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:
01EPIF00-2020-TA-0400

July 27, 2020

Ms. Kari Luna Nunokawa
Senior Manager
Munekiyo Hiraga
305 High Street, Suite 04
Wailuku, Hawaii 96793

Subject: Technical Assistance for the Proposed Kahului Lani Family Affordable Housing Project, Kahului, Maui

Dear Ms. Nunokawa,

The U.S. Fish and Wildlife Service (Service) received your letter on July 20, 2020, requesting comments on the proposed Kahului Lani Family Affordable Housing Project in Kahului, Maui. The project is comprised of approximately 180 units and will be developed on 4.865 acres of land at TMK (2)3-7-013:026. The proposed project will include the development of four three-story residential buildings in two phases, onsite parking stalls, a park, and related improvements. This letter has been prepared under the authority of, and in accordance with, provisions of the Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq.*) as amended (ESA).

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 following federally listed species may occur or transit through the vicinity of the proposed project area: the endangered Hawaiian hoary bat *(Lasiurus cinereus semotus)*, Blackburn's sphinx month (*Manduca blackburni*), Hawaiian petrel (*Pterodroma sandwichensis*), band-rumped storm-petrel (*Oceanodroma castro*), and the federally threatened Newell's shearwater (*Puffinus auricularis newlii)* and Hawaiian goose (*Branta sandvicensis*). The Hawaiian petrel, band-rump storm-petrel, and Newell's shearwater will hereafter collectively be referred to as "Hawaiian seabirds".

Hawaiian hoary bat

The Hawaiian hoary bat roosts in both exotic and native woody vegetation across all islands and will leave young unattended in trees and shrubs when they forage. If trees or shrubs 15 feet (ft.) or taller are cleared during the pupping season, there is a risk that young bats could inadvertently

be harmed or killed since they are too young to fly or may not move away. Additionally, Hawaiian hoary bats forage for insects from as low as 3 ft. to higher than 500 ft. above the ground and can become entangled in barbed wire used for fencing.

To avoid and minimize impacts to the endangered Hawaiian hoary bat we recommend you incorporate the following applicable measures into your project description:

- Do not disturb, remove, or trim woody plants greater than 15 ft. tall during the bat birthing and pup-rearing season (June 1 through September 15).
- Do not use barbed wire for fencing.

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 avoid and minimize potential project impacts to seabirds we recommend you incorporate the following applicable measures into your project plan:

- Fully shield all outdoor lights so the bulb can only be seen from below bulb height and only use when necessary.
- Install automatic motion sensor switches and timer 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.

Hawaiian goose

Hawaiian geese are predominately found on the islands of Hawaii, Maui, Molokai, and Kauai. They may be observed in a variety of habitats, but prefer open areas, such as pastures, golf courses, wetlands, natural grasslands and shrublands, and lava flows. Threats to the species include introduced mammalian and avian predators, wind facilities, and vehicle strikes.

To avoid and minimize potential project impacts to Hawaiian geese we recommend you incorporate the following applicable measures into your project plan:

- Do not approach, feed, or disturb Hawaiian geese.
- If Hawaiian geese are observed loafing or foraging within the project area during the breeding season (September through April), halt work and have a biologist familiar with the nesting behavior of Hawaiian geese survey for nests in and around the project area

prior to the resumption of any work. Repeat surveys after any subsequent delay of work of 3 or more days (during which the birds may attempt to nest).

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

Blackburn's sphinx moth

The Blackburn's sphinx moth is known from the islands of Hawaii, Maui, Lanai, and Kahoolawe, and may be in the vicinity of any proposed project on these islands if host plants are present. Adult moths feed on nectar from native plants, including beach morning glory (*Ipomoea pes-caprae*), iliee (*Plumbago zeylanica*), and maiapilo (*Capparis sandwichiana*); while larvae feed upon non-native tree tobacco (Nicotiana glauca) and native aiea (Nothocestrum sp.). Moth eggs and larvae are most commonly found feeding on the leaves of native aiea and non-naïve tree tabacco. To pupate, the larvae burrow into the soil and can remain in a state of torpor for a year or more before emerging from the soil. Soi disturbance can result in death of the pupae.

We offer the following survey recommendations to assess whether the Blackburn's sphinx moth is within the project area:

- A biologist familiar with the species should survey areas of proposed activities for the Blackburn's sphinx moth and its larval host plants prior to work initiation.
- Surveys should be conducted during the wettest portion of the year (usually November – April or several weeks after a significant rain) and within 4-6 weeks prior to construction.
- Surveys should include searches for eggs, larvae, and signs of larval feeding (chewed stems, frass, or leaf damage).
- If moths or the native aiea or tree tobacco over 3 feet tall are found during the survey, please contact the Service for additional guidance to avoid take.

If no Blackburn's sphinx moth, aiea, or tree tobacco are found during pre-construction surveys, it is imperative that measures be taken to avoid attraction of Blackburn's sphinx moth to the project location and prohibit tree tobacco from entering the site. Tree tobacco can grow greater than 3 feet tall in approximately 6 weeks. If it grows over 3 feet, the plants may become a host for the Blackburn's sphinx moth.

We therefore recommend that you:

- Remove any tree tobacco less than 3 feet tall.
- Monitor the site every 4-6 weeks for new tree tobacco growth before, during, and after the proposed ground-disturbing activity.
- Monitoring for tree tobacco can be completed by any staff, such as a groundskeeper or regular maintenance crew, provided with picture placards of tree tobacco at different life stages.

Measures to Avoid the Spread of Invasive Species

All activities, including site surveys, risk introduction of nonnative species into project areas. Specific attention needs to be made to ensure that all equipment, personnel, and supplies are properly checked and are free of contamination (weed seeds, organic matter, or other contaminants) before entering project areas. Quarantines and/or management activities occurring on specific priority invasive species proximal to project areas need to be considered or adequately addressed. Where possible, we recommend the use of native species in landscaping design.

If this potential project should receive federal funding, federal permits, or any federal authorization, it will require a Section 7 consultation with the Service. The Service only conducts Section 7 consultations with the federal action agency or their designated representative. If there is no federal action agency, but take of listed species cannot be avoided, further coordination with us pursuant to compliance with the ESA is necessary.

Thank you for participating with us in the protection of our endangered species. If you have any further questions or concerns regarding this consultation, please contact Christina Richards, Fish and Wildlife Biologist, 808-792-9450, email: christina_richards@fws.gov. When referring to this project, please include this reference number: 01EPIF00-2020-TA-0400.

Sincerely,

Michelle Bogardus
Island Team Manager
Maui Nui and Hawaii Island

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:
01EPIF00-2020-TA-0439

August 19, 2020

Kari Luna Nunokawa
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Subject: Technical Assistance for the Kahului Lani Affordable Housing Project, Kahului, Maui

Dear Ms. Nunokawa,

The U.S. Fish and Wildlife Service (Service) received your correspondence on July 20, 2020, on behalf of Catholic Charities Housing Development Corporation, requesting comment on the proposed development of the Kahului Lani Family Affordable Housing project. The proposed project will include the development of four, three-story residential buildings in two phases, on-site parking stalls, a park, and related improvements. The proposed project will provide a total of 180 affordable housing units, including one-bedroom and two-bedroom units for rent at 60 percent below the Area Median Income (AMI).

The Kahului Lani Family Affordable Housing project will be developed on 4.865-acres of land identified as TMK (2) 3-7-013:026. The subject property is located on Puunene Avenue with South Kaulawahine Street bordering the property to the west in the Kahului urban core. The project site is designated "Urban" by the State Land Use Commission, "Park" by the Wailuku Kahului Community Plan, and "Public/Quasi-Public" by Maui County Zoning. Currently, the site consists of mostly disturbed habitats with bare ground and grasses, and a few trees surrounding a partially fenced area.

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 following federally listed species may occur or transit through the vicinity of the proposed project area: the endangered Blackburn's sphinx moth (*Manduca blackburni*), Hawaiian petrel (*Pterodroma sandwichensis*), band-rump storm-petrel (*Oceanodroma castro),* Hawaiian stilt (*Himantopus mexicanus*), Hawaiian coot (*Fulica alai*), Hawaiian hoary bat (*Lasiurus cinereus semotus*), and the threatened Newell's shearwater (*Puffinus auricularis newelli*) and Hawaii goose (*Branta sandvicensis*). The Hawaiian petrel, band-rump storm-petrel, and Newell's shearwater will hereafter collectively be referred to as "Hawaiian seabirds". The Hawaiian stilt and coot will hereafter collectively be referred to as "Hawaiian waterbirds." Kahana Pond (just

over 500 m east northeast) and Kahana Beach (approximately 2.3 km east northeast) are both designated critical habitat units for Blackburn's sphinx moth (*Manduca blackburni*) (USFWS 2003).

The Service offers the following comments to assist you in your planning process so that impacts to trust resources can be avoided through site preparation and construction. This letter has been prepared under the authority of, and in accordance with, provisions of the Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq.*) as amended (ESA).

Blackburn's sphinx moth
The Blackburn's sphinx moth is known from the islands of Hawaii, Maui, Lanai, and Kahoolawe, and may be in the vicinity of any proposed project on these islands if host plants are present. Our records indicate this species has been detected on the nearby Kahului Airport property in the past. Adult moths feed on nectar from native plants, including beach morning glory (*Ipomoea pes-caprae*), iliee (*Plumbago zeylanica*), and maiapilo (*Capparis sandwichiana*); while larvae feed upon non-native tree tobacco (*Nicotiana glauca*) and native aiea (*Nothocestrum* sp.). Moth eggs and larvae are most commonly found feeding on the leaves of native aiea and non-native tree tobacco. To pupate, the larvae burrow into the soil and can remain in a state of torpor for a year or more before emerging from the soil. Soil disturbance can result in death of the pupae.

We offer the following survey recommendations to assess whether the Blackburn's sphinx moth is within the project area:

- A biologist familiar with the species should survey areas of proposed activities for Blackburn's sphinx moth and its larval host plants prior to work initiation.
- Surveys should be conducted during the wettest portion of the year (usually November-April or several weeks after a significant rain) and within 4-6 weeks prior to construction.
- Surveys should include searches for eggs, larvae, and signs of larval feeding (chewed stems, frass, or leaf damage).
- If moths or the native aiea or tree tobacco over 3 feet tall are found during the survey, please contact the Service for additional guidance to avoid take.

If no Blackburn's sphinx moth, aiea, or tree tobacco are found during pre-construction surveys, it is imperative that measures be taken to avoid attraction of Blackburn's sphinx moth to the project location and prohibit tree tobacco from entering the site. Tree tobacco can grow greater than 3 feet tall in approximately 6 weeks. If it grows over 3 feet, the plants may become a host plant for Blackburn's sphinx moth.

We therefore recommend that you:

- Remove any tree tobacco less than 3 feet tall.
- Monitor the site every 4-6 weeks for new tree tobacco growth before, during, and after the proposed ground-disturbing activity.

- Monitoring for tree tobacco can be completed by any staff, such as a groundskeeper or regular maintenance crew, provided with picture placards of tree tobacco at different life stages.

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 avoid and minimize potential project impacts to seabirds we recommend you incorporate the following applicable measures into your project plan:

- Fully shield all outdoor lights so the bulb can only be seen from below bulb height and only use when necessary.
- Install automatic motion sensor switches and time 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.

Hawaiian goose
Hawaiian geese are predominately found on the islands of Hawaii, Maui, Molokai, and Kauai. They may be observed in a variety of habitats, but prefer open areas, such as pastures, golf courses, wetlands, natural grasslands and shrublands, and lava flows. Threats to the species include introduced mammalian and avian predators, wind facilities, and vehicle strikes.

To avoid and minimize potential project impacts to Hawaiian geese we recommend you incorporate the following applicable measures into your project plan:

- Do not approach, feed, or disturb Hawaiian geese.
- If Hawaiian geese are observed loafing or foraging within the project area during the breeding season (September through April), halt work and have a biologist familiar with the nesting behavior of Hawaiian geese survey for nests in and around the project area prior to the resumption of any work. Repeat surveys after any subsequent delay of work of 3 or more days (during which the birds may attempt to nest).
- Cease all work immediately and contact the Service for further guidance if a nest is discovered within a radius of 150 feet of proposed work, or a previously undiscovered nest is found within said radius after work begins.
- In areas where Hawaiian geese are known to be present, post and implement reduced speed limits, and inform project personnel and contractors about the presence of threatened species on-site.

- Hawaiian geese are likely to be attracted to landscaped areas and watered grass, even within developed areas. We encourage you to consider landscaping that reduces the attractiveness of the development to Hawaiian geese.

Hawaiian waterbirds

Listed Hawaiian waterbirds are found in fresh and brackish-water marshes and natural or man-made ponds. Nearby Kanaha Pond supports Hawaiian stilt (*Himantopus mexicanus*) and Hawaiian coot (*Fulica alai*). Stilts are also known to use the mouth of Kalialinui Stream near where it reaches the ocean just West of Kahana Beach, also about 280 m north of the nearest proposed project activities. Hawaiian stilts may also be found wherever ephemeral or persistent standing water may occur. Threats to these species include non-native predators, habitat loss, and habitat degradation. Hawaiian ducks are also subject to threats from hybridization with introduced mallards.

If your project will create, either purposefully or inadvertently, any kind of temporary or permanent standing water, including excavation or grading for construction or roadwork, then it may attract Hawaiian waterbirds to the site. In particular, the Hawaiian stilt is known to nest in sub-optimal locations (e.g. any ponding water), if water is present. Hawaiian waterbirds attracted to sub-optimal habitat may suffer adverse impacts, such as predation and reduced reproductive success, and thus the project may create an attractive nuisance.

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

- In areas where waterbirds are known to be present, post and implement reduced speed limits, and inform project personnel and contractors about the presence of endangered species on-site or nearby.
- If water resources are to be located within or adjacent to the project site, incorporate the applicable best management practices (BMPs, see enclosure) regarding work in aquatic environments into the project design.
- Have a biological monitor that is familiar with the species' biology conduct Hawaiian waterbird nest surveys where appropriate habitat occurs within the vicinity of the proposed project site prior to project initiation. Repeat surveys again within 3 days of project initiation and after any subsequent delay of work of 3 or more days (during which the birds may attempt to nest).

If a nest or active brood is found:

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

Hawaiian hoary bat
The Hawaiian hoary bat roosts in both exotic and native woody vegetation across all islands and will leave young unattended in trees and shrubs when they forage. If trees or shrubs 15 feet or taller are cleared during the pupping season, there is a risk that young bats could inadvertently be harmed or killed since they are too young to fly or may not move away. Additionally, Hawaiian hoary bats forage for insects from as low as 3 feet to higher than 500 feet above the ground and can become entangled in barbed wire used for fencing.

To avoid and minimize impacts to the endangered Hawaiian hoary bat we recommend you incorporate the following applicable measures into your project plan:

- 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).
- Do not use barbed wire for fencing.

Other Measures to Reduce Mortality of Listed Animal Species
Additional measures common to all listed animal species that will reduce mortality or predation include the following:

- Post and enforce low speed limits to reduce vehicle collisions with wildlife.
- Require all pets, including cats and dogs, to be on leash at all times outside.
- Require garbage cans with lids to reduce populations of rats and mongoose, which are invasive species and prey upon native and endangered species.
- Provide signage instructing residents and visitors to avoid approaching, feeding, or disturbing wildlife.

Measures to Avoid the Spread of Invasive Species
All activities, including site surveys, risk introduction of nonnative species into project areas. Specific attention needs to be made to ensure that all equipment, personnel, and supplies are properly checked and are free of contamination (weed seeds, organic matter, or other contaminants) before entering project areas. Quarantines and/or management activities occurring on specific priority invasive species proximal to project areas need to be considered or adequately addressed.

Compliance with the ESA
If this potential project should receive federal funding, federal permits, or any federal authorization, it will require a Section 7 consultation with the Service. The Service only conducts Section 7 consultations with the federal action agency or their designated representative. If there is no federal action agency, but take of listed species cannot be fully avoided, further coordination with us pursuant to ESA compliance is necessary.

Thank you for participating with us in the protection of our endangered species. If you have any further questions or concerns regarding this consultation, please contact Melissa Cady, Fish and Wildlife Biologist, 808-933-6963, email: melissa_cady@fws.gov. When referring to this project, please include this reference number: 01EPIF00-2020-TA-0439.

Sincerely,

Michelle Bogardus
Island Team Manager
Maui Nui and Hawaii Island

Enclosure: Recommended Standard Water Quality Best Management Practices

Literature Cited

USFWS. 2003. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Blackburn's Sphinx Moth. Federal Register 68(111): 34710- 34766.

Recommended Standard Water Quality Best Management Practices

The U.S. Fish and Wildlife Service recommends that the measures below be incorporated into projects to minimize the degradation of water quality and minimize the impacts to fish and wildlife resources.

1. Turbidity and siltation from project-related work shall be minimized and contained within the vicinity of the site through the appropriate use of effective silt containment devices and the curtailment of work during adverse tidal and weather conditions.

2. Dredging/filling in the marine environment shall be scheduled to avoid coral spawning and recruitment periods and sea turtle nesting and hatching periods.

3. Dredging and filling in the marine/aquatic environment shall be designed to avoid or minimize the loss special aquatic site habitat (beaches, coral reefs, wetlands, etc.) and the function of such habitat shall be replaced.

4. All project-related materials and equipment (dredges, barges, backhoes, etc.) to be placed in the water shall be cleaned of pollutants prior to use.

5. No project-related materials (fill, revetment rock, pipe, etc.) should be stockpiled in the water (intertidal zones, reef flats, stream channels, wetlands, etc.) or on beach habitats.

6. All debris removed from the marine/aquatic environment shall be disposed of at an approved upland or ocean dumping site.

7. No contamination (trash or debris disposal, non-native species introductions, attraction of non-native pests, etc.) of adjacent habitats (reef flats, channels, open ocean, stream channels, wetlands, beaches, forests, etc.) shall result from project-related activities. This shall be accomplished by implementing a litter-control plan and developing a Hazard Analysis and Critical Control Point Plan (HACCP – see http://www.haccp-nrm.org/Wizard/default.asp) to prevent attraction and introduction of non-native species.

8. Fueling of project-related vehicles and equipment should take place away from the water and a contingency plan to control petroleum products accidentally spilled during the project shall be developed. Absorbent pads and containment booms shall be stored on-site, if appropriate, to facilitate the clean-up of accidental petroleum releases.

9. Any under-layer fills used in the project shall be protected from erosion with stones (or core-loc units) as soon after placement as practicable.

10. Any soil exposed near water as part of the project shall be protected from erosion (with plastic sheeting, filter fabric etc.) after exposure and stabilized as soon as practicable (with native or non-invasive vegetation matting, hydroseeding, etc.).

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CHAIRMAN
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PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

November 16, 2020

Michelle Bogardus, Island Team Leader
U. S. Fish and Wildlife Service
300 Ala Moana Blvd., Rm. 3-122
Honolulu, Hawai'i 96850

SUBJECT: Hale Pilina Family Affordable Rental Housing Project located at TMK (2)3-7-013:026, Kahului, Maui, Hawai'i (01EPIF00-2020-TA-0400 and 01EPIF00-2020-TA-0439)

Dear Ms. Bogardus:

Thank you for your letters dated July 27, 2020 and August 19, 2020, responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the proposed Hale Pilina Family Affordable Rental Housing Project (formerly referred to as Kahului Lani Family Affordable Housing project). Pursuant to our subsequent conversation, we understand that the August 19, 2020 letter represents the U.S. Fish and Wildlife Service's comments and replaces the July 27, 2020 letter. On behalf of Catholic Charities Housing Development Corporation (CCHDC), we thank you for the information provided about federally listed species that may occur or transit through the proposed project and offer the following information in response to the comments noted in your August 19, 2020 letter.

Blackburn's sphinx moth

A Botanical and Fauna Survey was conducted for the project by Environmental Consultant Robert W. Hobdy. The Blackburn's sphinx moth and its native and nonnative host plants were not identified within the project site. As recommended, a survey of Blackburn's sphinx moth and its host plants will be conducted within four (4) to six (6) weeks prior to construction. Mitigation measures noted in your letter will be implemented, as appropriate.

Hawaiian seabirds:

Thank you for your information regarding the Hawaiian seabirds that may traverse the project site. Outdoor lighting installed at the project site will be fully shielded and downward facing. Automatic motion sensor switches and time controls will be installed, where appropriate, while maintaining minimum lighting levels required for safety and

security. Nighttime construction is not anticipated to be utilized for the project. However, should nighttime construction be required, nighttime work will be avoided during the seabird fledging period, September 15 through December 15.

Hawaiian goose:

Thank you for the information regarding the Hawaiian goose. The Botanical and Fauna Survey did not identify any Hawaiian geese present at the site. Should the Hawaiian geese be observed at the project site, the mitigation and protection measures noted in your letter will be implemented.

Hawaiian waterbirds

The Botanical and Fauna survey did not identify listed Hawaiian waterbirds within the project site. However, we understand that these birds are found at the nearby Kanaha Pond. Mitigation measures pertaining to Hawaiian waterbirds will be implemented, as applicable.

Hawaiian hoary bat:

Thank you for your information regarding the Hawaiian hoary bat. The Botanical and Fauna Survey conducted for the project made a special effort to look for any evidence of the Hawaiian hoary bat through several methods. The first method included an observation during evening hours, when the Hawaiian hoary bat is most active. No evidence was found of any activity or presence. The second method consisted of utilizing a bat detection device (Batbox IIID) set to 27,000 hertz, the same frequency the Hawaiian hoary bat uses for echolocation when searching for nocturnal flying insect prey. Again, no bats were detected. As recommended, woody plants greater than 15 feet tall will not be disturbed, removed, or trimmed during the bat birthing and pup rearing season (June 1 to September 15). In addition, barbed wire fencing is not proposed for use.

Other mitigation measures:

As recommended, other mitigation measures to reduce the mortality of listed animal species and avoid the spread of invasive species will be implemented.

Thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

Kari Luna Nunokawa, Ed.D.
Senior Manager

KLN:tn
cc: Buddy Almeida, Department of Housing and Human Concerns
Rick Stack, Catholic Charities Housing Development Corporation
Gary Furuta, GSF, LLC
Jeff Furuta, GSF, LLC
Andrew Furuta, GSF, LLC
Robert Hobdy
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AUG - 6 2020

DAVID Y. IGE
GOVERNOR

CURT T. OTAGURO
COMPTROLLER

AUDREY HIDANO
DEPUTY COMPTROLLER

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

(P)20.122

JUL 24 2020

Ms. Kari Luna Nunokawa
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Maui, Hawaii 96793

Dear Ms. Nunokawa:

Subject: Early Consultation for
Proposed Kahului Lani Family Affordable Housing Project
TMK: (2)3-7-013: 026
Kahului, Maui, Hawaii

Thank you for the opportunity to comment on the subject project. We concur with the project but have no comments to offer at this time. The Department of Accounting and General Services is currently working with the Hawaii Finance and Development Corporation on the future Kahului Civic Center, which is in close proximity to the subject project. Therefore, we request to be informed of any progress and review of future developments.

If you have any questions, you may call Ms. Dora Choy of the Planning Branch at 586-0488.

Sincerely,

CHRISTINE L. KINIMAKA
Public Works Administrator

DC:mo
c: Mr. Wade Shimabukuro, DAGS-MDO

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CHAIRMAN
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VICE PRESIDENT

November 16, 2020

Christine Kinimaka, Public Works Administrator
State of Hawai'i
Department of Accounting and General Services
P.O. Box 119
Honolulu, Hawai'i 96810

SUBJECT: Hale Pilina Family Affordable Rental Housing Project located at TMK (2)3-7-013:026, Kahului, Maui, Hawai'i ((P)20.122)

Dear Ms. Kinimaka:

Thank you for your letter dated July 24, 2020 responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the proposed Hale Pilina Family Affordable Rental Housing Project (formerly referred to as Kahului Lani Family Affordable Housing project). On behalf of Catholic Charities Housing Development Corporation (CCHDC), we acknowledge that the State of Hawai'i, Department of Accounting and General Services has no comments at this time.

Thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

Kari Luna Nunokawa, Ed.D.
Senior Manager

KLN:tn
cc: Buddy Almeida, Department of Housing and Human Concerns
Rick Stack, Catholic Charities Housing Development Corporation
Gary Furuta, GSF, LLC
Jeff Furuta, GSF, LLC
Andrew Furuta, GSF, LLC
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DAVID Y. IGE
GOVERNOR

KENNETH S. HARA
MAJOR GENERAL
ADJUTANT GENERAL

STEPHEN F. LOGAN
COLONEL
DEPUTY ADJUTANT GENERAL

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

August 5, 2020

Munekiyo Hiraga
Attention: Ms. Kari Luna Nunokawa
305 High Street, Suite 104
Wailuku, Hawai'i 96793

Dear Ms. Nunokawa:

Subject: Request for Early Consultation for the Proposed Kahului Lani Family Affordable Housing Project at TMK (2)3-7-013:026, Kahului, Maui, Hawai'i

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

If you have any questions or concerns, please have your staff contact Mr. Wade Ishii, Acting Chief Engineering Officer at (808) 369-3484.

Sincerely,

STEPHEN F. LOGAN
Colonel
Acting Adjutant General

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CHAIRMAN
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Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

November 16, 2020

Stephen F. Logan, Colonel
Acting Adjutant General
State of Hawai'i, Department of Defense
Office of the Adjutant General
3949 Diamond Head Road
Honolulu, Hawai'i 96816-4495

SUBJECT: Hale Pilina Family Affordable Rental Housing Project located at TMK (2)3-7-013:026, Kahului, Maui, Hawai'i

Dear Colonel Logan:

Thank you for your letter dated August 5, 2020 responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the proposed Hale Pilina Family Affordable Rental Housing Project (formerly referred to as Kahului Lani Family Affordable Housing project). On behalf of Catholic Charities Housing Development Corporation (CCHDC), we acknowledge that the State of Hawai'i, Department of Defense has no comments at this time.

Thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

Kari'Luna Nunokawa, Ed.D.
Senior Manager

KLN:tn
cc: Buddy Almeida, Department of Housing and Human Concerns
Rick Stack, Catholic Charities Housing Development Corporation
Gary Furuta, GSF, LLC
Jeff Furuta, GSF, LLC
Andrew Furuta, GSF, LLC
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DAVID Y. IGE
GOVERNOR

DR. CHRISTINA M. KISHIMOTO
SUPERINTENDENT

STATE OF HAWAI'I
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAI'I 96804

OFFICE OF FACILITIES AND OPERATIONS

August 3, 2020

Kari Luna Nunokawa
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Re: Early Consultation Request for the preparation of a Draft Environmental Assessment for the Proposed Kahului Lani Family Affordable Housing Project Kahului, Maui, Hawaii TMK: 3-7-013:026

Dear Ms. Nunokawa:

The Hawaii State Department of Education (HIDOE) has the following early consultation comments in preparation of a Draft Environmental Assessment (DEA) for the proposed Kahului Lani Family Affordable Housing Project (Project). Catholic Charities Housing Development Corporation is proposing to develop approximately 180 rental units, targeting income groups up to 60 percent of Average Medium Income, in Kahului, Island of Maui, Hawaii TMK 3-7-013:026.

The proposed Project is located within the Central Maui School Impact Fee District with a fee amount of $2,371 for multi-family units. Chapter 302A-1606, Hawaii Revised Statutes, requires that residential development with 50 or more units execute an agreement with HIDOE before to the issuance of any building permit. This agreement sets forth how and when payments will occur. The developer is encouraged to meet with HIDOE early on to execute this agreement.

Schools servicing the proposed Project are Kahului Elementary, Maui Waena Intermediate, and Maui High. Enrollment at all three schools exceed facility capacity. This condition will continue over the next five years.

Thank you for the opportunity to comment. Should you have questions, please contact Robyn Loudermilk, Acting Land Use Planner, Facilities Development Branch, Planning Section, at (808) 784-5093 or by email at robyn.loudermilk@k12.hi.us.

Respectfully,

Kenneth G. Masden II
Public Works Manager
Planning Section

KGM:rll

c: Kathleen Dimino, Complex Area Superintendent, Baldwin/Keakulike/Maui Complex Area

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Tessa Munekiyo Ng
VICE PRESIDENT

November 16, 2020

Kenneth G. Masden II, Public Works Manager
State of Hawai'i
Department of Education
Office of Facilities and Operations
P.O. Box 2360
Honolulu, Hawai'i 96804

SUBJECT: Hale Pilina Family Affordable Rental Housing Project located at TMK (2)3-7-013:026, Kahului, Maui, Hawai'i

Dear Mr. Masden:

Thank you for your letter dated August 3, 2020 responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the proposed Hale Pilina Family Affordable Rental Housing Project (formerly referred to as Kahului Lani Family Affordable Housing project). On behalf of Catholic Charities Housing Development Corporation (CCHDC), we offer the following information in response to the comments noted in your letter.

1. Thank you for the information regarding the Central Maui School Impact Fee. CCHDC is aware of the school impact fee and will coordinate with the Hawai'i Department of Education prior to obtaining any building permit.

2. Thank you for the information regarding the existing and anticipated enrollment and capacity at Kahului Elementary School, Maui Waena Intermediate, and Maui High School. The Hale Pilina Family Affordable Rental Housing project will provide 178 affordable housing units, including 108 one-bedroom units and 70 two-bedroom units. With a majority of the units being one-bedroom units, it is anticipated that the tenant profile will consist of many individuals and two-person households without children. Future tenants of the Hale Pilina project are expected to be families currently living in the region and doubled up in households, unable to afford their own home. Nevertheless, we acknowledge that there will be school age children residing at the Hale Pilina project. To support schools within the district, CCHDC will coordinate with the Department regarding the school impact fee associated with the development.

Thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

Kari Luna Nunokawa, Ed.D.
Senior Manager

KLN:tn
cc: Buddy Almeida, Department of Housing and Human Concerns
Rick Stack, Catholic Charities Housing Development Corporation
Gary Furuta, GSF, LLC
Jeff Furuta, GSF, LLC
Andrew Furuta, GSF, LLC
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Solid and Hazardous Waste Branch
Standard Comments

November 26, 2018

The Solid and Hazardous Waste Branch administers programs in the areas of:

1) Management of hazardous waste;
2) Management of solid waste; and
3) Regulation of underground storage tanks.

Our general comments on projects are below. For further information about these programs, please contact the Solid and Hazardous Waste Branch at (808) 586-4226. All chapters of the Hawaii Revised Statutes (HRS) are at https://www.capitol.hawaii.gov/hrscurrent/.

Hazardous Waste Program

- The state regulations for hazardous waste and used oil are in chapters 11-260.1 to 11-279.1, Hawaii Administrative Rules (HAR) [http://health.hawaii.gov/shwb/hwrules/]. These rules apply to the identification, handling, transportation, storage and disposal of regulated hazardous waste and used oil. Generators, transporters and treatment, storage, and disposal facilities of hazardous waste and used oil must adhere to these requirements. Violations are subject to penalties under chapter 342J, HRS.

Solid Waste Section

- The Solid Waste Section (SWS) enforces laws and regulations contained in chapters 342H and 342I, HRS, and chapter 11-58.1, HAR, "Solid Waste Management Control" [http://health.hawaii.gov/shwb/solid-waste/].

- The purpose of the rules is to establish minimum standards governing the design, construction, installation, operation, and maintenance of solid waste disposal, recycling, reclamation and transfer systems.

- All facilities that accept solid wastes are required to obtain a solid waste management permit from the SWS. Examples of the types of facilities governed by these regulations include landfills, transfer stations and convenience centers, recycling facilities, composting facilities, and salvage facilities. Medical waste, infectious waste, and foreign waste treatment facilities are also included.

- Generators of solid waste are required to ensure that their wastes are properly delivered to permitted solid waste management facilities. Managers of construction and demolition projects should require their waste contractors to submit disposal receipts and invoices to ensure proper disposal of wastes.

For further information about these programs, please contact the Solid and Hazardous Waste Branch at (808) 586-4226.

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Solid and Hazardous Waste Branch Standard Comments

Office of Solid Waste Management

- The Office of Solid Waste Management (OSWM) administers statewide integrated solid waste management planning activities, which apply to the counties, as well as various recycling programs, e.g. the Glass Advance Disposal Fee (ADF) and Deposit Beverage Container (DBC) Programs. Management of the DBC Program is conducted pursuant to chapter 342G, HRS, which contains compliance and enforcement provisions, and chapter 11-282, HAR, "Deposit Beverage Recycling" [http://health.hawaii.gov/hi5/rules-regulations-additional-links/]. OSWM is also responsible for limited enforcement and compliance of solid waste management facilities that operate primarily as certified DBC redemption centers pursuant to chapter 342H, HRS, and chapter 11-58.1, HAR, "Solid Waste Management Control" [http://health.hawaii.gov/shwb/solid-waste/]. Authority for the integrated solid waste management planning and ADF programs is contained in chapter 342G, HRS.

- Glass Advance Disposal Fee Program: Businesses that import glass containers into Hawaii are required to register with the Department of Health and pay a 1.5 cent per container fee. Fee revenue is distributed to the counties for the operation of glass recycling programs.

- Deposit Beverage Container Program: Business that manufacture or import deposit beverage containers into Hawaii are required to register with the Department of Health and pay the five cent deposit and one cent container fee on each deposit container. Deposits and fees are deposited into a special fund and are used to reimburse DBC redemption center refunds paid to consumers; and to pay handling fees to redemption/recycling companies to process and recycle collected deposit beverage containers; and to pay program administrative costs.

- The Department of Health reimburses and pays an associated handling fee for the redemption of deposit beverage containers (DBC). These transactions are conducted only with certified redemption centers. Certification requires obtaining a solid waste management permit from the SWS (which addresses environmental issues) and a certification from the DBC program (which standardizes the redemption process).

- Chapter 342G, HRS, encourages the reduction of waste generation, reuse of discarded materials, and the recycling of solid waste. Businesses, property managers and developers, and government entities are highly encouraged to develop solid waste management plans to ensure proper handling of wastes and divert recyclables from being landfilled.

- Solid waste management plans seek to maximize waste diversion and minimize disposal. Such plans should include designated areas to promote the collection of reusable and recyclable materials.

For further information about these programs, please contact the Solid and Hazardous Waste Branch at (808) 586-4226.

Underground Storage Tank Program

- The state's underground storage tank (UST) regulations, found in chapter 11-280.1, HAR [http://health.hawaii.gov/shwb/underground-storage-tanks/], include specific requirements that UST owners and operators must meet when installing, operating, and permanently closing their UST systems and addressing releases from USTs. Violations are subject to penalties under chapter 11-280.1, HAR, and chapter 342L, HRS.

- A permit is required prior to the installation and operation of a UST. Any new UST system that will be installed must have secondary containment with interstitial monitoring. Refer to subchapters 2, 3, 4, and 12 of chapter 11-280.1, HAR. The installation permit expires 1 year from the date of issuance. The operation permit expires 5 years from the date of issuance.

- §11-280.1-50, HAR, requires owners and operators of USTs or tank systems to notify DOH within twenty-four (24) hours and follow the procedures in §11-280.1-52, HAR, if any of the following occur, with specific exceptions found in the rules:
  1) The discovery by any person of evidence of regulated substances which may have been released at the UST site or in the surrounding area (such as the presence of free product or vapors in soils, basements, sewer and utility lines, or nearby surface water);
  2) Unusual UST system operating conditions observed or experienced (such as the erratic behavior of product dispensing equipment, the sudden loss of product from the UST, or an unexplained presence of water in the tank); or
  3) Monitoring results from a release detection method required under §§11-280.1-41 or 11-280.1-42 indicate a release may have occurred.

- For release response actions, responsible parties and their consultants and contractors should follow the applicable guidance in the Department of Health Hazard Evaluation Emergency (HEER) Office Technical Guidance Manual, HEER Environmental Action Level (EAL) guidance, and other guidance documents on the DOH HEER Office website [http://eha-web.doh.hawaii.gov/eha-cma/Org/HEER/], including those pertaining to Multi-Increment Sampling of soil, low flow groundwater sampling, soil vapor sampling, and Environmental Hazard Evaluations (EHE)/Environmental Hazard Management Plans (EHMP).

For further information about these programs, please contact the Solid and Hazardous Waste Branch at (808) 586-4226.

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Michael T. Munekiyo
CHAIRMAN
Karlynn K. Fukuda
PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

November 16, 2020

Mr. Lene Ichinotsubo
State of Hawai'i
Department of Health
Solid and Hazardous Waste Branch
2827 Waimano Home Road, Suite 100
Pearl City, Hawai'i 96782-1407

SUBJECT: Hale Pilina Family Affordable Rental Housing Project located at TMK (2)3-7-013:026, Kahului, Maui, Hawai'i

Dear Mr. Ichinotsubo:

Thank you for providing the Solid and Hazardous Waste Branch Standard Comments dated July 25, 2020. We have reviewed the comments and have shared it with the Applicant. The Hale Pilina Family Affordable Rental Housing Project (formerly referred to as Kahului Lani Family Affordable Housing Project) will comply with applicable comments. Construction waste generated by the project will be disposed of at a permitted facility.

Thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

Kari Luna Nunokawa, Ed.D.
Senior Manager

KLN:tn
cc: Buddy Almeida, Department of Housing and Human Concerns
Rick Stack, Catholic Charities Housing Development Corporation
Gary Furuta, GSF, LLC
Jeff Furuta, GSF, LLC
Andrew Furuta, GSF, LLC
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AUG - 3 2020

DAVID Y. IGE
GOVERNOR OF HAWAII

BRUCE S. ANDERSON, Ph.D.
DIRECTOR OF HEALTH

LORRIN W. PANG, M.D., M.P.H.
DISTRICT HEALTH OFFICER

STATE OF HAWAII
DEPARTMENT OF HEALTH
MAUI DISTRICT HEALTH OFFICE
54 HIGH STREET
WAILUKU, HAWAII 96793-3378

July 29, 2020

Ms. Kari Luna Nunokawa
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Nunokawa:

Subject: Proposed Kahului Lani Affordable Housing
TMK: (2) 3-7-013:026
Kahului, Maui Hawaii

Thank you for the opportunity to review this project. We have the following comments to offer:

1. National Pollutant Discharge Elimination System (NPDES) permit coverage may be required for this project. The Clean Water Branch should be contacted at 808 586-4309.

2. The noise created during the construction phase of the project may exceed the maximum allowable levels as set forth in Hawaii Administrative Rules, Chapter 11-46, "Community Noise Control." A noise permit may be required and should be obtained before the commencement of work. Please call the Indoor & Radiological Health Branch at 808 586-4700.

3. Please address wastewater disposal method for proposed project. If you have any questions, please call Roland Tejano, Environmental Engineer, at 808 984-8232.

It is strongly recommended that you review the department's website at https://health.hawaii.gov/epo/files/2018/05/DOHEHA.LandUseContactList.20180502.pdf and contact the appropriate program that concerns your project.

Should you have any questions, please contact me at 808 984-8230 or email me at patricia.kitkowski@doh.hawaii.gov.

Sincerely,

Patti Kitkowski

Patti Kitkowski
District Environmental Health Program Chief

c Jonna Seto

MUNEKIYO HIRAGA
Planning. Project Management. Sustainable Solutions.

Michael T. Munekiyo
CHAIRMAN
Karlynn K. Fukuda
PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

November 16, 2020

Patti Kitkowski, District Environmental
Health Program Chief
State of Hawai'i
Department of Health
Maui Sanitation Branch
54 South High Street, Room 300
Wailuku, Hawai'i 96793

SUBJECT: Hale Pilina Family Affordable Rental Housing Project located at TMK (2)3-7-013:026, Kahului, Maui, Hawai'i

Dear Ms. Kitkowski:

Thank you for your letter dated July 29, 2020 responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the proposed Hale Pilina Family Affordable Rental Housing Project (formerly referred to as Kahului Lani Family Affordable Housing project). On behalf of Catholic Charities Housing Development Corporation (CCHDC), we offer the following information in response to the comments noted in your letter.

1. A National Pollutant Discharge Elimination System (NPDES) permit will be obtained prior to construction.

2. The project will comply with the maximum allowable noise levels as set forth in Hawai'i Administrative Rules, Chapter 11-46, "Community Noise Control". A noise permit will be obtained, if applicable, prior to commecment of construction.

3. A Preliminary Engineering Report (PER) has been prepared for the project and will be included in the Draft EA. The proposed project will connect to the County of Maui's wastewater system.

Thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

Kari Luna Nunokawa, Ed.D.
Senior Manager

KLN:tn
cc: Buddy Almeida, Department of Housing and Human Concerns
Rick Stack, Catholic Charities Housing Development Corporation
Gary Furuta, GSF, LLC
Jeff Furuta, GSF, LLC
Andrew Furuta, GSF, LLC
Chad McDonald, M&A Hawaii
K:\DATA\GSF\Kahului AH 2281\Applications\ECL\Response Letters\DOH Maui Response.doc

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

August 5, 2020

Munekiyo Hiraga
Attn: Ms. Kari Luna Nunokawa
305 High Street, Suite 104
Wailuku, Hawaii 96793

via email: kari@munekiyohiraga.com

Dear Nunokawa:

SUBJECT: Early Consultation for the Proposed Kahului Lani Family Affordable Housing Project located at Kahului, Island of Maui; TMK: (2) 3-7-013:026

Thank you for the opportunity to review and comment on the subject matter. The Land Division of the Department of Land and Natural Resources (DLNR) distributed or made available a copy of your request pertaining to the subject matter to DLNR's Divisions for their review and comments.

At this time, enclosed are comments from the (a) Engineering Division, (b) Division of Forestry & Wildlife, and (c) Land Division – Maui District on the subject matter. Should you have any questions, please feel free to contact Darlene Nakamura at (808) 587-0417 or email: darlene.k.nakamura@hawaii.gov. Thank you.

Sincerely,

Russell Tsuji

Russell Y. Tsuji
Land Administrator

Enclosures
cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

July 22, 2020

MEMORANDUM

TO: **DLNR Agencies:**
___Div. of Aquatic Resources
___Div. of Boating & Ocean Recreation
_X_Engineering Division (DLNR.ENGR@hawaii.gov)
_X_Div. of Forestry & Wildlife (rubyrosa.t.terrago@hawaii.gov)
___Div. of State Parks
_X_Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
___Office of Conservation & Coastal Lands
_X_Land Division – Maui District (daniel.l.ornellas@hawaii.gov)
_X_Historic Preservation (DLNR.Intake.SHPD@hawaii.gov)

FROM: Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: Request for Early Consultation for the Proposed Kahului Lani Family Affordable Housing Project
LOCATION: Kahului, Island of Maui; TMK: (2) 3-7-013:026
APPLICANT: Munekiyo Hiraga on behalf of Catholic Charities Housing Development Corporation

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit any comments by **August 4, 2020.**

If no response is received by the above date, we will assume your agency has no comments. Should you have any questions about this request, please contact Darlene Nakamura at darlene.k.nakamura@hawaii.gov. Thank you.

( ) We have no objections.
( ) We have no comments.
(☑) Comments are attached.

Signed: DGS
Print Name: DAVID G. SMITH, Administrator
Division: Division of Forestry and Wildlife
Date: Aug 4, 2020

Attachments
cc: Central Files

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET, ROOM 325
HONOLULU, HAWAII 96813

August 3, 2020

MEMORANDUM

Log *no. 2731*

TO: RUSSELL Y. TSUJI, Administrator
Land Division

FROM: DAVID G. SMITH, Administrator
Division of Forestry and Wildlife

SUBJECT: **Division of Forestry and Wildlife Comments for Early Consultation for the Proposed Kahului Lani Family Affordable Housing Project**

The Department of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW) has received your inquiry regarding review of the early consultation for the proposed Kahului Lani Family Affordable Housing Project in Kahului, Maui, TMK: (2) 3-7-013:026. The proposed project consists of constructing four three-story residential buildings with approximately 180 units, parking stalls and a park on 4.865 acres of previously undeveloped land.

The State listed Blackburn's Sphinx Moth (BSM; *Manduca blackburni*) has a historic range that encompasses the project area. Larvae of BSM feed on many nonnative hostplants that include tree tobacco (*Nicotiana glauca*) which grows in disturbed soil. We recommend contacting our Maui DOFAW office at (808) 984-8100 for further information about where BSM may be present and whether a vegetation survey should be conducted to determine the presence of plants preferred by BSM. To avoid harm to BSM, DOFAW recommends removing plants less than one meter in height or during the dry time of the year. If you remove tree tobacco over one meter in height or disturb the ground around or within several meters of these plants they must be checked thoroughly for the presence of eggs and larvae.

State listed waterbirds such as the Hawaiian Duck (*Anas wyvilliana*), Hawaiian Stilt (*Himantopus mexicanus knudseni*), Hawaiian Coot (*Fulica alai*) and Hawaiian Goose or Nēnē (*Branta sandvicensis*) have the potential to occur in the vicinity of the proposed project site. It is against State law to harm or harass these species. If any of these species are present during construction activities, then all activities within 100 feet (30 meters) should cease, and the bird should not be approached. Work may continue after the bird leaves the area of its own accord. If a nest is discovered at any point, please contact the Maui DOFAW office at the aforementioned number.

DOFAW is concerned about attracting vulnerable birds to areas that may host nonnative predators such as cats, rodents, and mongoose. Additionally, constructiom and improvements to the area are likely to increase the number of users and may generate more predator attractants. We recommend

taking action to minimize predator presence; remove cats, place bait stations for rodents and mongoose, and provide covered trash receptacles.

The State listed Hawaiian Hoary Bat or ʻŌpeʻapeʻa (*Lasiurus cinereus semotus*) has the potential to occur in the vicinity of the project area and may roost in nearby trees. If any site clearing is required this should be timed to avoid disturbance during the bat birthing and pup rearing season (June 1 through September 15). If this cannot be avoided, woody plants greater than 15 feet (4.6 meters) tall should not be disturbed, removed, or trimmed without consulting DOFAW.

DOFAW recommends minimizing the movement of plant or soil material between worksites, such as in fill. Soil and plant material may contain invasive fungal pathogens, vertebrate and invertebrate pests (e.g. Little Fire Ants), or invasive plant parts that could harm our native species and ecosystems. We recommend consulting the Maui Invasive Species Committee at (808) 573-6472 in planning, design, and construction of the project to learn of any high-risk invasive species in the area and ways to mitigate spread. All equipment, materials, and personnel should be cleaned of excess soil and debris to minimize the risk of spreading invasive species.

We note that artificial lighting can adversely impact seabirds that may pass through the area at night by causing disorientation. This disorientation can result in collision with manmade artifacts or grounding of birds. For nighttime lighting that might be required, DOFAW recommends that all lights be fully shielded to minimize impacts. Nighttime work that requires outdoor lighting should be avoided during the seabird fledging season from September 15 through December 15. This is the period when young seabirds take their maiden voyage to the open sea. For illustrations and guidance related to seabird-friendly light styles that also protect the dark, starry skies of Hawaiʻi please visit: https://dlnr.hawaii.gov/wildlife/files/2016/03/DOC439.pdf.

DOFAW recommends using native plant species for landscaping that are appropriate for the area (i.e. climate conditions are suitable for the plants to thrive, historically occurred there, etc.). Please do not plant invasive species. DOFAW recommends consulting the Hawaiʻi-Pacific Weed Risk Assessment website to determine the potential invasiveness of plants proposed for use in the project (https://sites.google.com/site/weedriskassessment/home). We recommend that you refer to www.plantpono.org for guidance on selection and evaluation for landscaping plants.

We appreciate your efforts to work with our office for the conservation of our native species. Should the scope of the project change significantly, or should it become apparent that threatened or endangered species may be impacted, please contact our staff as soon as possible. If you have any questions, please contact Lauren Taylor, Protected Species Habitat Conservation Planning Coordinator at (808) 587-0010 or lauren.tavlor@hawaii.gov.

Sincerely,

DAVID G. SMITH
Administrator

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

July 22, 2020

MEMORANDUM

FROM:

~~TO:~~ **DLNR Agencies:**
___Div. of Aquatic Resources
___Div. of Boating & Ocean Recreation
_X_ Engineering Division (DLNR.ENGR@hawaii.gov)
_X_ Div. of Forestry & Wildlife (rubyrosa.t.terrago@hawaii.gov)
___Div. of State Parks
_X_ Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
___Office of Conservation & Coastal Lands
_X_ Land Division – Maui District (daniel.l.ornellas@hawaii.gov)
_X_ Historic Preservation (DLNR.Intake.SHPD@hawaii.gov)

TO:

~~FROM:~~ Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: Request for Early Consultation for the Proposed Kahului Lani Family Affordable Housing Project
LOCATION: Kahului, Island of Maui; TMK: (2) 3-7-013:026
APPLICANT: Munekiyo Hiraga on behalf of Catholic Charities Housing Development Corporation

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit any comments by **August 4, 2020.**

If no response is received by the above date, we will assume your agency has no comments. Should you have any questions about this request, please contact Darlene Nakamura at darlene.k.nakamura@hawaii.gov. Thank you.

( ) We have no objections.
( ) We have no comments.
(✓) Comments are attached.

Signed: _____
Print Name: Carty S. Chang, Chief Engineer
Division: Engineering Division
Date: Aug 4, 2020

Attachments
cc: Central Files

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/Russell Y. Tsuji

Ref: Request for Early Consultation for the Proposed Kahului Lani Family Affordable Housing Project
TMK(s): (2) 3-7-013:026
Location: Kahului, Island of Maui
Applicant: Munekiyo Hiraga on behalf of Catholic Charities Housing Development Corporation

COMMENTS

The rules and regulations of the National Flood Insurance Program (NFIP), Title 44 of the Code of Federal Regulations (44CFR), are in effect when development falls within a Special Flood Hazard Area (high risk areas). State projects are required to comply with 44CFR regulations as stipulated in Section 60.12. Be advised that 44CFR reflects the minimum standards as set forth by the NFIP. Local community flood ordinances may stipulate higher standards that can be more restrictive and would take precedence over the minimum NFIP standards.

The owner of the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood Hazard Zones are designated on FEMA's Flood Insurance Rate Maps (FIRM), which can be viewed on our Flood Hazard Assessment Tool (FHAT) (http://gis.hawaiinfip.org/FHAT).

If there are questions regarding the local flood ordinances, please contact the applicable County NFIP coordinating agency below:

- Oahu: City and County of Honolulu, Department of Planning and Permitting (808) 768-8098.
- Hawaii Island: County of Hawaii, Department of Public Works (808) 961-8327.
- Maui/Molokai/Lanai County of Maui, Department of Planning (808) 270-7253.
- Kauai: County of Kauai, Department of Public Works (808) 241-4896.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: Aug 4, 2020

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

July 22, 2020

MEMORANDUM

TO: **DLNR Agencies:**
___Div. of Aquatic Resources
___Div. of Boating & Ocean Recreation
_X_ Engineering Division (DLNR.ENGR@hawaii.gov)
_X_ Div. of Forestry & Wildlife (rubyrosa.t.terrago@hawaii.gov)
___Div. of State Parks
_X_ Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
___Office of Conservation & Coastal Lands
_X_ Land Division – Maui District (daniel.l.ornellas@hawaii.gov)
_X_ Historic Preservation (DLNR.Intake.SHPD@hawaii.gov)

FROM: Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: Request for Early Consultation for the Proposed Kahului Lani Family Affordable Housing Project
LOCATION: Kahului, Island of Maui; TMK: (2) 3-7-013:026
APPLICANT: Munekiyo Hiraga on behalf of Catholic Charities Housing Development Corporation

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit any comments by **August 4, 2020.**

If no response is received by the above date, we will assume your agency has no comments. Should you have any questions about this request, please contact Darlene Nakamura at darlene.k.nakamura@hawaii.gov. Thank you.

( ) We have no objections.
(X) We have no comments.
( ) Comments are attached.

Signed: _____
Print Name: Daniel Ornellas
Division: Maui District Land Office
Date: 7/30/20

Attachments
cc: Central Files

MUNEKIYO HIRAGA
Planning. Project Management. Sustainable Solutions.

Michael T. Munekiyo
CHAIRMAN
Karlynn K. Fukuda
PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

November 16, 2020

Russell Tsuji, Land Administrator
State of Hawai'i
Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, Hawai'i 96809

SUBJECT: Hale Pilina Family Affordable Rental Housing Project located at TMK (2)3-7-013:026, Kahului, Maui, Hawai'i (Log No. 2731)

Dear Mr. Tsuji:

Thank you for your letter dated August 5, 2020 responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the proposed Hale Pilina Family Affordable Rental Housing Project (formerly referred to as Kahului Lani Family Affordable Housing project). On behalf of Catholic Charities Housing Development Corporation (CCHDC), we thank you for making available the early consultation letter request to the various DLNR Divisions for their comments. We provide the following information in response to the comments received.

Engineering Division

1. Thank you for the information regarding Flood Hazard Zones. The project site is located in Flood Zone X and outside the Special Flood Hazard Area.

Division of Forestry and Wildlife

1. Thank you for the information regarding the Blackburn's sphinx moth. A Botanical and Fauna Survey was conducted for the project by Environmental Consultant Robert W. Hobdy. Tree tobacco (*Nicotiana glauca*), a nonnative host plant of the Blackburn's sphinx moth, was not identified within the project site.

2. Although not identified in the Botanical and Fauna Survey conducted for the project, we note that State listed waterbirds such as the Hawaiian Duck (*Anas wyvilliana*), Hawaiian Stilt (*Himantopus mexicanus knudseni*), Hawaiian Coot (*Fulica alai*), and Hawaiian Goose or Nēnē (*Branta sandvicensis*) have the potential to occur in the vicinity of the proposed project site. If any of these

species are present during construction activities, then all activities within 100 feet (30 meters) should cease, and the bird should not be approached. Work may continue after the bird leaves the area of its own accord. If a nest is discovered at any point, the contractor will contact the Department of Forestry and Wildlife.

3. Thank you for the information regarding attracting vulnerable birds to areas that may host nonnative predators. As recommended and as necessary, measures will be taken to minimize predator presence including removal of cats, placing bait stations for rodents and mongoose, and providing covered trash receptacles.

4. The Botanical and Fauna Survey for the project included a special effort to look for any evidence of the Hawaiian hoary bat through several methods. The first method included an observation during evening hours, when the Hawaiian hoary bat is most active. No evidence was found of any activity or presence. The second method consisted of utilizing a bat detection device (Batbox IIID) set to 27,000 hertz, the same frequency the Hawaiian hoary bat uses for echolocation when searching for nocturnal flying insect prey. Again, no bats were detected. Although the Hawaiian hoary bat was not observed at the site, the project is committed to employing mitigation practices noted in your letter during construction.

5. As recommended, the project will minimize movement of plant and soil materials between worksites. All equipment, materials, and personnel should be cleaned of excess soil and debris to minimize risk of spreading invasive species.

6. Thank you for the comment regarding the possible disorientation of seabirds with the use of artificial lighting. The proposed project is not anticipated to utilize nighttime construction. Should nighttime construction be required, such work will be avoided during the seabird fledging season from September 15 to December 15.

7. As recommended, the landscape architect for this project will ensure the use of native plants, where feasible. Every effort will be made to incorporate native plants within the landscape of the project site.

Land Division - Maui District

1. We note that the Land Division, Maui District has no comments to offer.

Thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter will be included in the Draft EA. A copy of the Draft EA

will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

Kari Luna Nunokawa, Ed.D.
Senior Manager

KLN:tn
cc: Buddy Almeida, Department of Housing and Human Concerns
Rick Stack, Catholic Charities Housing Development Corporation
Gary Furuta, GSF, LLC
Jeff Furuta, GSF, LLC
Andrew Furuta, GSF, LLC
K:\DATA\GSF\Kahului AH 2281\Applications\ECL\Response Letters\DLNR Land Response.doc

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING
601 KAMOKILA BLVD., STE 555
KAPOLEI, HI 96707

August 28, 2020

IN REPLY REFER TO:
Log No. 2020.01649
Doc No. 2008GC18
Archaeology

Ms. Lori Tsuhako, Director
Department of Housing and Human Concerns
County of Maui
2200 High Street, Suite 546
Wailuku, Maui 96793
c/o Linda Munsell, Deputy Director
director.hhc@mauicounty.gov

Dear Ms. Tsuhako:

SUBJECT: **Chapter 6E-8 Historic Preservation Review –**
Kahului Lani Family Affordable Housing Project
Wailuku Ahupua'a, Pū'ali Komohana District, Island of Maui
TMK: (2) 3-7-013:026

This letter provides the State Historic Preservation Division's (SHPD's) comments on the County of Maui, Department of Housing and Human Concerns' proposed project titled *Kahului Lani Family Affordable Housing Project.* The SHPD received this submittal on July 17, 2020. The submittal included a letter dated July 15, 2020 from Munekiyo Hiraga (consulting firm) requesting the SHPD's input for the aforementioned project.

Per the submittal, Catholic Charities Housing Development Corporation (CCHDC) is proposing the development of four (4) three-story residential buildings with appurtenances, on site parking stalls, a park and other improvements on the 4.865-acre property owned by A & B Properties, Inc. The submittal also indicates that this project is seeking state funding assistance from the Hawaii Housing Finance and Development Corporation (HHFDC).

As this project involves the use of public funds (HHFDC), the **SHPD requests** a letter from the Hawaii Housing Finance and Development Corporation ([HHFDC)] initiating HRS 6E historic preservation review with the SHPD, and the following information pursuant to Hawaii Administrative Rules (HAR) §13-275-3:

Step 1: Identification, HAR §13-275-5

The agency (HHFDC) shall be responsible for determining whether historic properties are present in the project area and, if so, to properly identify and inventory the properties; alternatively, HHFDC may submit documents claiming no significant historic sites are likely to be present. The document must present supportive evidence documenting any land altering activities and documenting the likely nature and depth of historic properties that may once have existed in the area.

Step 2: Assessment of Site Significance, HAR §13-275-6

Once a historic property is identified, an assessment of integrity and site significance must be included with the submittal.

Step 3: Project Effect Determination, HAR §13-275-7

The agency (HHFDC) shall provide a HRS 6E project effect determination of "No historic properties affected" (i.e., no historic properties have been identified or historic properties are present but will not be adversely affected by the

proposed project) **OR** a project effect determination of "Effect, with proposed mitigation commitments" (i.e., the project will affect one or more significant historic properties, and the effects will potentially be harmful).

Effects include, but are not limited to:

1. partial or total destruction or alteration of the historic property,
2. detrimental alteration of the properties' surrounding environment,
3. detrimental visual, spatial, noise or atmospheric impingement, increasing access with the chances of resulting damage, and
4. neglect resulting in deterioration or destruction

If no significant historic properties have been identified, the agency (HHFDC) shall request the SHPD's concurrence with the agency's project effect determination of "no historic properties affected" and if SHPD concurs, the 6E historic preservation review process ends.

If significant historic properties are identified, the agency (HHFDC) shall request the SHPD's concurrence with the project effect determination of "Effect, with proposed mitigation commitments" in the form of [see mitigation forms, Step 4] and proceed to Step 4.

Step 4 - Mitigation Commitments, HAR §13-275-8

If a project will have an "effect" (impact) on a significant historic property or properties, then a mitigation commitment proposing the form of mitigation to be undertaken for **each** significant historic property shall be submitted by the **agency** (HHFDC) to the SHPD for review and approval. This proposed commitment shall be submitted **concurrently** with the survey report/s, significance evaluations, and effects determination, if significant historic properties are present in the project area and will be affected.

Mitigation may occur in five forms:

1. Preservation
2. Architectural recordation
3. Archaeological data recovery
4. Historical data recovery
5. Ethnographic documentation

The agency proceeds to Step 5 ONLY if SHPD concurs with an agency determination of "Effect, with proposed mitigation commitments" and concurs with the agency's proposed mitigation commitments.

Step 5 – Detailed Mitigation Plan, HAR 13-275-8

After mitigation commitments are accepted by SHPD, the agency (HHFDC) shall provide the required detailed mitigation plans to SHPD for review and acceptance.

SHPD looks forward to the agency (HHFDC) initiating HRS 6E historic preservation review with SHPD and providing the information indicated above for the *Kahului Lani Family Affordable Housing Project*. SHPD shall consult and accept submittals from another party (e.g., Munekiyo Hiraga) on behalf of HHFDC **only** if they include a letter on HHFDC letterhead indicating that HHFDC is are providing written delegation to that party.

The submittal to SHPD must include the following:

1. Delegation letter (if appropriate)
2. HHFDC letter providing a summary of the information specified for Steps 1-4
3. A SHPD HRS 6E Submittal Form, including whether the project will involve use of federal funds or require federal permit or approval

Please contact Dr. Susan A. Lebo, Archaeology Branch Chief, at Susan.A.Lebo@hawaii.gov, for any questions regarding this letter.

Aloha,
Alan Downer

Alan S. Downer, PhD
Administrator, State Historic Preservation Division
Deputy, State Historic Preservation Officer

cc: Tracy Nakamoto, Munekiyo Hiraga, tracy@munekiyohiraga.com
Kari Luna Nunokawa, Munekiyo Hiraga, kari@munekiyohiraga.com
Jeff Furuta, jeff@gsfhi.com,
Gary Furuta, gary@gsfhi.com
Thelma Kealoha, Catholic Charities Hawaii, thelma.kealoha@catholiccharitieshawaii.org
rick.cchdc@gmail.com

Tracy Nakamoto

From: Lebo, Susan A <susan.a.lebo@hawaii.gov>
Sent: Thursday, August 27, 2020 12:49 PM
To: Tracy Nakamoto; linda.munsell@co.maui.hi.us
Cc: rick.cchdc@gmail.com; Jeff Furuta; Gary Furuta (gary@gsfhi.com); thelma.kealoha@catholiccharitieshawaii.org; Kari Luna Nunokawa; Tessa Munekiyo Ng; McCallister, Andrew S; Clark, Garnet K; Kauhane, Iolani K
Subject: SHPD Log No. 2020.01649 Proposed Kahului Lani Family Affordable Housing Project - Early Consultation Letter
Attachments: (Final) SHPD ECL Letter.pdf

Hello,

Thank you for early consultation letter for the proposed Kahului Lani Family Affordable Housing Project.

SHPD looks forward to the initiation of the HRS 6E historic preservation review for this project and to receiving the information required by HAR 13-275-3 regarding identification and inventory of historic properties, assessment of their integrity and significance, and a project effect determination and, if necessary, proposed mitigation commitments. As the project involves the use of public funds (Hawaii Housing Finance and Development Corportation [HHFDC]), SHPD looks forward to the HHFDC initiating HRS 6E historic preservation review with SHPD.

All submittal materials should be sent to DLNR.Intake.SHPD@hawaii.gov and should include a cover letter from the appropriate government agency (HHFDC) initiating the project, including HHFDC's project effect determination, if appropriate, a letter indicating HHFDC is delegating _ responsibilities to Munekiyo Hiraga, and a SHPD HRS 6E Submittal Form.

Please let me know if you have any questions or concerns.

Sincerely,

Susan

Susan A. Lebo, PhD
SHPD Archaeology Branch Chief

From: DLNR.Intake.SHPD <dlnr.intake.shpd@hawaii.gov>
Sent: Friday, July 17, 2020 11:41 AM
To: Lebo, Susan A <susan.a.lebo@hawaii.gov>; McCallister, Andrew S <andrew.mccallister@hawaii.gov>; Kauhane, Iolani K <iolani.kauhane@hawaii.gov>
Cc: Wanstead, Chelsea <chelsea.wanstead@hawaii.gov>; DLNR.Intake.SHPD <dlnr.intake.shpd@hawaii.gov>
Subject: for Maui Archaeology with log 2020.01649 *** Fw: Proposed Kahului Lani Family Affordable Housing Project - Early Consultation Letter

Maui Archaeology: the attached is for your review and is assigned log 2020.01649. Keep for your files. Mahalo.

From: Tracy Nakamoto <tracy@munekiyohiraga.com>
Sent: Thursday, July 16, 2020 9:32 AM
To: DLNR.Intake.SHPD <dlnr.intake.shpd@hawaii.gov>
Cc: Linda.Munsell@co.maui.hi.us <Linda.Munsell@co.maui.hi.us>; rick.cchdc@gmail.com <rick.cchdc@gmail.com>; Jeff Furuta <jeff@gsfhi.com>; Gary Furuta (gary@gsfhi.com) <gary@gsfhi.com>; thelma.kealoha@catholiccharitieshawaii.org <thelma.kealoha@catholiccharitieshawaii.org>; Kari Luna Nunokawa <kari@munekiyohiraga.com>; Tessa Munekiyo Ng <tessa@munekiyohiraga.com>
Subject: [EXTERNAL] Proposed Kahului Lani Family Affordable Housing Project - Early Consultation Letter

To: Dr. Alan Downer, Administrator
DLNR- State Historic Preservation Division

From: Kari Luna Nunokawa
Senior Manager

Attachment:

1	7/15/20	Early Consultation Letter

Message:

Please refer to the attached letter.

Feel free to contact us at (808) 244-2015 should you have any questions. Thank you.

Tracy Nakamoto, Administrative Assistant
Email: tracy@munekiyohiraga.com

MUNEKIYO HIRAGA

Maui: 305 High Street, Suite 104, Wailuku, Hawaii 96793 T: 808.244.2015 F: 808.244.8729
Oahu: 735 Bishop Street, Suite 321, Honolulu, Hawaii 96813 T: 808.983.1233
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Michael T. Munekiyo
CHAIRMAN
Karlynn K. Fukuda
PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

November 13, 2020

Via email: DLNR.Intake.SHPD@hawaii.gov

Alan S. Downer, PhD
Administrator, State Historic Preservation Division
Deputy, State Historic Preservation Officer
Kakuhihewa Building
601 Kamokila Blvd. Suite 555
Kapolei, Hawai'i 96707

SUBJECT: Hale Pilina Family Affordable Rental Housing Project located at TMK (2)3-7-013:026, Kahului, Maui, Hawai'i (Log No. 2020.01649, Doc No. 2008GC18, Archaeology)

Dear Mr. Downer:

Thank you for your letter dated August 28, 2020 responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the proposed Hale Pilina Affordable Rental Housing Project (formerly known as Kahului Lani Family Affordable Housing project). On behalf of Catholic Charities Housing Development Corporation (CCHDC), we note that the County of Maui, Department of Housing and Human Concerns (DHHC) initiated HRS 6E historic preservation review with the SHPD on September 24, 2020. The DHHC has determined that no significant historic properties are identified and has requested the SHPD's concurrence with the project effect determination of "no historic properties affected". The DHHC is further recommending that the project prepare an Archaeological Monitoring Plan (AMP) during ground disturbing activities of the Hale Pilina Affordable Rental Housing project to further ensure this finding. Should any historical artifacts be uncovered during monitoring, all construction and ground disturbing activities will cease and the DHHC will notify the SHPD immediately.

Thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

Kari Luna Nunokawa, Ed.D.
Senior Manager

KLN:tn
cc: Buddy Almeida, Department of Housing and Human Concerns
Rick Stack, Catholic Charities Housing Development Corporation
Gary Furuta, GSF, LLC
Jeff Furuta, GSF, LLC
Andrew Furuta, GSF, LLC
Trevor Yucha, Cultural Surveys Hawaii
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DAVID Y. IGE
GOVERNOR

JADE T. BUTAY
DIRECTOR

Deputy Directors
LYNN A.S. ARAKI-REGAN
DEREK J. CHOW
ROSS M. HIGASHI
EDWIN H. SNIFFEN

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

IN REPLY REFER TO:
DIR 0668
STP 8.2979

August 4, 2020

Ms. Kari Luna Nunokawa
Senior Manager
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Nunokawa:

Subject: Early Consultation
Kahului Lani Family Affordable Housing Project
Kahului, Maui, Hawaii
Tax Map Key: (2) 3-7-013: 026

The State of Hawaii, Department of Transportation (HDOT) has reviewed the subject early consultation request and understands that Catholic Charities Housing Development Corporation (CCHDC) is proposing to develop four three-story residential buildings providing approximately 180 units, on-site parking, a park, and other related improvements. The project will be constructed on a 4.865-acre parcel between Puunene Avenue (State Route 3500) and South Kaulawahine Street.

HDOT has the following comments:

Airports Division (HDOT-A)

1. The proposed project is approximately 1.9 miles from the end of Runway 2 at Kahului Airport. All projects within 5 miles from Hawaii State airports are advised to read the Technical Assistance Memorandum (TAM) for guidance with development and activities that may require further review and permits. The TAM can be viewed at this link: http://files.hawaii.gov/dbedt/op/docs/TAM-FAA-DOT-Airports_08-01-2016.pdf.

2. Federal Aviation Administration (FAA) regulation requires the submittal of FAA Form 7460-1 Notice of Proposed Construction or alteration pursuant to the Code of Federal Regulations (CFR), Title 14, Part 77.9, if the construction or alteration is within 20,000 feet of a public use or military airport which exceeds a 100:1 surface from any point on the runway of each airport with its longest runway more than 3,200 feet. Construction equipment and staging area heights, including heights of temporary construction cranes need to be included in the submittal. The form and criteria for submittal can be found at the following website: https://oeaaa.faa.gov/oeaaa/external/portal.jsp.

3. The proposed project site is outside of the 55 Day-Night Average Noise Level contour on the Kahului Airport Five-Year (1998) Noise Exposure Map; however, the applicant and future residents should be aware of the proximity of the airport and potential single event noise from airport operations.

4. The proximity of the airport may subject the project to potential fumes, smoke, vibrations, odors, etc., that may result from aircraft flight operations over existing uses.

Highways Division (HDOT-HWY)

1. Based on the number of units proposed and the proposed site access on Puunene Avenue there is potential for direct adverse impacts to traffic conditions and safety on Puunene Avenue. Submit a Traffic Impact Assessment Report (TIAR) prepared and stamped by a licensed engineer. The TIAR and Environmental Assessment (EA) should include the following:

    a. A description of existing trip generation at the site (if any), existing traffic conditions and multimodal routes and transit stops in the study area.

    b. Forecasted traffic and multimodal conditions in the horizon year (year at full project build-out) without the project and with the project. If the project construction is phased over multiple years, interim horizon years should be analyzed for the completion of each phase.

    c. Analysis of existing and future safety conditions.

    d. Recommended mitigation for potential impacts.

2. We encourage the incorporation of Travel Demand Management principles into the project description to reduce the number parking spaces and number of trips generated. We anticipate the number of parking spaces typically required could be reduced, as one of the zoning exemptions granted for affordable housing. The EA should describe the number of parking spaces typically required and the requested reduction. Incorporate these trip generation assumptions in the TIAR.

3. Describe the project's internal circulation and multimodal interconnectivity with offsite bike and pedestrian routes.

4. During preparation of the Draft EA, consult directly with the HDOT-HWY Maui District Engineer regarding the proposed access on Puunene Avenue.

5. Describe pipeline and other infrastructure alignments that may be removed or constructed within the HDOT-HWY Right-of-Way (ROW).

6. A Use and Occupancy Permit approved by the HDOT-HWY, ROW Branch is required for any proposed use of the ROW.

7. A Permit to Perform Work Upon State Highways and a Traffic Management Plan are required for any work within the State ROW. Construction plans prepared by a Hawaii

licensed engineer shall be submitted to the HDOT-HWY Maui District Engineer for review and approval prior to applying for a permit to perform work.

8. No additional discharge of surface water run-off onto State highway ROW is permitted. This includes the use of existing State drainage culverts and channels. All additional stormwater runoff from the project site shall be managed and mitigated onsite.

If there are any questions, please contact Mr. Blayne Nikaido of the HDOT Statewide Transportation Planning Office at (808) 831-7979 or via email at blayne.h.nikaido@hawaii.gov.

Sincerely,

JADE T. BUTAY
Director of Transportation

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CHAIRMAN
Karlynn K. Fukuda
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VICE PRESIDENT

November 16, 2020

Jade Butay, Director
State of Hawai'i
Department of Transportation
869 Punchbowl Street
Honolulu, Hawai'i 96809

SUBJECT: Hale Pilina Family Affordable Rental Housing Project located at TMK (2)3-7-013:026, Kahului, Maui, Hawai'i (DIR 0668, STP 8.2979)

Dear Mr. Butay:

Thank you for your letter dated August 4, 2020 responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the proposed Hale Pilina Family Affordable Rental Housing Project, formerly known as Kahului Lani Family Affordable Housing project). On behalf of Catholic Charities Housing Development Corporation (CCHDC), we offer the following information in response to the comments noted in your letter.

Airports Division – HDOT-A

1. As noted in your letter, the proposed project is located approximately 1.9 miles from Kahului Airport. As such, the project team will review the Technical Assistance Memorandum (TAM).

2. Thank you for your comment. As applicable, CCHDC will submit the FAA Form 7460-1 Notice of Proposed Construction or alteration pursuant to the Code of Federal Regulations (CFR), Title 14, Part 77.9. Construction equipment and staging area heights, including heights of temporary construction cranes will be included in the submittal.

3. Thank you for your comment. Although the project area is outside of the 55 Day-Night Average Noise Level contour on the Kahului Airport Five-Year (1998) Noise Exposure Map, potential residents will be made aware the proximity of the Kahului Airport and the potential noise impact.

4. Thank you for your comment. As mentioned in our response above, all potential residents will be made aware of the close proximity of the airport and that they may be subjected to potential fumes, smoke, vibrations, odors, etc., that may result from aircraft flight operations over their residences.

Highways Division (HDOT-HWY)

1. A Traffic Impact Assessment Report (TIAR) has been prepared by Austin, Tsutsumi & Associates, Inc. and which will be included in the Chapter 343, Hawai'i Revised Statutes Environmental Assessment (EA) document.

2. The proposed project is an infill development located in close proximity to the proposed County of Maui Central Maui Bus Hub and existing bus stops. Sidewalks will provide for pedestrian connectivity. As part of the Chapter 2.97 Maui County Code (MCC) approval, an exemption will be requested to reduce the number of parking stalls. One (1) parking stall will be provided for each one-bedroom unit and two (2) parking stalls will be provided for each two-bedroom unit. Guest parking stalls will also be provided. This information will be included in the EA.

3. The project's internal circulation and multimodal interconnectivity with offsite bike and pedestrian routes will be addressed in the EA document. The project is situated within urban Kahului, close to already built in infrastructure including sidewalks and a bicycle lane on Kamehameha Avenue.

4. The project's traffic engineer will consult with the HDOT-HWY Maui District Engineer.

5. A Preliminary Engineering Report (PER) has been prepared and will be included in the Draft EA. The PER identifies infrastructure improvements required for the proposed project.

6. Should the project need to do any work within the HDOT-HWY ROW, a Use and Occupancy Permit will be obtained.

7. If there needs to be work done within the SOH ROW, a Permit to Perform Work Upon State Highways and a Traffic Management Plan will be prepared. Construction plans by a licensed engineer will be submitted to the HDOT-HWY Maui District Engineer for review and approval prior to applying for the permit.

8. The proposed project will retain any increase in runoff generated by the development such that no additional discharge of surface water run-off will be directed onto State highway ROW.

Thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

Kari Luna Nunokawa, Ed.D.
Senior Manager

KLN:tn
cc: Buddy Almeida, Department of Housing and Human Concerns
Rick Stack, Catholic Charities Housing Development Corporation
Gary Furuta, GSF, LLC
Jeff Furuta, GSF, LLC
Andrew Furuta, GSF, LLC
Tyler Fujiwara, Austin, Tsutsumi & Associates, Inc.
Chad McDonald, M & A Hawaii, Inc.
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SEP 14 2020

MICHAEL P. VICTORINO
Mayor

ERIC A. NAKAGAWA, P.E.
Acting Director

SHAYNE R. AGAWA, P.E.
Deputy Director

MICHAEL P. RATTE
Solid Waste Division

SCOTT R. ROLLINS, P.E.
Wastewater Reclamation Division

TAMARA L. FARNSWORTH
Environmental Protection &
Sustainability Division

COUNTY OF MAUI
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
2050 MAIN STREET, SUITE 2B
WAILUKU, MAUI, HAWAII 96793

July 30, 2020

Munekiyo Hiraga
Attention: Kari Luna Nunokawa
305 High Street, Suite 104
Wailuku, Hawaii 96793

SUBJECT: KAHULUI LANI FAMILY AFFORDABLE HOUSING PROJECT TMK (2) 3-7-013:026, KAHULUI

We reviewed the subject application and have the following comments:

1. Solid Waste Division comments:

GENERAL REQUIREMENTS:

☐ All projects must comply with Maui County code(s) Chapter 8.04 pertaining to refuse collection and landfills.

☐ For all projects, demolition, new construction, remodel projects etc., applicants are requested to divert all re-usable materials throughout the project, maximizing efficiency and resource allocation to lessen the burden on the County of Maui landfill and resources. (For additional information regarding recycling options contact the County of Maui Environmental Protection and Sustainability Division. https://www.mauicounty.gov/742/Environmental-Protection-Sustainability-)

☐ Should there be any significant revisions or changes to the proposed document(s), permit or project under review other than what was originally submitted for review, the Solid Waste Division (SWD) reserves the right to revise comments accordingly.

☐ Refer to the following SWD link for general SWD information: https://www.mauicounty.gov/1017/Solid-Waste-Refuse-Services-and-Informat

LANDFILL:

☐ If construction and/or demolition (C&D) is expected to be disposed of at the landfill during project, a C&D application must be submitted and approved prior to delivery to the local landfill. Please see the SWD website link: C&D Waste Acceptance or https://www.mauicounty.gov/1739/Commercial-ConstructionDemo-Waste-Accept for details. In addition to a C&D Number, commercial customers must also have a valid landfill Disposal Permit/Account. The Solid Waste Division (SWD) should be immediately notified if there is any significant revisions or changes to the permitted C&D waste hauling.

☐ To obtain a landfill permit to dispose of commercial waste please pick up at a County landfill or download from the SWD website.

☐ Hazardous wastes are not accepted at County landfills. However, special wastes such as asbestos, contaminated soil, and canec may be permitted upon request. Contact landfill to inquire and/or make arrangements for special wastes.

☐ Check the latest County of Maui Rates and Fees schedule for tipping fees (and potentially reduced fees for oil-free earthen material, soil, rock, concrete, crushed glass, etc. if it can be reclaimed for landfill use).

MAUI COUNTY LANDFILL HOURS OF OPERATION			
Central Maui Landfill	6:00am to 3:00 pm (808-270-6153) C&D hrs 6:00 am to 1:00 pm Monday – Friday, excluding County holidays	Hana Landfill	8:00 am to 2:30 pm (808-264-6313)
		Molokai Landfill	8:00 am to 2:30 pm (808-553-3869)
		Lanai Landfill	8:00 am to 2:30 pm (808-559-0689)
Holiday hours vary, check SWD website			

REFUSE COLLECTION:

☐ For County refuse collection services, notification to the Solid Waste Division shall be provided if the streets are planned to be dedicated to the County after project completion. This will allow resource allocation, planning, and budgeting to be established in order to serve County dedicated streets.

☐ If proposed streets are private and/or not dedicated to the County, per Maui County Code, they will not be serviced by County Residential Refuse Collection service.

☐ Any new County refuse collections service requests shall submit a formal request to the Solid Waste Division for Refuse Service Assessment based upon a first-come first-served basis. If ample capacity in equipment and manpower does not currently exist, any required additional Division resources would have to be budgeted, approved and commissioned prior to service commencing. Should any new subdivisions or new phases of subdivisions wish to have County refuse service included, a SW System Development Fee per each residential lot shall be assessed prior to subdivision approval.

☐ No new gated communities will be provided with County refuse service.

☐ Refer to SWD link: Routing Schedule or https://www.mauicounty.gov/DocumentView.aspx?DID=8416 for roads or streets already serviced by the County.

2. Wastewater Reclamation Division (WWRD) comments:

a. Neither a construction schedule, nor estimated wastewater flows were included in your submittal. Wastewater Reclamation Division prepared a conservative estimate of approximately 50,000 gpd to aid in the review.
b. Analysis of the area showed that treatment capacity currently exists at the Wailuku/Kahului Wastewater Reclamation Facility (Plant Capacity 7.9 mgd, normal average daily flow 5.6 mgd).
c. Given the estimated project discharge volume, it appears that the current collection system (a 10" line within Puunene Avenue and 24" line through Maui Mall) and the downstream wastewater pump station (Kahului WWPS) have adequate capacity to serve this project without any system modifications.
d. Capacity allocation for affordable housing projects in this sewer service district exist but is limited. Per Maui County Code an allocation of

340,000 gpd was set aside for affordable projects of which 290,000 gpd remains available as of today's date.

e. While there are not many affordable projects currently planning to connect to this system, note that capacity is not allocated until building permits are issued. Any delays or other project approvals could limit capacity.
f. A property service manhole will be required to be installed prior to connection to the County sewer system
g. Wastewater contribution calculations must be submitted and approved before building permits are issued.
h. There are not any assessment fees required in the area at this time.
i. Non-contact cooling water and condensate cannot drain to the wastewater system.
j. Note that if any commercial/community kitchen or laundry facilities are proposed within the project they shall comply with pre-treatment requirements (including grease interceptors, sample boxes, lint traps etc.)

If you have any questions regarding this letter, please contact Shayne Agawa at 270-8230.

Sincerely,

ERIC A. NAKAGAWA, P.E.
Director of Environmental Management

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CHAIRMAN
Karlynn K. Fukuda
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Mark Alexander Roy
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Tessa Munekiyo Ng
VICE PRESIDENT

November 16, 2020

Eric Nakagawa, P.E., Director
County of Maui
Department of Environmental Management
2050 Main Street, Suite 2B
Wailuku, Hawai'i 96793

SUBJECT: Hale Pilina Family Affordable Rental Housing Project located at TMK (2)3-7-013:026, Kahului, Maui, Hawai'i

Dear Mr. Nakagawa:

Thank you for your letter dated July 30, 2020 responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the proposed Hale Pilina Family Affordable Rental Housing Project (formerly known as The Kahului Lani Family Affordable Housing project). On behalf of Catholic Charities Housing Development Corporation (CCHDC), we offer the following information in response to the comments noted in your letter.

Comment Regarding Solid Waste Division, General Requirements

Response: Thank you for your comment regarding the general requirements as it pertains to solid waste. The Hale Pilina Affordable Rental Housing project will comply with Maui County code(s) Chapter 8.04 pertaining to refuse collection and landfills. The project will divert re-usable materials throughout the construction process to maximize efficiency and reduce burden on the County's landfill. Should the project require significant changes or revisions to the proposed documents, permit or project under review other than what was originally submitted for review, the developer understands that the Solid Waste Division (SWD) reserves the right to revise comments accordingly.

Comment Regarding Solid Waste Division, Landfill:

Response: Thank you for the information on the landfill requirements. The developer acknowledges that hazardous materials are not accepted at County landfills. It is noted that through the Maui County Code, Chapter 2.97 application process, the project will seek an exemption from the requirement for payment of disposal charges to further the affordability of the project.

Comment Regarding Solid Waste Division, Refuse Collection:

Response: Thank you for the information on refuse collection. The project will be serviced by a private refuse collection service.

Comment Regarding Wastewater Reclamation Division (WWRD) Comments:

Response: Thank you for your comments. The Draft EA will include a Preliminary Engineering Report which will include estimated wastewater flows. We acknowledge that there is current capacity to service the project at the Wailuku/Kahului Wastewater Reclamation Facility and that the current collection system and the downstream wastewater pump station currently have capacity to accommodate the project without any system modifications. It is understood that capacity is not allocated until building permits are issued. As noted, the developer will install a property service manhole prior to connection to the County sewer system. The developer will submit wastewater contribution calculations to be approved prior to building permits being issued for the project. It is understood that non-contact cooling water and condensate cannot drain to the wastewater system. The project is providing laundry facilities and will comply with pre-treatment requirements (including grease interceptors, sample boxes, lint traps, etc.).

Thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

Kari Luna Nunokawa, Ed.D.
Senior Manager

KLN:tn
cc: Gary Furuta, GSF, LLC
Jeff Furuta, GSF, LLC
Andrew Furuta, GSF, LLC
Chad McDonald, M&A Hawaii
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MICHAEL P. VICTORINO
Mayor

DAVID C. THYNE
Fire Chief

BRADFORD K. VENTURA
Deputy Fire Chief

DEPARTMENT OF FIRE & PUBLIC SAFETY
FIRE PREVENTION BUREAU
COUNTY OF MAUI
313 MANEA PL.
WAILUKU, HI 96793

July 28, 2020

Munekiyo Hiraga
Attn: Kari Luna Nunokawa, Senior Manager
305 High St. Suite 104
Wailuku, HI 96793

SUBJECT: Request for Early Consultation
Proposed Kahului Lani Family Affordable Housing Project
TMK: (2) 2-7-013:026

Dear Kari,

Thank you for allowing our office to provide comment on the subject proposed project. As per your request, comments are provided below:

- At this time, there are no comments in regards to the EA early consultation process for the Proposed Kahului Lani Family Affordable Housing Project.

- Our office does reserve the right to comment on the proposed project during the building permit review process when detailed plans for this project are routed to our office for review. At that time, fire department access, water supply for fire protection, and fire and life safety requirements will be addressed.

If there are any questions or comments, please feel free to contact me at (808) 876-4693 or by email at paul.haake@mauicounty.gov.

Sincerely,

Paul Haake

Paul Haake

Captain - Fire Prevention Bureau

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Michael T. Munekiyo
CHAIRMAN
Karlynn K. Fukuda
PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

November 16, 2020

Paul Haake, Captain
County of Maui
Department of Fire and Public Safety
Fire Prevention Bureau
313 Manea Place
Wailuku, Hawai'i 96793

SUBJECT: Hale Pilina Family Affordable Rental Housing Project located at TMK (2)3-7-013:026, Kahului, Maui, Hawai'i

Dear Captain Haake:

Thank you for your letter dated July 28, 2020 responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the proposed Hale Pilina Family Affordable Rental Housing Project (formerly referred to as Kahului Lani Family Affordable Housing project). On behalf of Catholic Charities Housing Development Corporation (CCHDC), we acknowledge that the County of Maui, Department of Fire and Public Safety, Fire Prevention Bureau, has no comments at this time. We further acknowledge that your office does reserve the right to comment during the building permit review process and that fire department access, water supply for fire protection, and fire and life safety requirements will be addressed during that time.

Thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

Kari Luna Nunokawa, Ed.D.
Senior Manager

KLN:tn
cc: Buddy Almeida, Department of Housing and Human Concerns
Rick Stack, Catholic Charities Housing Development Corporation
Gary Furuta, GSF, LLC
Jeff Furuta, GSF, LLC
Andrew Furuta, GSF, LLC
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AUG - 3 2020

MICHAEL P. VICTORINO
Mayor

LORI TSUHAKO
Director

LINDA R. MUNSELL
Deputy Director

DEPARTMENT OF HOUSING
& HUMAN CONCERNS
COUNTY OF MAUI
2200 MAIN STREET, SUITE 546
WAILUKU, MAUI, HAWAII 96793
PHONE: (808) 270-7805

July 22, 2020

Kari Luna Nunokawa, Senior Manager
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Nunokawa:

Subject: **Request for Early Consultation for the Proposed Kahului Lani Family Affordable Housing Project at (TMK (2) 3-7-013:026, Kahului, Maui, Hawaii.**

The Department has reviewed the above subject project. Based on our review, we have determined that the project is subject to Chapter 2.96, Maui County Code, and is required to execute a Residential Workforce Housing Agreement.

Please call Mr. Buddy Almeida of our Housing Division at 270-7355 if you have any questions.

Sincerely,

C. BUDDY ALMEIDA
Housing Administrator

cc: Lori Tsuhako, Director of Housing and Human Concerns
Richard B. Stack, Jr. Catholic Charities Housing Development Corporation
Jeff Furuta, GSF, LLC
Gary Furuta GSF LLC
Thelma Kealoha, Catholic Charities

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CHAIRMAN
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Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

November 16, 2020

Buddy Almeida, Housing Administrator
County of Maui
Department of Housing and Human Concerns
2200 Main Street, Suite 546
Wailuku, Hawai'i 96793

SUBJECT: Hale Pilina Family Affordable Rental Housing Project located at TMK (2)3-7-013:026, Kahului, Maui, Hawai'i

Dear Mr. Almeida:

Thank you for your letter dated July 22, 2020 responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the proposed Hale Pilina Family Affordable Rental Housing Project (formerly referred to as Kahului Lani Family Affordable Housing project). On behalf of Catholic Charities Housing Development Corporation (CCHDC), we offer the following information in response to the comment noted in your letter.

1. The Hale Pilina Affordable Rental Housing project is a one hundred percent (100%) affordable housing effort for families earning sixty percent (60%) or less of the Area Median Income (AMI). The project will execute a Residential Workforce Housing Agreement, subject to Maui County Code, Chapter 2.96.

Maui: 305 High Street, Suite 104 • Wailuku, Hawaii 96793 • Tel: 808.244.2015 • Fax: 808.244.8729
Oahu: 735 Bishop Street, Suite 321 • Honolulu, Hawaii 96813 • Tel: 808.983.1233
www.munekiyohiraga.com

Thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

Kari Luna Nunokawa, Ed.D.
Senior Manager

KLN:tn
cc: Rick Stack, Catholic Charities Housing Development Corporation
Gary Furuta, GSF, LLC
Jeff Furuta, GSF, LLC
Andrew Furuta, GSF, LLC
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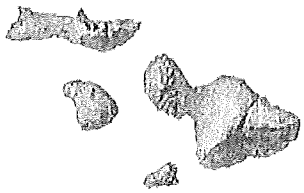
MICHAEL P. VICTORINO
Mayor

KARLA H. PETERS
Director

JOHN L. BUCK III
Deputy Director



DEPARTMENT OF PARKS AND RECREATION

700 Hali'a Nakoa Street, Unit 2, Wailuku, Hawaii 96793
Main Line (808) 270-7230 / Facsimile (808) 270-7942

July 23, 2020

Kari Luna Nunokawa, Senior Manager
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Nunokawa:

SUBJECT: REQUEST FOR EARLY CONSULTATION FOR THE PROPOSED KAHULUI LANI FAMILY AFFORDABLE HOUSING PROJECT AT TMK: (2) 3-7-013:026; KAHULUI, MAUI, HAWAII

Thank you for the opportunity to review and comment on the subject project. The Department of Parks and Recreation (DPR) has no comment at this time.

Once DPR is provided with a copy of the fully executed workforce housing agreement with the Department of Housing and Human Concerns, we can approve exemption from Maui County Code Section 18.16.320 Parks and Playgrounds.

Should you have any questions, please feel free to contact me or Samual Marvel, Acting Chief of Planning and Development at samual.marvel@co.maui.hi.us or (808) 270-6173.

Sincerely,

KARLA H. PETERS
Director of Parks and Recreation

c: Samual Marvel, Acting Chief of Planning and Development

KHP:SM:csa

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Michael T. Munekiyo
CHAIRMAN
Karlynn K. Fukuda
PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

November 16, 2020

Karla Peters, Director
County of Maui
Department of Parks and Recreation
700 Hali'a Nakoa Street, Unit 2
Wailuku, Hawai'i 96793

SUBJECT: Hale Pilina Family Affordable Rental Housing Project located at TMK (2)3-7-013:026, Kahului, Maui, Hawai'i

Dear Ms. Peters:

Thank you for your letter dated July 23, 2020 responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the proposed Hale Pilina Family Affordable Rental Housing Project (formerly referred to as Kahului Lani Family Affordable Housing project). On behalf of Catholic Charities Housing Development Corporation (CCHDC), we acknowledge that the County of Maui, Department of Parks and Recreation has no comments at this time.

Thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

Kari Luna Nunokawa, Ed.D.
Senior Manager

KLN:tn
cc: Buddy Almeida, Department of Housing and Human Concerns
Rick Stack, Catholic Charities Housing Development Corporation
Gary Furuta, GSF, LLC
Jeff Furuta, GSF, LLC
Andrew Furuta, GSF, LLC
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OCT 19 2020

MICHAEL P. VICTORINO
Mayor

ROWENA M. DAGDAG-ANDAYA
Director

JORDAN MOLINA
Deputy Director

GLEN A. UENO, P.E., L.S.
Development Services Administration

RODRIGO "CHICO" RABARA, P.E.
Engineering Division

JOHN R. SMITH, P.E.
Highways Division

Telephone: (808) 270-7845
Fax: (808) 270-7955

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
200 SOUTH HIGH STREET, ROOM 434
WAILUKU, MAUI, HAWAII 96793

October 9, 2020

Ms. Kari Luna Nunokawa
MUNEKIYO HIRAGA
305 High Street, Suite 104
Wailuku, Maui, Hawaii 96793

Dear Ms. Nunokawa:

SUBJECT: REQUEST FOR EARLY CONSULTATION FOR THE PROPOSED KAHULUI LANI FAMILY AFFORDABLE HOUSING PROJECT TMK: (2) 3-7-013:026

We reviewed the subject application and have the following comments:

Comments from the Development Services Administration, Construction Review Section:

1. Puunene Avenue is a State-owned roadway, and they should be consulted.

2. Normal road-widening and improvement requirements shall be determined at the time permits are applied for.

Comments from the Engineering Division:

3. Provide frontage improvements on Kaulawahine Street. Curb, gutter and sidewalks.

4. Consult with Public Works on Traffic Impact Analysis Report (TIAR) study area.

Please call Jordan Molina at 270-7845 if you have any questions regarding this letter.

Sincerely,

Jordan Molina

FOR ROWENA M. DAGDAG-ANDAYA
Director of Public Works

RMDA:JM:da
xc: Highways Division
Engineering Division
37013026_kahului_lani_ec.rtf

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Michael T. Munekiyo
CHAIRMAN
Karlynn K. Fukuda
PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

November 16, 2020

Rowena Dagdag-Andaya, Director
County of Maui
Department of Public Works
200 South High Street, Room 434
Wailuku, Maui, Hawai'i 96793

SUBJECT: Hale Pilina Family Affordable Rental Housing Project located at TMK (2)3-7-013:026, Kahului, Maui, Hawai'i

Dear Ms. Dagdag-Andaya:

Thank you for your letter dated October 9, 2020 responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the proposed Hale Pilina Family Affordable Rental Housing Project, formerly known as Kahului Lani Family Affordable Housing project. On behalf of Catholic Charities Housing Development Corporation (CCHDC), we offer the following information in response to the comments noted in your letter.

Development Services Administration, Construction Review Section

1. As stated in your letter, Pu'unēnē Avenue is a State-owned roadway and the State of Hawai'i, Department of Transportation, Maui Division is being consulted.

2. The developer understands that normal road-widening and improvement requirements will be determined at the time permits are applied for.

Engineering Division

3. Thank you for the comment regarding Kaulawahine Street. We note that Kaulawahine Street fronting the project is developed with existing curb, gutter, and sidewalks.

4. In preparing the Traffic Impact Analysis Report, Austin, Tsutsumi and Associates, Inc. consulted with the Department of Public Works regarding the scope of the study.

Thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

Kari Luna Nunokawa, Ed.D.
Senior Manager

KLN:tn
cc: Buddy Almeida, Department of Housing and Human Concerns
Rick Stack, Catholic Charities Housing Development Corporation
Gary Furuta, GSF, LLC
Jeff Furuta, GSF, LLC
Andrew Furuta, GSF, LLC
Tyler Fujiwara, Austin, Tsutsumi & Associates, Inc.
Chad McDonald, M & A Hawaii, Inc.
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MICHAEL P. VICTORINO
Mayor

MARC I. TAKAMORI
Director

MICHAEL B. DU PONT
Deputy Director

DEPARTMENT OF TRANSPORTATION
COUNTY OF MAUI
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793
TELEPHONE: (808) 270-7511
FAX: (808) 270-7505

July 31, 2020

Munekiyo Hiraga
Attention: Kari Luna Nunokawa
305 High Street, Suite 104
Wailuku, HI 96793

SUBJECT: Request for Early Consultation for the Proposed Kahului Lani Family Affordable Housing Project at TMK (2)3-7-013:026, Kahului, Maui, Hawaii

Dear Ms. Nunokawa,

We appreciate the opportunity to provide comments on the Proposed Kahului Lani Family Affordable Housing project.

There are currently six Maui Bus routes that provides service near the proposed project location. The nearest sheltered bus stop is on Kamehameha Avenue fronting the Kahului Salvation Army and Kahului Shopping Center. The bus routes that provides service at those stops are the Kahului Loop (Route #5), Kahului Loop Reverse (Route #6), Kihei Islander (Route #10), Haiku Islander (Route #35), Kula Islander (Route #39), and the Upcountry Islander (Route #40).

By providing interconnecting sidewalks (or walking paths) within and between the project and ample lighting in the evenings is necessary for walkable communities and for the safety of potential residents and public transit riders.

As there may be individuals who reside in this housing project that may be qualified to utilize the Maui Bus ADA Paratransit service, it is important that small buses will be able to traverse the parking lot to pickup and drop-off clients.

Please feel free to contact me if you have any questions.

Sincerely,

Marc Takamori, Director
Department of Transportation

S:\Engineering Projects\2020_07_21 - Kahului Lani Family Affordable Housing Project\DOT Reponse - Kahului Lani Family Affordable Housing Project.docx

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Michael T. Munekiyo
CHAIRMAN
Karlynn K. Fukuda
PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

November 16, 2020

Marc Takamori, Director
County of Maui
Department of Transportation
200 South High Street
Wailuku, Hawai'i 96793

SUBJECT: Hale Pilina Family Affordable Rental Housing Project located at TMK (2)3-7-013:026, Kahului, Maui, Hawai'i

Dear Mr. Takamori:

Thank you for your letter dated July 31, 2020 responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the proposed Hale Pilina Family Affordable Rental Housing Project (formerly referred to as Kahului Lani Family Affordable Housing project). On behalf of Catholic Charities Housing Development Corporation (CCHDC), we offer the following information in response to the comments in your letter.

Thank you for the information regarding the bus stops and routes that provide service near the proposed project.

1. The Hale Pilina Family Affordable Rental Housing project is situated in urban Kahului, close to amenities, shopping, schools, public transportation, and more. Connectivity, walkability, and safety will be considered during project design. Sidewalks will provide for pedestrian connectivity and the project site is located in close proximity to existing Maui Bus stops.

2. Thank you for your comment regarding the Maui Bus ADA Paratransit service. The parking lot will be designed to accommodate small buses utilized by ADA Paratransit services.

Thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

Kari Luna Nunokawa, Ed.D.
Senior Manager

KLN:tn
cc: Buddy Almeida, Department of Housing and Human Concerns
Rick Stack, Catholic Charities Housing Development Corporation
Gary Furuta, GSF, LLC
Jeff Furuta, GSF, LLC
Andrew Furuta, GSF, LLC
Tyler Fujiwara, Austin Tsutsumi & Associates, Inc.
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AUG 11 2020

POLICE DEPARTMENT

COUNTY OF MAUI

MICHAEL P. VICTORINO
MAYOR

OUR REFERENCE

YOUR REFERENCE

55 MAHALANI STREET
WAILUKU, HAWAII 96793
(808) 244-6400
FAX (808) 244-6411

TIVOLI S. FAAUMU
CHIEF OF POLICE

DEAN M. RICKARD
DEPUTY CHIEF OF POLICE

August 4, 2020

Ms. Kari Luna Nunokawa
Senior Manager
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Re: Request for Early Consultation for the Proposed Kahului Lani Family Affordable Housing Project at TMK: (2) 3-7-013:026, Kahului, Maui, Hawaii

Dear Ms. Nunokawa:

This is in response to your letter dated July 15, 2020 requesting comments on the proposed Kahului Lani Family Affordable Housing project.

In review of the submitted documents, we would like to recommend the project manager take into account the effects on vehicular and pedestrian movement when construction begins as the project is located within a developed urban area. We would also like to suggest steps should be taken to control noise levels, dust, and run off as to minimize any inconveniences to neighboring residences.

Thank you for giving us the opportunity to comment on this project.

Sincerely,

Assistant Chief John Jakubczak
for: TIVOLI S. FAAUMU
Chief of Police

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Michael T. Munekiyo
CHAIRMAN
Karlynn K. Fukuda
PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

November 16, 2020

John Jakubczak, Assistant Chief of Police
County of Maui
Maui Police Department
55 Mahalani Street
Wailuku, Hawai'i 96793

SUBJECT: Hale Pilina Family Affordable Rental Housing Project located at TMK (2)3-7-013:026, Kahului, Maui, Hawai'i

Dear Assistant Chief Jakubczak:

Thank you for your letter dated August 4, 2020 responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the proposed Hale Pilina Family Affordable Rental Housing Project (formerly referred to as Kahului Lani Family Affordable Housing project). On behalf of Catholic Charities Housing Development Corporation (CCHDC), we offer the following information in response to the comments in your letter.

1. Thank you for your comment. Safety of the surrounding community is of utmost importance. The contractor will implement safety measures to ensure the public's safety during construction of the proposed project.

2. Thank you for your comment. The Hale Pilina Family Affordable Rental Housing Project will employ construction Best Management Practices (BMPs) to mitigate noise levels, dust, and runoff. A discussion of BMPs specific to noise, dust, and runoff mitigation will be included in the Draft EA.

Thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

Kari Luna Nunokawa, Ed.D.
Senior Manager

KLN:tn
cc: Buddy Almeida, Department of Housing and Human Concerns
Rick Stack, Catholic Charities Housing Development Corporation
Gary Furuta, GSF, LLC
Jeff Furuta, GSF, LLC
Andrew Furuta, GSF, LLC
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COUNTY COUNCIL
COUNTY OF MAUI
200 S. HIGH STREET
WAILUKU, MAUI, HAWAII 96793
www.MauiCounty.us

August 5, 2020

Kari Luna Nunokawa
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku HI 96793

Dear Kari Luna Nunokawa:

SUBJECT: **Proposed Kahului Lani Family Affordable Housing Project at TMK (2)3-7-013:026, Kahului, Maui, Hawai'i**

In response to your request for early consultation dated July 12, 2020, I support the development of the subject site for affordable family housing for rent to households at 60 percent and below the Area Median Income (AMI).

Since being elected to office, I have considered the subject site to be a prime location for affordable housing, as it is:

- Close to services;
- Close to employment, and;
- Well-served by transportation facilities.

If there is any concern about this project, it may lie with the introduction of greater density into a neighborhood where the dominant residential form is low-density, single family. It is recommended that the project proponents reach out to the bordering property owners and determine any concerns they may have prior to the County's consideration of this project.

Thank you for the opportunity to comment on this proposed project.

Sincerely,

TASHA KAMA
Presiding Officer Pro Tempore

cc: Mayor Michael P. Victorino
Director Lori Tsuhako, Department of Housing and Human Concerns

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Michael T. Munekiyo
CHAIRMAN
Karlynn K. Fukuda
PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

November 16, 2020

The Honorable Tasha Kama, Presiding Officer Pro Tempore
County of Maui, County Council
200 S. High Street
Wailuku, Hawai'i 96793

SUBJECT: Hale Pilina Family Affordable Rental Housing Project located at TMK (2)3-7-013:026, Kahului, Maui, Hawai'i

Dear Councilmember Kama:

Thank you for your letter dated August 5, 2020 responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the proposed Hale Pilina Family Affordable Rental Housing Project (formerly referred to as Kahului Lani Family Affordable Housing project). On behalf of Catholic Charities Housing Development Corporation (CCHDC), we thank you for your support for the project and offer the following information in response to the comment noted in your letter. As noted, the project site is a prime location for affordable housing given its proximity to services, employment areas, and public transportation. We note your comment regarding the introduction of greater density adjacent to a low-density, single-family neighborhood. The proposed buildings will be limited to three (3) stories in height and landscaped setbacks and a park on South Kaulawahine Street will be provided. Residents in the vicinity of the project will be invited to the community meeting. Community meetings were held prior to the publication of the Draft EA to obtain public input.

Thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

Kari Luha Nunokawa, Ed.D.
Senior Manager

KLN:tn
cc: Buddy Almeida, Department of Housing and Human Concerns
Rick Stack, Catholic Charities Housing Development Corporation
Gary Furuta, GSF, LLC
Jeff Furuta, GSF, LLC
Andrew Furuta, GSF, LLC
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COUNTY COUNCIL
COUNTY OF MAUI
200 S. HIGH STREET
WAILUKU, MAUI, HAWAII 96793
www.MauiCounty.us

July 23, 2020

Dr. Kari Luna Nunokawa
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, HI. 96793

Dear Dr. Luna Nunokawa:

SUBJECT: Proposed Kahului Lani Family Affordable Housing Project at TMK (2)3-7-013:026, Kahului, Maui, Hawaii

I support the proposed site for the Kahului Lani Affordable Housing project. It is a very familiar location as it was formerly the site for the "Maui Fair". The "mana" is perfect for the many years it provided memorable moments for generations of families. This project will allow it to keep its special place in our community.

I support working families and the need to provide affordable houses for our people. The Kahului Lani Affordable Housing location is situated close to necessities for everyday living and making it easier to provide for their every-day needs. Please contact my office at the appropriate time so I may learn more about this project.

Sincerely yours,

Yuki Lei K. Sugimura

Yuki Lei K. Sugimura
Councilmember, Upcountry Maui

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Michael T. Munekiyo
CHAIRMAN
Karlynn K. Fukuda
PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

November 16, 2020

The Honorable Yuki Lei Sugimura, Councilmember
County of Maui
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793

SUBJECT: Hale Pilina Family Affordable Rental Housing Project located at TMK (2)3-7-013:026, Kahului, Maui, Hawai'i

Dear Councilmember Sugimura:

Thank you for your letter dated July 23, 2020 responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the proposed Hale Pilina Family Affordable Rental Housing Project (formerly referred to as Kahului Lani Family Affordable Housing project). On behalf of Catholic Charities Housing Development Corporation (CCHDC), we thank you for your support of the proposed Kahului Lani Family Affordable Housing project and look forward to scheduling a time, in the near future, with you to discuss the project further.

Thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

Kari Luna Nunokawa, Ed.D.
Senior Manager

KLN:tn
cc: Buddy Almeida, Department of Housing and Human Concerns
Rick Stack, Catholic Charities Housing Development Corporation
Gary Furuta, GSF, LLC
Jeff Furuta, GSF, LLC
Andrew Furuta, GSF, LLC
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JUL 28 2020

Maui Economic Opportunity, Inc.

P.O. Box 2122
Kahului, HI 96733
808-249-2990
Fax: 808-249-2991
www.meoinc.org

July 22, 2020

Muneyiko Hiraga
Attn: Kari Luna Nunokawa
305 High Street, Suite 104
Wailuku, HI 96793

Re: Early Consultation Request for the Proposed Kahului Lani Family Affordable Housing Project; TMK (2)3-7-013:026; Kahului, Maui, Hawai'i

Dear Ms. Nunokawa,

Maui Economic Opportunity, Inc. is in full support of the proposed affordable housing project referenced above.

Thank you for seeking community comments.

Mahalo nui loa,

Debbie Cabebe, SPHR
Chief Executive Officer

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Michael T. Munekiyo
CHAIRMAN
Karlynn K. Fukuda
PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

November 16, 2020

Debbie Cabebe, Chief Executive Officer
Maui Economic Opportunity
99 Mahalani Street
Wailuku, Hawai'i 96793

SUBJECT: Hale Pilina Family Affordable Rental Housing Project located at TMK (2)3-7-013:026, Kahului, Maui, Hawai'i

Dear Ms. Cabebe:

Thank you for your letter dated July 22, 2020 responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the proposed Hale Pilina Family Affordable Rental Housing Project (formerly referred to as Kahului Lani Family Affordable Housing project). On behalf of Catholic Charities Housing Development Corporation (CCHDC), we thank you for expressing your support of the project.

Thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

Kari Luna Nunokawa, Ed.D.
Senior Manager

KLN:tn
cc: Buddy Almeida, Department of Housing and Human Concerns
Rick Stack, Catholic Charities Housing Development Corporation
Gary Furuta, GSF, LLC
Jeff Furuta, GSF, LLC
Andrew Furuta, GSF, LLC
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SUMMARY OF COMMUNITY OUTREACH

IX

IX. SUMMARY OF COMMUNITY OUTREACH

Two (2) public community meetings were held on October 5, 2020 and October 7, 2020. The meetings were held virtually utilizing the WebEx platform via computer, smart phone, tablet, or landline telephone connection. An evening meeting and daytime meeting were scheduled to accommodate the varying schedules of members of the public. Invitations to the meeting were mailed to residents within 500 feet of the project site and businesses and community institutions within 1,000 feet of the project site. A copy of the meeting invitation and supporting documents are provided in **Attachment "A"**. In addition, meeting invitations were provided to government agencies, legislators, and community organizations. For those individuals who were not able to attend either of the community meetings, comment sheets were mailed together with the invitation to allow individuals to provide written comments.

Meeting participants were given a short PowerPoint presentation on the project scope, shown the project site layout plans, an overview of studies, technical reports, and compliance efforts. See **Attachment "B"**. The public was also given the opportunity to ask questions of the developer, architect, engineer, and consultants regarding the project. Also available at the virtual meeting, participants were given a survey link with the same information from the hard copy comment form to provide any additional comments. Participants that were not able to access the link during the meeting were asked to contact Munekiyo Hiraga for a mailed hard copy.

During the community meetings and the written feedback received, two (2) main themes emerged; safety and traffic. It is important to note, that due to the feedback from the community outreach efforts, amendments were made to the project site plan to address the concerns brought forth. The building that is situated next to homes along West Alehela Street, will be set back from the property line even further than the required side set back of ten (10) feet to fifteen (15) feet and building heights lowered from thirty-eight (38) feet to under thirty-five (35) feet. These changes will help to provide a greater distance between existing homes on West Alehela Street and the proposed new project. Further, another amendment made to the site plan to address safety concerns includes switching Building A and Building B. Originally, Building B was situated closest to the Kaulawahine Street entrance and did not have the resident manager's unit and residence. To increase the monitoring of access in and out of the property, Building A was switched with Building B so the resident manager would be located closest to and facing one of the entrances.

In response to traffic concerns, an independent party was hired to conduct a Traffic Impact Assessment Report (TIAR). A more detailed analysis of the findings in the TIAR is located in Section 3 of this document, the Environmental Assessment, Chapter II, Section D, Infrastructure and the full TIAR in Appendix "E". However, the report did find that the project forecasted to generate 83 trips during the AM peak hour and 99 trips during the PM peak hour. This translates to an increase of approximately 25 to 30 vehicles in each direction per peak hour. In commute time, people on the road surrounding the project area during peak hours, may experience a

minimal increase of 1 to 4 seconds. As such, the TIAR did not recommend any road improvements.

October 5, 2020 Summary of Questions and Comments

- **Question (Morrison Huston):** How many parking stalls will there be when all phases are complete?
    - **Response (K. Nunokawa):** The project will provide one (1) parking stall for each one-bedroom unit and two (2) parking stalls for each two-bedroom unit. Guest/visitor parking will also be provided.
- **Question (Morrison Huston):** When is the last time you went to the Kahului Post Office? There will be 350 parking stalls. To take a right or left into or out of the Post Office, particularly if you are coming from Kīhei side, is a crazy thing. Will there be a turn lane into the project? No Street improvement whatsoever?
    - **Response (K. Nunokawa):** According to the Traffic Impact Analysis Report (TIAR), no road improvements were recommended. Developers are still in conversation with HDOT because Pu'unēnē is a State road, so there may be comments back regarding the middle lane that serves as a right and left turn into the various businesses in that area. There are different things to consider especially for the safety of the residents. In terms of traffic on Pu'unēnē, this entrance there would be a right-in, right-out. A left turn into the project will be prohibited.
- **Question (Morrison Huston):** Do you think a lot of the former homeless activity that came out of the Kahului Lani Senior project area has moved to this area?
    - **Response (T. Kealoha):** I don't necessarily think or believe that is so because we did hear this was from a different area and faction and some are part of a Native Hawaiian faction exercising their right, although those people did have to move along. It will take effort and time.
- **Question (Donald Higa):** I live between Kane Street and Alahele Street. Where will the access be into the project?
    - **Response (K. Nunokawa):** The project will have a right-in and right-out access on Pu'unēnē Street and access on Kaulawahine Street as well. In and out of Kaulawahine Street is next to the pool entrance.
- **Question (Donald Higa):** Another question regarding low traffic, Pu'unēnē Avenue is very busy in the afternoon, if I'm a resident going out onto Pu'unēnē Avenue will be hard so I would go through Kaulawahine Street and I will see more traffic there, so not too sure about "low traffic".
    - **Response (K. Nunokawa):** The TIAR reported that the expected increase in traffic will be 15 to 25 cars per direction per peak hour. This translates to a 1 to 4 second delay. The TIAR analysis also took into account other proposed developments in the region.

- **Question (Donald Higa):** On Kaulawahine Street will there be a fence or open?
    - **Response (K. Nunokawa):** That has not been determined yet. It can depend on financing and the park is meant for the residents.
- **Comment (Donald Higa):** Hopefully it will be fenced because without the fence, there will be homeless people walking to the park. Homeless camps by Kahului Union Church and the Salvation Army, and without a fence it can get very bad.
    - **Response (T. Kealoha):** There was a big homeless encampment at the Kahului Lani Senior site prior to acquiring the land. It took a lot of coordination and collaboration with other agencies to address the issue. This will be a little of the same when this project starts. Having the buildings there, people there, and services available to these people will curb that activity greatly.
    - **Comment (Donald Higa):** Recommend fencing park. If you don't have it fenced, you'll get homeless people at the park.
- **Question (Cenon/Lesley)** – We are located directly behind where the buildings will be built. Were there any surveys done by the surrounding residents? People like the privacy and safety. What are the steps for privacy and safety for community there?
    - **Response (K. Nunokawa):** Safety is number one priority for everyone. Safety measures will be determined. A survey was not done of the surrounding residents. However, affordable housing is a big issue and one of the things the County Council pushes is for affordable housing to be developed within existing infrastructure to be closer to work, schools, use public transportation, and have walkable communities so that residents' costs stay low. They don't need to have a car.
- **Question (Cenon/Lesley):** Will there be a security hired on property?
    - **Response (K. Nunokawa & J. Furuta):** There will be a full-time resident manager living on property 24/7. There will be security for the project.
- **Question (Cenon/Lesley):** How was it determined how close the buildings were in relation to the residential neighborhood? Concerned about how close and high buildings are and can they see inside the homes? Could that change as far as distance of the buildings?
    - **Response (S. Wong):** There is a minimum of 20 ft. between the building and property line (driven by code) and there will be a buffer and landscaping to also provide privacy.
    - **Comment (G. Furuta):** Typically we do have funding for the fencing around the property, however, this is included as a contingency line item in the budget due to the nature of affordable housing development funding application processes. At least a 20 ft. setback on Building B and we will be doing landscaping to buffer that area.
- **Comment (E. Dust, Executive Assistant to Councilmember T. Kama):** During the County Council's review of the MCC 2.97 application, there will be opportunities for public

testimony and the Council may adopt modifications (conditions) for the project based on public input. For example, if there are public comments made to Council regarding fencing, the Council may make the fence a modification (condition) for the project.

- **Question (Morrison Huston):** When is the comment period?
    - **Response (E. Dust, Executive Assistant to Councilmember T. Kama):** It starts when the applicant submits the 2.97 application to DHHC, then it goes to Council Services to accept on behalf of Council. If accepted, they send the project to the Affordable Housing Committee of the Council. The Affordable Housing Committee will take public comments for the project. The Committee/Council has a 60 day turnaround time and if there is no action by the Committee/Council, the project goes to the Director of the Department of Housing and Human Concerns to make a decision. There is also opportunity for public comment during the Draft EA process as well (30 days). All comments incorporated into the Final EA.

October 7, 2020 Summary of Questions and Comments

- **Question (E. Dust, Executive Assistant to Councilmember T. Kama):** When will the comment period end?
    - **Response (K. Nunokawa):** The comment period deadline will be dependent upon the publication date of the Environmental Assessment with the Office of Environmental Quality Control.
- **Question (E. Christensen):** How many people on the waiting list?
    - **Response (K. Nunokawa):** There is no waiting list at this time. Hale Mahaolu will manage the application process closer to project completion.
- **Question (Sister Angie, Christ the King Church):** Can people below the income limit apply for housing? Will it be open to any age group?
    - **Response (K. Nunokawa):** Yes, anyone below 60 percent of the AMI can apply and it will be open to all ages.
- **Question (Sister Angie, Christ the King Church):** How long does housing assistance last?
    - **Response (T. Kealoha):** The length of funding assistance for rent varies from agency to agency. At Catholic Charities, housing rental assistance is one month, but there are other factors that can impact this length, such as whether or not job loss is due to COVID.

Written Comments Received

Written comments were received from two (2) individuals. See **Attachment "C"**.

No comments were submitted via the online Survey Monkey survey that was made available during the two (2) public meetings.

ATTACHMENT “A”

Community Outreach Letter, Project Fact Sheet, Project Location Map, Site Plan, and Comment Form

October 9, 2020

(NAME)
(ADDRESS)

SUBJECT: Invitation to Community Meeting for Proposed Hale Pilina Family Affordable Rental Housing Project at TMK (2)3-7-013:026, Kahului, Maui, Hawai‘i

Dear (SALUTATION):

On behalf of Catholic Charities Housing Development Corporation (“CCHDC”), we are writing to invite you to a community meeting for the proposed Hale Pilina Family Affordable Rental Housing project at 150 South Pu‘unēnē Avenue.

Catholic Charities Hawai‘i, parent company of CCHDC and established in 1947, provides a wide range of social services for people with the greatest need, regardless of faith or culture. One of their largest endeavors is providing affordable housing for the people of Hawai‘i. As such, CCHDC was formed to resolve this growing need.

Its first project on Maui was the Kahului Lani Senior Affordable Rental Housing project, located across Queen Ka‘ahumanu Shopping Center. The first phase of the project, with 81 one-bedroom apartments, began welcoming residents in July. The second phase is under construction and will provide another 83 affordable senior homes.

CCHDC is continuing its mission and proposing the development of the Hale Pilina Family Affordable Rental Housing project, comprised of approximately 180 units. The entire project will be a 100 percent affordable family housing effort. The Hale Pilina Family Affordable Rental Housing project will be developed on 4.865-acres of land identified as TMK (2)3-7-013:026, the vacant parcel of land where the Maui Swap Meet used to be held. The subject property is located on Pu‘unēnē Avenue with South Kaulawahine Street bordering the property to the west in the Kahului urban core.

The Hale Pilina Family Affordable Rental Housing project will include the development of four (4) three-story residential buildings in two (2) phases, onsite parking stalls, a park, and related improvements. The proposed project will provide one-bedroom and two-bedroom family units for rent at 60 percent and below the HUD Area Median Income (AMI). Hale Mahaolu will serve as the property manager of the site. The enclosed Hale Pilina Fact Sheet provides a location map, site plan, and project information.

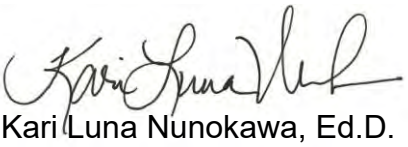
An Environmental Assessment (EA) will be prepared for the project pursuant to Chapter 343, Hawai‘i Revised Statutes and CCHDC will seek a Chapter 2.97, Maui County Code affordable housing approval from the Maui County Council.

CCHDC will be hosting two (2) public meetings to provide more information on the Hale Pilina Family Affordable Rental Housing project, answer questions, and seek input from the community. The same information will be provided at both meetings. Due to the COVID-19 pandemic, the meetings will be virtual using the WebEx platform. You may join the meeting via video conference using a computer, smart phone, or tablet by copying the link to your internet browser. If you choose to join from a smart phone or tablet, you may need to download the free WebEx application first. If you are not able to join via video conference, you may join the meeting by calling in by phone and entering the meeting number provided. The date, time, and meeting details are provided below.

Date	October 5, 2020	October 7, 2020
Time	5:00 p.m	12:00 p.m.
Video Conference Link	https://munekiyohiraga.webex.com/munekiyohiraga/j.php?MTID=mac6a56ae73db87c55cead51b68ec38ad	https://munekiyohiraga.webex.com/munekiyohiraga/j.php?MTID=m264f5612041155d0c69a7443007a0489
Video Conference Password	HalePilina1	HalePilina2
Phone No.	1-877-668-4490	1-877-668-4490
Meeting Number	126 823 3888	126 053 4722

We hope you are able to join us for one (1) of the meetings and look forward to receiving your feedback on the Hale Pilina Family Affordable Rental Housing project. If you are not able to attend the meetings, we have also enclosed a comment sheet for you to share your thoughts or questions on the project. Should you have any questions or require further information regarding the Hale Pilina Family Affordable Rental Housing project, please do not hesitate to contact me (808) 244-2015.

Very truly yours,



Kari Luna Nunokawa, Ed.D.
Senior Manager

KLN:tn
Attachments
cc: Jeff Furuta, GSF, LLC.
Gary Furuta, GSF, LLC.
Thelma Kealoha, Catholic Charities, Maui
Rick Stack, Catholic Charities Housing Development Corporation
Grant Chun, Hale Mahaolu

Hale Pilina Family Affordable Rental Housing Project

Fact Sheet

Project Overview

Catholic Charities Housing Development Corporation (CCHDC) is proposing the development of the Hale Pilina Family Affordable Rental Housing Project, comprised of 178 affordable family housing rental units plus a Resident Manager's unit, off of Puʻunēnē Avenue in Kahului, Maui. The Hale Pilina Family Affordable Rental Housing Project will be developed at 150 South Puʻunēnē Avenue on 4.865 acres of vacant land. The subject property is located on Puʻunēnē Avenue with South Kaulawahine Street bordering the west side of the property in Kahului. The site was formerly used for the Maui Swap Meet, which has since moved to its current location at the University of Hawaiʻi Maui College campus.

The Hale Pilina Family Affordable Rental Housing Project will include the development of four (4) three-story, multi-family residential buildings, a multi-purpose room, parking stalls, a park, and related improvements. The proposed project will provide 108 one-bedroom units and 70 two-bedroom units for rent to families who earn 60 percent or less of the County's Area Median Income (AMI). Hale Mahaolu will manage the property following completion of construction.

Project Funding and Time Schedule

CCHDC is seeking funding from the Hawaii Housing Finance and Development Corporation and the County of Maui Affordable Housing Fund. The development will be constructed in two (2) phases.

Environmental Assessment and Land Use Approvals

Opportunities for public comment will be provided during the environmental review and land use approval process for the project. An Environmental Assessment (EA) will be prepared for the project in accordance with Chapter 343, Hawaii Revised Statutes (HRS). The Draft EA is anticipated to be published later this year.

As a 100 percent affordable housing project, CCHDC will be seeking an affordable housing approval from the Maui County Council pursuant to Chapter 2.97 of the Maui County Code. The Chapter 2.97 application process will allow exemptions related to planning and zoning requirements, and include a request for an exemption from the need to seek a Community Plan Amendment and Change of Zoning for the project to expedite the delivery of affordable housing.

Contact Information

For more information about this project, please contact Kari Luna Nunokawa of Munekiyo Hiraga at (808) 244-2015 or planning@munekiyohiraga.com.

Source: Esri, Digital Globe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID

Figure 1 Hale Pilina Family Affordable Rental Housing Project
Regional Location Map

0 2500 Feet
1250 5000

Prepared for: Catholic Charities Housing Development Corporation

MUNEKIYO HIRAGA

GSF/Kahului AH/Applications/Figures/Regional Location

Source: M&A Hawaii

Figure 2 Hale Pilina Family Affordable Rental Housing Project
Site Plan

NOT TO SCALE

Prepared for: Catholic Charities Housing Development Corporation

MUNEKIYO HIRAGA

GSF/Kahului AH/Applications/Figures/Site Plan.Outreach

MUNEKIYO HIRAGA

COMMENT FORM

Hale Pilina Family Affordable Rental Housing Project

Virtual Community Meeting
October 5 & 7, 2020

Name:_____Phone No. _____

Address: _____

_____

Email Address: _____

Please write any comments you wish to share on the proposed project below.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Please submit your comments by October 14, 2020 via mail to:

Munekiyo Hiraga
Attention: Kari Luna Nunokawa
305 High Street, Suite 104
Wailuku, Hawai‘i 96793

Should you have any questions, please feel free to contact Kari Luna Nunokawa, Munekiyo Hiraga, at 244-2015.

ATTACHMENT “B”

Public Meeting Power Point Presentation

Proposed Hale Pilina Family Affordable Rental Housing Project

150 S. Puʻunēnē Avenue

Kahului, Maui, Hawaiʻi

Catholic Charities Housing Development Corporation

Public Meeting

October 5 and October 7, 2020

MUNEKIYO HIRAGA

Catholic Charities Housing Development Corporation

- Subsidiary of Catholic Charities Hawaiʻi
- Founded in 1999 to address growing affordable housing need in Hawaiʻi
- Project team has developed over 1,400 affordable senior and family housing units Statewide, including 164 units at the Kahului Lani Senior Affordable Housing Project

Kahului Lani Senior Affordable Housing Project Groundbreaking

Property Overview

- Property Ownership – A&B Properties, Inc.
- Property Developer - CCHDC
- Land Use Designations
  - State Land Use – Urban
  - Community Plan – Park
  - Zoning – Public/Quasi-Public

Regional Location

Site Photographs

Puʻunēnē Avenue Looking Toward Entire Project Site

Panoramic of Site from South Kaulawahine Street

Project Overview

- 4 three-story residential buildings
  - 108 one-bedroom units
  - 70 two-bedroom units
  - 1 manager unit
- Available to households earning up to 60 percent AMI
- Hale Mahaolu will be property manager

2020 Income Limits and Rents 60 Percent Area Median Income

Household Size	Income Limit
1 person	$43,080
2 person	$49,200
3 person	$55,380
4 person	$61,500
Unit Size	**Max Net Rent**
1 Bedroom	$1,153
2 Bedroom	$1,384

**Actual Income Limits and Rents are determined annually by the U.S. Department of Housing and Urban Development

7

Hale Pilina Family Affordable Rental Housing Project Overview

8

Building C Rendering

9

Building A and Building D Rendering

10

Building A and Building D Rendering

11

Hale Pilina Family Affordable Rental Housing Project –Floor Plans

12

Hale Pilina Family Affordable Rental Housing Project –Floor Plans

13

Building Elevations

14

Environmental Review and Land Use Approvals

- State Historic Preservation Division (SHPD) Review
  - Chapter 6E, Hawai'i Revised Statutes
  - Ensure historic properties and/or artifacts are not affected by this project
- Environmental Assessment
  - Chapter 343, Hawai'i Revised Statutes
  - Assess potential environmental impacts and identify mitigation measure
  - Department of Housing and Human Concerns
- Maui County Code, Chapter 2.97 Residential Workforce Housing Approval
- 100% Affordable Housing Project
  - Exemptions from certain planning, zoning, and subdivision standards to expedite the delivery of affordable housing while still maintaining requirements for health and safety
  - Allow project to proceed without needing to obtain a Community Plan Amendment and Change of Zoning
  - Maui County Council

15

Studies

- **Flora Fauna Survey**
  - No threatened or endangered species or habitat on the property
- **Preliminary Engineering and Drainage Report**
  - Will connect to County water and wastewater systems
- **Traffic Impact Analysis Report**
  - Low traffic increases as a result of project
  - No roadway improvements recommended
- **Archaeological Consultation with SHPD**
  - Archaeological Inventory Survey, including subsurface testing, conducted in 2004
  - No historic properties identified

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Project Timeline

- **Environmental Assessment**
  - Draft EA (30 day public comment) – End of 2020
  - Final EA – Spring 2021
- **2.97 Approval – Summer 2021**
- **Phase 1 Construction – End of 2022/ Beginning of 2023**
- **Phase 1 Completion – Fall/Winter 2024**
- **Anticipated Occupancy immediately after Phase 1 Completion – End of 2024/Beginning of 2025**

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Q&A

We would like to hear from you. Please feel free to submit a comment via:

https://www.surveymonkey.com/r/halepilina

Or, you may call Kari Luna Nunokawa at 808-244-2015 to receive a hard copy of the comment sheet.

MAHALO NUI!

ATTACHMENT “C”

Written Comments Received

OCT - 5 2020

MUNEKIYO HIRAGA

COMMENT FORM

Hale Pilina Family Affordable Rental Housing Project

Virtual Community Meeting
October 5 & 7, 2020

Name: Rene Denny Phone No. 871-4275

Address: 136 W Kane St.
Kahului, HI 96732

Email Address: _____

Please write any comments you wish to share on the proposed project below.

I understand the need for affordable housing on Maui.

My concern for this project is that it will be built in a "tsunami evacuation area". Will all tenants be able to evacuate within the alotted time safely?

Another concern is that there should be "NO" entrance or exist to the complex on Kaluawahine street. It is 'not fair' for the existing residence to have to put up with "parked" cars lined-up infront their homes, and more traffic.

Please submit your comments by October 14, 2020 via mail to:

Munekiyo Hiraga
Attention: Kari Luna Nunokawa
305 High Street, Suite 104
Wailuku, Hawai'i 96793

Should you have any questions, please feel free to contact Kari Luna Nunokawa, Munekiyo Hiraga, at 244-2015.

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Michael T. Munekiyo
CHAIRMAN
Karlynn K. Fukuda
PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

November 19, 2020

Rene Denny
136 W. Kane Street
Kahului, Hawai'i 96732

SUBJECT: Hale Pilina Family Affordable Rental Housing Project

Dear Ms. Denny:

Thank you for submitting your comments regarding the Hale Pilina Family Affordable Rental Housing project ("Project") located at the Old Kahului Swap Meet site. On behalf of the developer, Catholic Charities Housing Development Corporation (CCHDC), we wanted to take this time to acknowledge and address the comments you shared.

Tsunami Evacuation Zone: Thank you for your comments regarding the tsunami evacuation zone. Like the surrounding residential areas, the project site is located within the tsunami evacuation zone. Procedures to organize and direct operations at the Project in the event of a tsunami will be established. Hale Mahaolu, the managing organization for the Project, will have emergency procedures in place which will be posted and distributed to all residents.

Traffic: Thank you for your comments regarding traffic. The project sponsor retained a traffic engineer to collect traffic count data, forecast future traffic conditions with and without the Project, and determine whether any roadway improvements would be required as a result of the Project. The findings of this analysis was summarized in a Traffic Impact Analysis Report (TIAR). The Hale Pilina project will have two (2) vehicular access points. Because Pu'unēnē Avenue is a four-lane roadway, the driveway off of Pu'unēnē Avenue will be restricted to right-turn in and right-turn out movements. Full access will be provided at the project's entrance on Kaulawahine Street. The TIAR noted that during the morning and afternoon peak hours, the Project is expected to generate an additional 25 to 30 vehicles in each direction per peak hour. In commute time, people on the road surrounding the project area during peak hours may experience a minimal increase of 1 to 4 seconds. As such, the TIAR did not recommend any roadway improvements to be required as a result of the Project. The Project will also be providing adequate parking for its residents and visitors so street parking can be avoided.

We appreciate you taking the time to share your comments on regarding the Hale Pilina Family Affordable Rental Housing project. More information on the Project will be available in the Environmental Assessment that will be published in the coming months. In the meantime, if we can be of any more assistance, please do not hesitate to contact me at 244-2015.

Very truly yours,

Kari Luna Nunokawa, Ed.D.
Senior Manager

KLN:tn
cc: Rick Stack, Catholic Charities Housing Development Corporation
Jeff Furuta, GSF, LLC.
Gary Furuta, GSF, LLC.
Grant Chun, Hale Mahaolu
Thelma Kealoha, Catholic Charities Hawai'i
K:\DATA\GSF\Kahului AH 2281\Applications\Meetings\Mtg Response Ltrs\Denny Response.doc

OCT 14 2020

MUNEKIYO HIRAGA

COMMENT FORM

Hale Pilina Family Affordable Rental Housing Project

Virtual Community Meeting
October 5 & 7, 2020

Name: Kevin + Constance Inouye Phone No. _____

Address: _____

_____

Email Address: _____

Please write any comments you wish to share on the proposed project below.

SEE ATTACHMENT.

Please submit your comments by October 14, 2020 via mail to:

Munekiyo Hiraga
Attention: Kari Luna Nunokawa
305 High Street, Suite 104
Wailuku, Hawai'i 96793

Should you have any questions, please feel free to contact Kari Luna Nunokawa, Munekiyo Hiraga, at 244-2015.

10/12/2020

NIMBY: NOT IN MY BACKYARD!

Our family has lived on this present property for over three decades now. This is where we raised our children and where we grew up. Many other families are long-time residents in this area. While living here all these years, we have done our part to contribute what we can in keeping this a good, clean, and safe place to live for everyone in our neighborhood and community.

Now, it has come to our attention of the proposed Hale Pilina Family Affordable (aka: Low Income) Rental Housing Project to be built on the vacant parcel of land where the Maui Swap Meet used to be. We do not object to the building of low income housing units. However, NIMBY (Not In My Backyard), please! We understand the necessity to solve the housing issue on Maui, but we believe that this development is too close to or an "invasion" of our residence and neighborhood.

We oppose this affordable (aka: low income) housing project and feel it would be detrimental to our neighborhood and community for the following reasons:

1. **Increased traffic** on local streets nearby with possibilities of increased drunken driving. Kaulawahine St. is already a very narrow street to begin with. More cars going into the housing area from Kaulawahine St. will pose more traffic and congestion on this narrow street with possibilities of more accidents due to negligent driving which is not safe, especially for many elderly, who are long-time residents living in this area.

2. **Increased noise** will create difficulty for locals in the area to sleep at night. The more people living in an area, the more tendencies to increased noise especially late at night (ie: loud talking due to large gatherings and more congregating on Kaulawahine St. which is away from "public view" than on Puunene St.)

3. **Increased public disturbances and violence** (ie: fights and arguments).

4. **Increased numbers of unattended children** roaming around the neighborhood; which could lead to more social problems such as **gangs and gang-type behaviors** (ie: graffiti, trashing and damaging neighborhood properties) and **increased illegal activities** (ie: drugs and drug dealings) resulting in **high crime rates** (ie: robberies/murders).

This affordable housing project will most definitely **affect the mental and emotional health and physical well-being** of the current residents living in this long-established residential area, by spreading dysfunction and bringing in more social problems. It can even hurt by preventing to attract high-income homeowners and new business investment to the area; thus, decreasing property values and exacting a huge toll on the neighborhood's economic vitality. It is inevitable that our everyday lives will be affected to the extent where long-established, good law-abiding residents may even opt to move out of this area which can sap urban vitality. As retired professionals living nearby, this proposed housing project is the straw that will break the camel's back. We will be one of those who will move out of this neighborhood, if it is built.

Furthermore, what is the impact of this project on the school system? All children living in this Kahului boundary area would need to go to Kahului School. From my knowledge, that school, as well as, Lihikai School, and Maui Waena Intermediate School are bursting at their seams already in their enrollment numbers. Will another elementary and intermediate school be built in the near future to accommodate the influx of all these children from this housing area? Does the government even have the funds to build another school in this area anytime soon? Has this dilemma even been thought out?

Build this affordable housing project someplace else where the school system can accommodate the number of children from these families and where the children's educational development are considered, as well.

Currently, and for a couple of years now, we have been grappling with the problem of the homeless who consistently and continuously congregate along Kaulawahine St. due to the close proximity to the Salvation Army. Repeated calls to the County and to the Police Department for their assistance to clean-up this area have fallen on deaf ears. Our health and safety is constantly at-risk due to the unkempt conditions and dangers of violence that exist through late night fights and arguments that have been heard and witnessed.

How much more does this neighborhood need to suffer? The ongoing problems from the homeless situation on Kaulawahine St. still has not been resolved after several years. By bringing in a low income housing project of this magnitude, along with all the serious social ills that it carries, to be built so close to a residential area,
"What measures will be taken to assure and ensure the safety and well-being of the residents living in the 'heart of Kahului'?"

In closing, the main issue here is about SAFETY. This proposed affordable (aka: low income) housing project serves no beneficial purposes to our residential area. Our neighborhood does not need any more problems associated with low income housing in our backyard. We do not want to turn the 'heart of Kahului' into a ghetto! My question to you is: "How would you feel if this "Affordable (aka: Low Income) Housing Project" was built in your backyard?" If you're a NIMBY, then you would OPPOSE this development.
We are a NIMBY and we OPPOSE this project!

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Michael T. Munekiyo
CHAIRMAN
Karlynn K. Fukuda
PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

November 19, 2020

Kevin and Constance Inouye
81 West Kane Street
Kahului, Hawai'i 96732

SUBJECT: Hale Pilina Family Affordable Rental Housing Project

Dear Mr. and Mrs. Inouye:

Thank you for submitting your comments regarding the Hale Pilina Family Affordable Rental Housing project ("Project") located at the Old Kahului Swap Meet site. On behalf of the developer, Catholic Charities Housing Development Corporation (CCHDC), we wanted to take this time to acknowledge and address the comments shared in your letter.

Traffic: Thank you for your comments regarding traffic. The project sponsor retained a traffic engineer to collect traffic count data, forecast future traffic conditions with and without the project, and determine whether any roadway improvements would be required as a result of the Project. The findings of this analysis was summarized in a Traffic Impact Analysis Report (TIAR). The Hale Pilina project will have two (2) vehicular access points. Because Pu'unēnē Avenue is a four-lane roadway, the driveway off of Pu'unēnē Avenue will be restricted to right-turn in and right-turn out movements. Full access will be provided at the Project's entrance on Kaulawahine Street. The TIAR noted that during the morning and afternoon peak hours, the Project is expected to generate an additional 25 to 30 vehicles in each direction per peak hour. In commute time, people on the road surrounding the project area during peak hours may experience a minimal increase of 1 to 4 seconds. As such, the TIAR did not recommend any roadway improvements would be required as a result of the Project.

Noise: Thank you for your comment about noise concerns. The Project is not expected to add to the ambient noise levels beyond what is typical of urban environments. Traffic noise from nearby roadways is the predominant source of background noise in the Project vicinity. Three (3) of the four (4) buildings will be situated away from the residential areas. In particular, one building will be adjacent to the Coach Spencer Shiraishi Memorial Pool, another building next to the Kahului Post Office, and the third building will be parallel to Pu'unēnē Avenue. The other building has a larger set back

from the residences on West Alehela Street and also houses the residential manager who will be charged with, among other duties, monitoring noise levels of the residents.

Neighborhood Concerns: We note your concerns about impacts of the proposed development to the existing community. The Hale Pilina Family Affordable Rental Housing project will serve residents who earn up to 60 percent of the HUD Area Median Income (AMI). While the exact income limit qualifications will be determined at the time construction is completed, maximum current income limits would range from $43,080 for one-person households to $61,500 for four-person households. The project will provide quality, safe rental housing for many working individuals and families in our community, including beginning teachers, home health aide workers, school bus drivers, day care workers, restaurant staff, hotel industry workers, bank tellers, and more. These are people who are working or retired and are unable to find attainable housing for their budget, many of whom may be doubled up in multigenerational households.

The Old Kahului Swap Meet site has remained fallow and, for the most part, unattended. Empty and barren land can attract unwanted activities. Hale Mahaolu will manage and maintain the property and there will be a full-time resident manager living on site. The conversion of an empty, underutilized property into a multi-family residential development is not anticipated to have adverse economic impacts to the community.

Schools: Thank you for the comment regarding the school system. The Project is not expected to place significant new demands upon area schools. Future tenants of the Hale Pilina Project are expected to be families currently living in the region and doubled up in households, unable to afford their own home. A majority of the units are one-bedroom units and it is anticipated that the tenant profile will consist of many individuals and two-person households without children. The project sponsor will coordinate with the Department of Education and pay applicable school impact fees, which currently stand at $2,371.00 per unit to support children from the Project that may enter the public school system.

Homelessness: Thank you for your comment regarding the homeless situation on Kaulawahine Street. In the public meeting held on October 5 and 7, 2020, the homeless situation was also brought up. Catholic Charities Hawaii is aware of and committed to working and coordinating with the other non-profit agencies on Maui to address this issue. In another area on Maui where a homeless encampment existed on fallow, unattended land, Catholic Charities helped to curb the issue. Services were offered to the homeless people and as the building came up and people started to live there, the homeless encampment went elsewhere. There no longer was an empty and unattended lot for the homeless to live on.

We appreciate you taking the time to share your comments on regarding the Hale Pilina Family Affordable Rental Housing project. More information on the project will be available in the Environmental Assessment that will be published in the coming months. In the meantime, if we can be of any more assistance, please do not hesitate to contact me at 244-2015.

Very truly yours,

Kari Luna Nunokawa, Ed.D.
Senior Manager

KLN:tn
cc: Rick Stack, Catholic Charities Housing Development Corporation
Jeff Furuta, GSF, LLC.
Gary Furuta, GSF, LLC.
Thelma Kealoha, Catholic Charities Hawaii
Grant Chun, Hale Mahaolu
K:\DATA\GSF\Kahului AH 2281\Applications\Meetings\Mtg Response Ltrs\Inouye Response.doc

REFERENCES X

X. REFERENCES

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APPENDIX

A

CONCEPTUAL PLANS

CONCEPT SCOPE:

BUILDING A: 3 STORIES - 43 UNITS
(WITH 1 - TWO BEDROOM MANAGER'S UNIT & MULTI-PURPOSE ROOM)
BUILDING B: 3 STORIES - 45 UNITS
BUILDING C: 3 STORIES - 45 UNITS
BUILDING D: 3 STORIES - 45 UNITS

TOTAL NO. OF UNITS: 178 UNITS
RESIDENT MANAGER UNIT: 1 UNIT

UNIT MIX:

TWO BEDROOM UNITS: 70 (40%)
ONE BEDROOM UNITS: 108 (60.0%)

PARKING REQUIRED:

TWO BEDROOM UNITS: 71 X 2 = 142
ONE BEDROOMS: 108 X 1 = 108
TOTAL REQUIRED: = 250

PARKING PROVIDED: 250 STALLS
4 LOADING STALLS

1 A-1 **SITE PLAN**
SCALE: 1" = 40 FT.

REVISIONS	BY

Hale Pilina Affordable Housing

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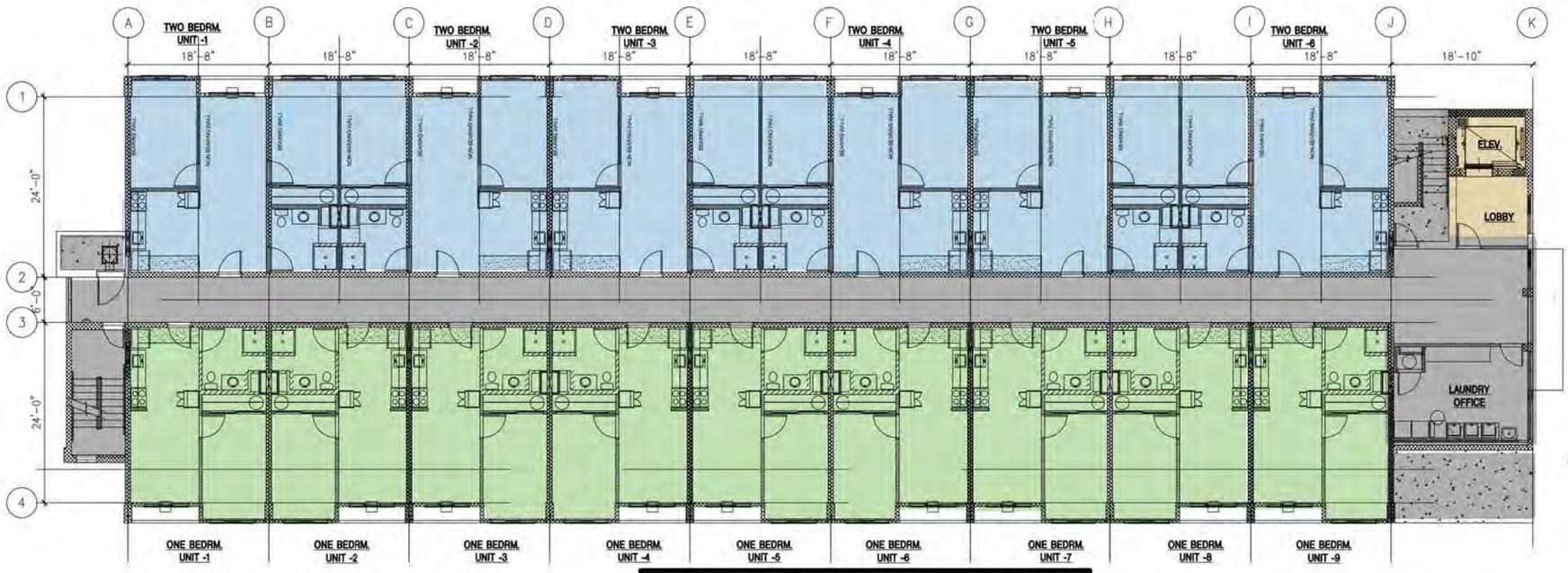
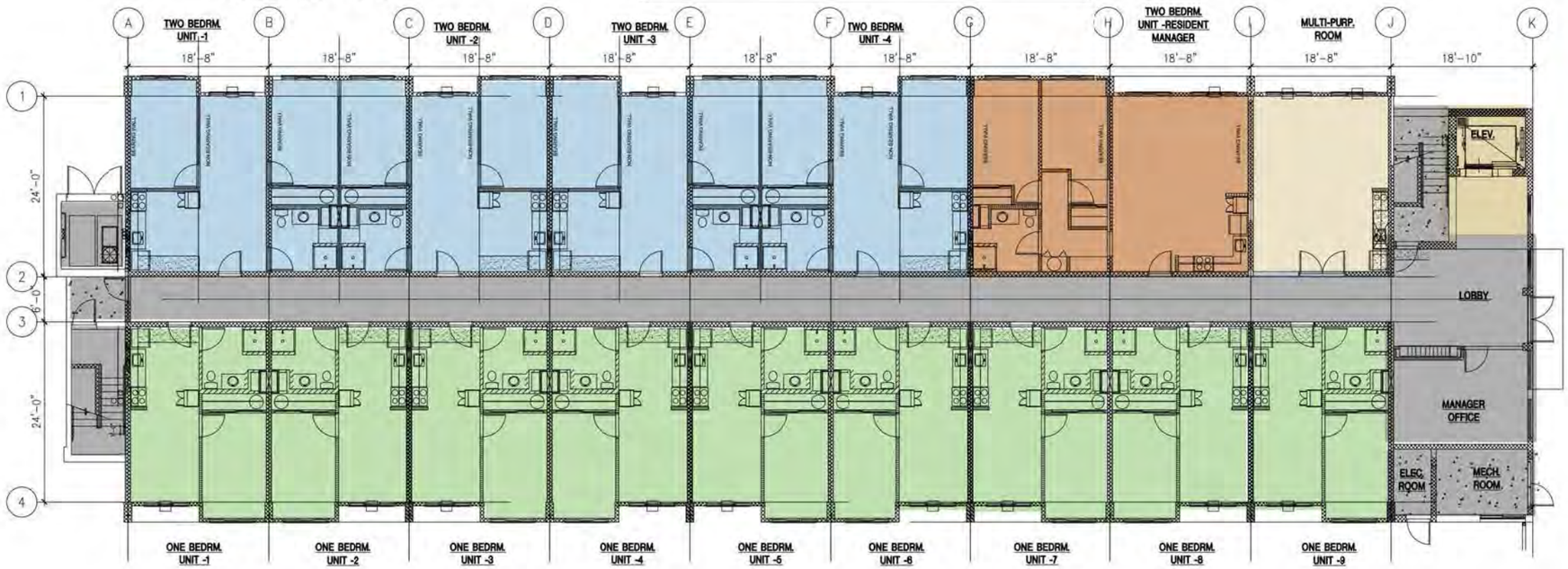
Sheet Title
REVISED SITE PLAN

Date 11/6/2020
Scale AS NOTED
Drawn By
Job
Sheet
Sheet ____ of ____



TYPICAL BLDG. - 2ND./3RD. FLOORS
SCALE: 1/8" = 1'-0"

TOTAL NO. OF UNITS @ EA. FLOOR
2 BEDROOM UNITS: 6 (12 TOTAL ON 2ND./3RD. FLR.)
ONE BEDROOM UNITS: 9 (18 TOTAL ON 2ND./3RD. FLR.)



TYPICAL BLDG. - GROUND FLOOR UNIT
SCALE: 1/8" = 1'-0"

TOTAL NO. OF UNITS @ GROUND FLOOR: 13
2 BEDROOM UNITS: 4
ONE BEDROOM UNITS: 9
PLUS ONE - TWO BEDROOM MANAGER'S UNIT

TYPICAL BUILDING PLAN
FOR BLDGS. A:
UNIT MIX COUNT:

GROUND FLOOR PLAN:
TWO BEDROOM UNITS: 4
ONE BEDROOM UNITS: 9
(PLUS RES. MGR. UNIT: 1)

SECOND FLOOR PLAN:
TWO BEDROOM UNITS: 6
ONE BEDROOM UNITS: 9

THIRD FLOOR PLAN:
TWO BEDROOM UNITS: 6
ONE BEDROOM UNITS: 9

TOTAL NO: OF UNITS:43
(PLUS 1 RESIDENT MNGR.
-TWO BEDROOM UNIT)

LEGEND:

- 2 - BEDROOM UNIT
- 1 - BEDROOM UNIT
- RESIDENT MANAGER
- SUPPORT SPACE
- CIRCULATION

8 6 4 2 0 8 16
SCALE: 1/8"= 1'-0"

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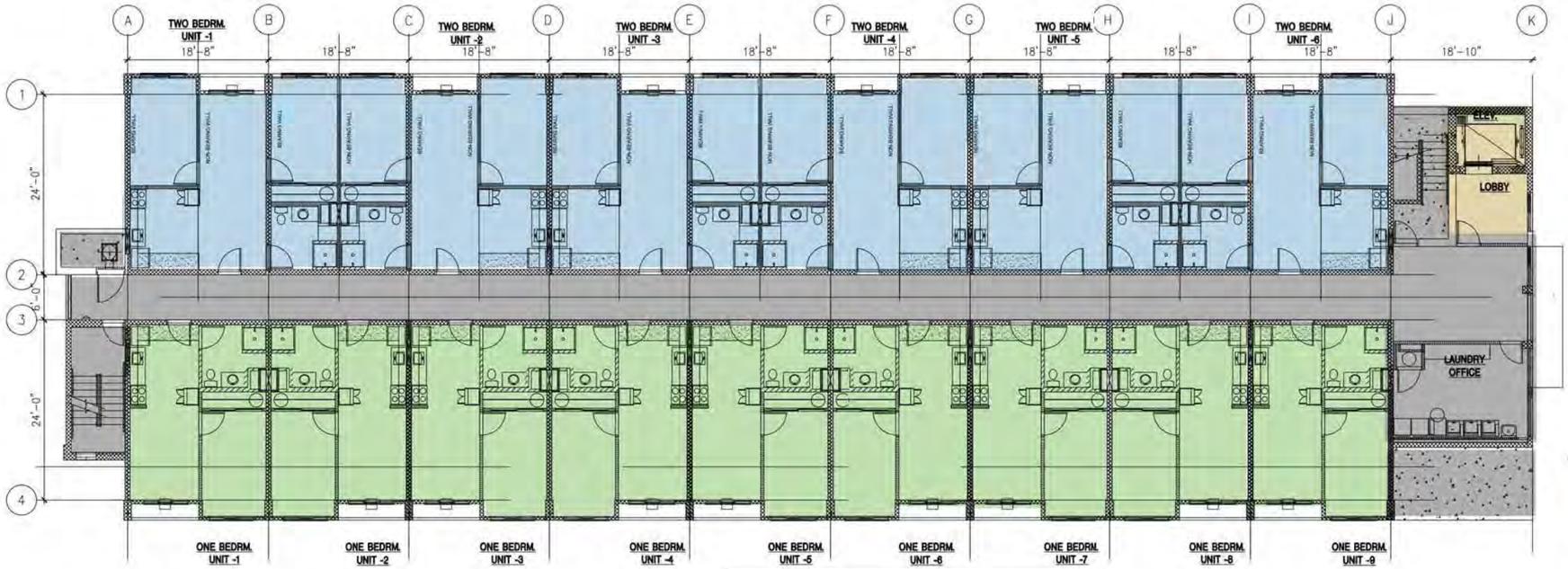
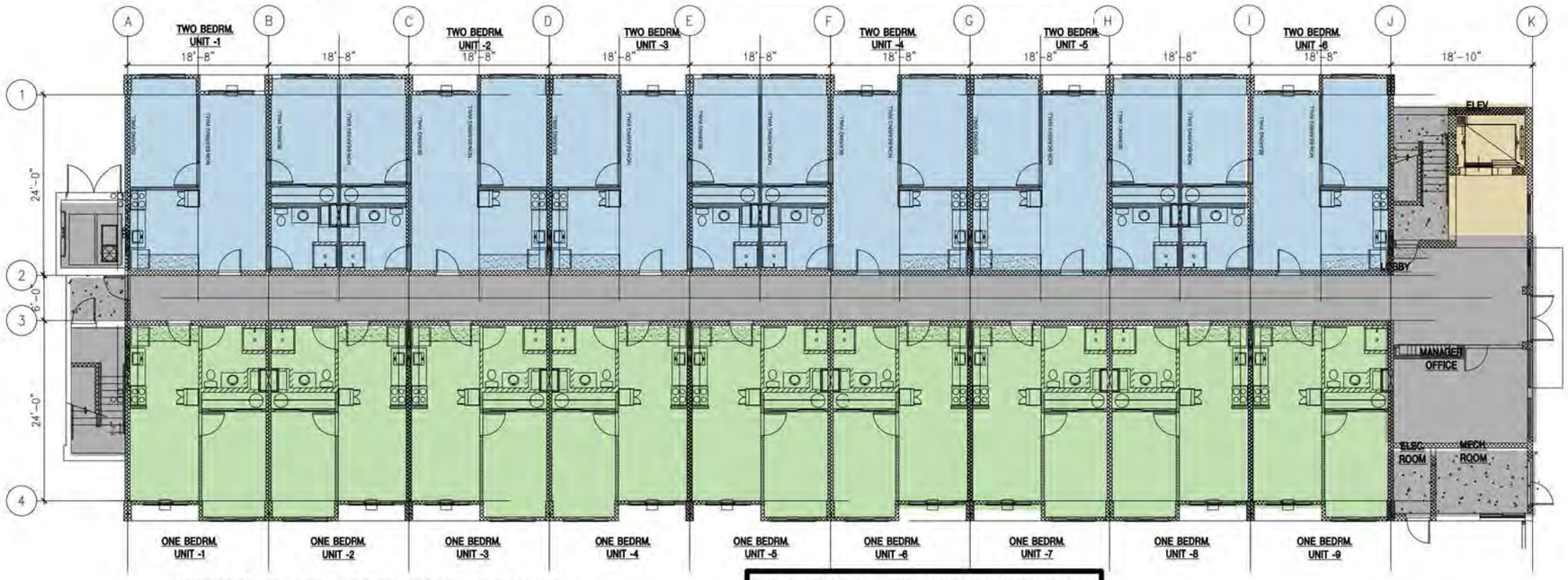
Sheet Title
TYPICAL BLDG.:
GRND. FLOOR
2ND./3RD. FLR.

Date: DRAFT 2020
Scale: AS NOTED
Drawn By:
Job:
Sheet:
Sheet ____ of ____



TYPICAL BLDG. - 2ND./3RD. FLOORS
SCALE: 1/8" = 1'-0"

TOTAL NO. OF UNITS @ EA. FLOOR
2 BEDROOM UNITS: 6 (12 TOTAL ON 2ND./3RD. FLR.)
ONE BEDROOM UNITS: 9 (18 TOTAL ON 2ND./3RD. FLR.)



TYPICAL BLDG. - GROUND FLOOR UNIT
SCALE: 1/8" = 1'-0"

TOTAL NO. OF UNITS @ GROUND FLOOR: 15
2 BEDROOM UNITS: 6
ONE BEDROOM UNITS: 9

TYPICAL BUILDING PLAN
FOR BLDGS. B (SIM.), C, & D:

UNIT MIX COUNT:

GROUND FLOOR PLAN:
TWO BEDROOM UNITS: 6
ONE BEDROOM UNITS: 9

SECOND FLOOR PLAN:
TWO BEDROOM UNITS: 6
ONE BEDROOM UNITS: 9

THIRD FLOOR PLAN:
TWO BEDROOM UNITS: 6
ONE BEDROOM UNITS: 9

TOTAL NO: OF UNITS
AT EACH BLDG.: 45

LEGEND:

- 2 - BEDROOM UNIT
- 1 - BEDROOM UNIT
- SUPPORT SPACE
- CIRCULATION

8 6 4 2 0 8 16
SCALE: 1/8"= 1'-0"

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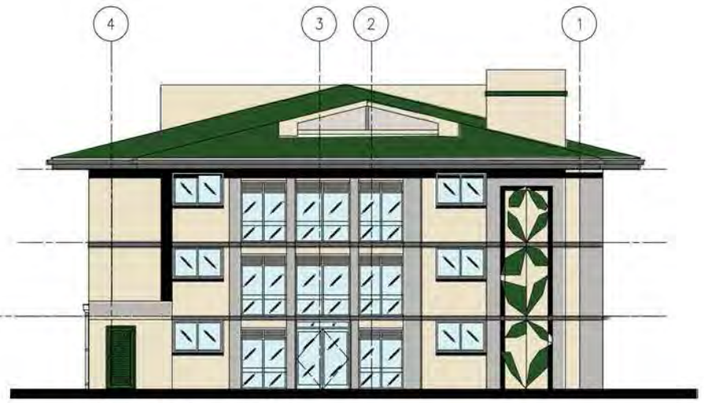
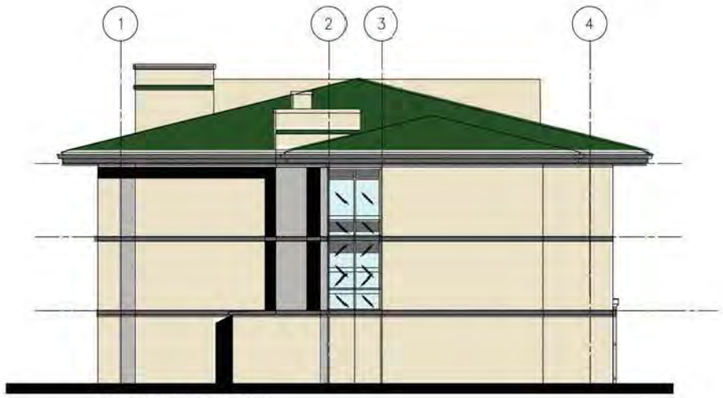
Sheet Title
TYPICAL BLDG.:
GRND. FLOOR
2ND./3RD. FLR.

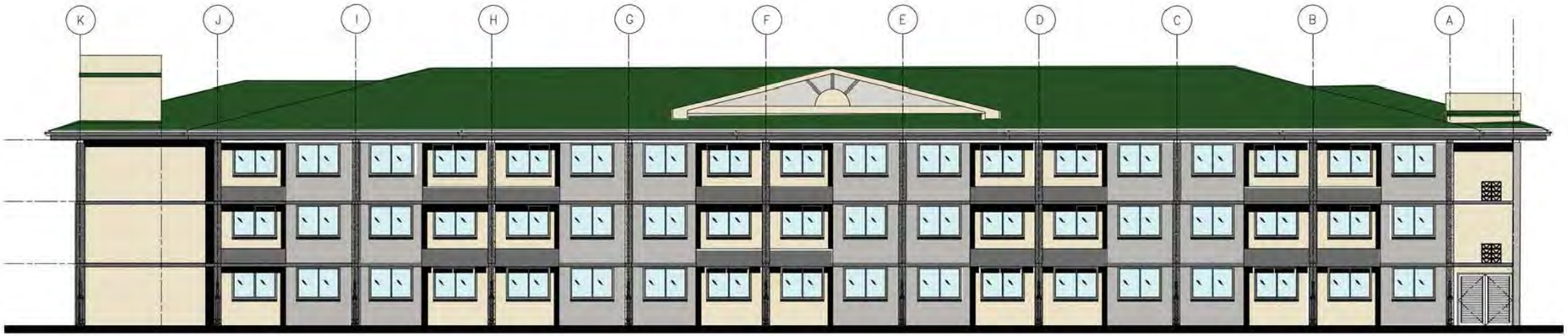
Date 8/7/2020
Scale AS NOTED
Drawn By
Job
Sheet
Sheet ____ of ____



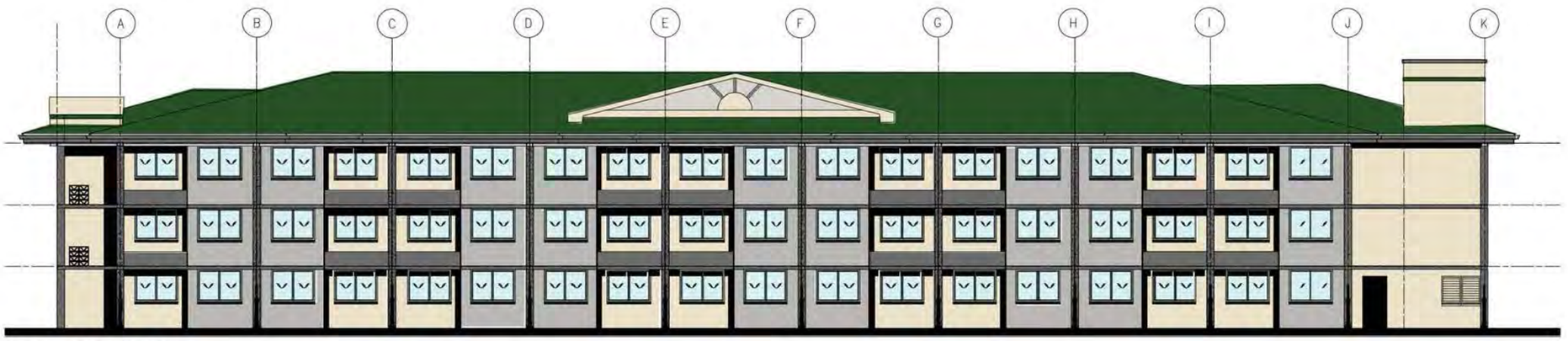
FRONT LOBBY ELEVATION



REAR ELEVATION



SIDE ELEVATION



SIDE ELEVATION

TYPICAL BUILDING - EXTERIOR ELEVTIONS
SCALE: 1/8" = 1'-0"

8 6 4 2 0 8 16
SCALE: 1/8"= 1'-0"

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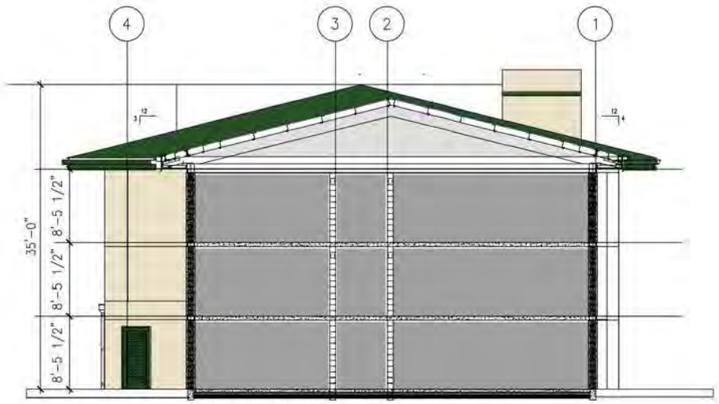
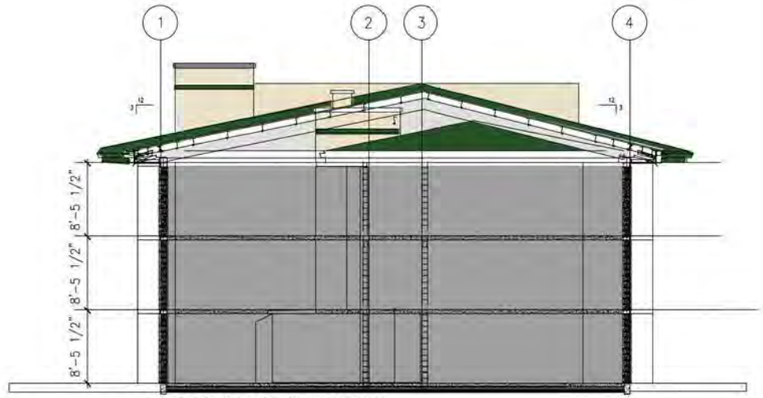
Sheet Title
TYPICAL BLDG.
EXTERIOR ELEVATIONS

Date OCTOBER 2020
Scale AS NOTED
Drawn By
Job
Sheet

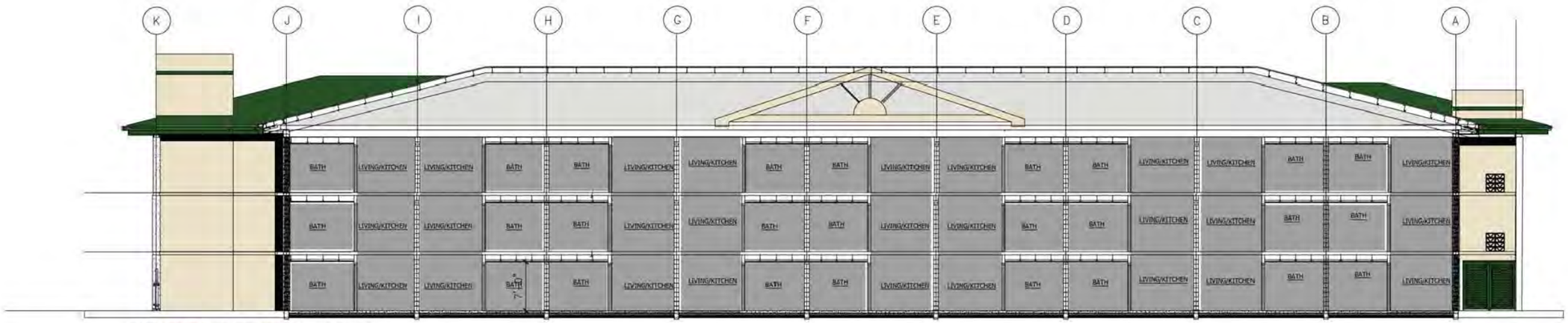
Sheet ____ of ____



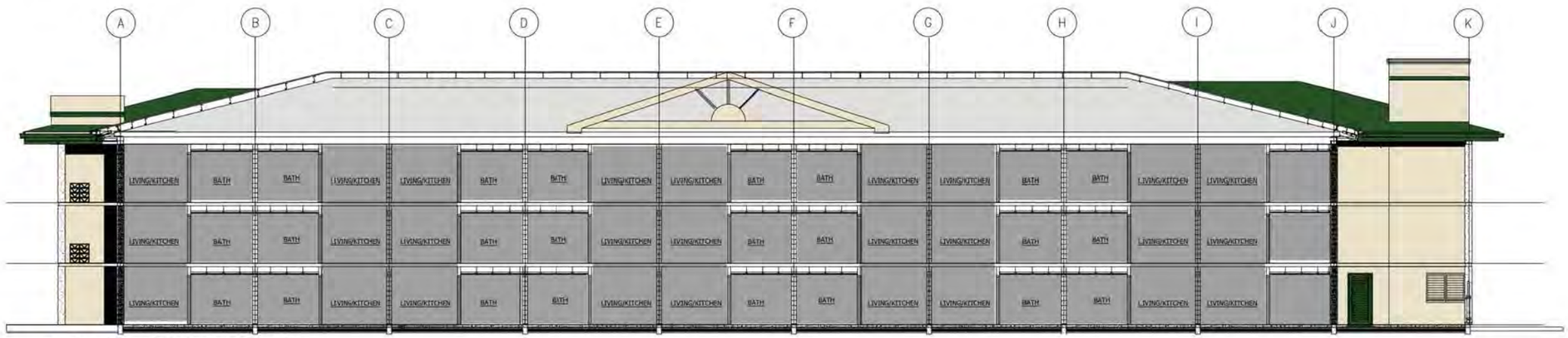
BUILDING CROSS SECTION



BUILDING CROSS SECTION



BUILDING LONGITUDINAL SECTION



BUILDING LONGITUDINAL SECTION

TYPICAL BUILDING CROSS AND LONGITUDINAL SECTIONS

SCALE: 1/8" = 1'-0"

8 6 4 2 0 8 16

SCALE: 1/8"= 1'-0"

REVISIONS	BY

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Sheet Title
TYPICAL BLDG.

BUILDING
CROSS SECTIONS
LONGITUDINAL
SECTIONS

Date OCTOBER 2020

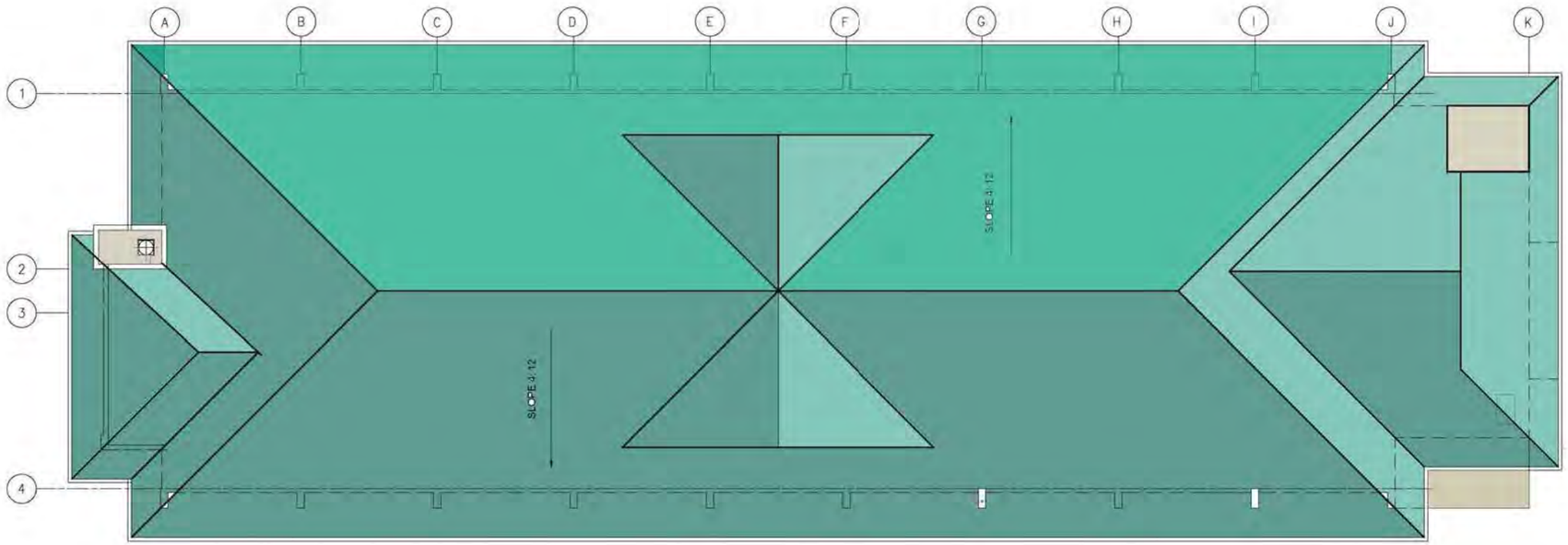
Scale AS NOTED

Drawn By

Job

Sheet

Sheet ____ of ____



TYPICAL BUILDING ROOF PLAN
SCALE: 1/8" = 1'-0"

8 6 4 2 0 8 16
SCALE: 1/8"= 1'-0"

REVISIONS	BY

Kahului Swap Meet Site

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Sheet Title

ROOF PLAN

Date 6/1/2020
Scale AS NOTED
Drawn By
Job
Sheet

Sheet ____ of ____

Hale Pilina Family Affordable Rental Housing Project PV Site Plan

Note: PV will be installed pending availability of funding

PV SYSTEM SUMMARY

CARPORTS: (1590) 400W SOLAR MODULES

SITE PLAN-LAYOUT

SCALE 1"= 30'-0"

ADON RENEWABLES
45-781 A Kamehameha Hwy
Kaneohe, HI 96744

KAHULUI SWAP MEET SITE

HAWAII

PROJECT:	KSM
DRAWN BY:	JZ
DATE:	10/20/2020
CHECKED BY:	MC

REVISIONS:

No	DATE	REVISION

NAME: **SITE PLAN**

NUMBER: **PV002**

GSF/Kahului AH 2281/Applications/Figures/Site Plan Layout

APPENDIX

B

FLORA AND FAUNA STUDY

BOTANICAL AND FAUNA SURVEY

for the

KAHULUI AFFORDABLE HOUSING PROJECT

KAHULUI, MAUI, HAWAII

by

ROBERT W. HOBDY
ENVIRONMENTAL CONSULTANT
Kokomo, Maui
May 2020

Prepared for:
Catholic Charities Housing Development Corporation
GSF, LLC

KAHULUI AFFORDABLE HOUSING PROJECT
BOTANICAL AND FAUNA SURVEY

INTRODUCTION

The Kahului Affordable Housing Project lies on 6.2 acres of undeveloped land in central Kahului along Pu`unēnē Avenue on TMK (2) 3-7-013:026 (see Figures 1 & 2). It lies between the Kahului Post Office and residential properties. This biological resource study was initiated in compliance with environmental requirements of the planning process.

SITE DESCRIPTION

The project area lies on level open ground that has been maintained as a mowed grass lawn that was formerly the site of the Kahului Swap Meet. The soils are made up mostly of calcareous sand and coral fragments of the Puu One sand series and partially on fill land of similar materials that were dredged from Kahului Harbor in 1910 and used to build up the Kahului Waterfront (Foote et al, 1972). The project area has a uniform elevation of 10 feet above sea level. Annual rainfall averages 22 inches with most occurring during the winter months (Armstrong, 1983).

SURVEY OBJECTIVES

This report summarizes the findings of a flora and fauna survey of the Kahului Affordable Housing Project which was conducted in May 2020.

The objectives of the survey were to:

1. Document what plant and animal species occur on the property or may likely occur in the existing habitat.

2. Document the status and abundance of each species.

3. Determine the presence or likely occurrence of any native flora and fauna, particularly any that are federally listed as Threatened or Endangered. If such occur, identify what features of the habitat may be essential for these species.

4. Determine if the project area contains any special habitats which if lost or altered might result in a significant negative impact on the flora and fauna in this part of the island.

BOTANICAL SURVEY REPORT

SURVEY METHODS

A walk-through botanical survey method was used following routes to ensure that all parts of the project area were covered. Areas most likely to harbor native or rare plants were more intensively examined. Notes were made on plant species, distribution and abundance as well as on terrain and substrate.

DESCRIPTION OF THE VEGETATION

The vegetation in the project area is almost entirely mowed grass including several lawn species. A low hedge of an ornamental species, snowbush (*Breynia disticha*), lines a portion of the border along with an assortment of herbaceous weeds. A few large trees are located on the west and north boundaries.

A total of 48 plant species were recorded during the survey. One species was abundant, the Bermuda grass (*Cynodron dactylon*). Two other species were common, Guinea grass (*Megathyrsus maximus*) and Chinese violet (*Asystasia gangetica*).

Just one native plant species was recorded, the pōpolo (*Solanum americanum*), a common indigenous plant in Hawaii, but also naturally occurring in many other tropical countries. One Polynesian introduced species, the niu or coconut (*Cocos nucifera*), was found here. The remaining forty-six species were not native in Hawaii and are of no environmental concern.

DISCUSSION AND RECOMMENDATIONS

The vegetation in this urban project area was almost entirely made up of non-native plant species. The single indigenous native pōpolo plant is common throughout Hawaii as well as in the tropics worldwide and is a species of least environmental concern. No federally listed Threatened or Endangered native plants (USFWS, 2020) occur on or around the project area.

Because of the above existing conditions there is little of botanical concern on this property, and the proposed project is not expected to have a significant negative impact on the botanical resources in this part of Maui.

The only recommendation that is offered, is that there are a number of native plant species that might be incorporated into the landscape design that would lend a distinctive accent to the project. Ideas for appropriate species for this habitat can be found in the Maui County Planting Plan or can be obtained from nursery growers who specialize in native plants.

PLANT SPECIES LIST

Following is a checklist of all those vascular plant species inventoried during the field studies. Plant families are arranged alphabetically within two groups: Monocots and Dicots. Taxonomy and nomenclature of the plants are in accordance with Wagner et al. (1999) and Staples & Herbst (2005).

For each species, the following information is provided:

1. Scientific name with author citation

2. Common English or Hawaiian name.

3. Bio-geographical status. The following symbols are used:

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

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

   Polynesian = those plants brought to the islands by the Polynesians, in the course of their migrations. .

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

4. Abundance of each species within the project area:

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

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

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

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

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
MONOCOTS			
ARECACEAE (Palm Family)			
Cocos nucifera L.	niu, coconut	non-native	rare
CYPERACEAE (Sedge Family)			
Cyperus rotundus L.	nut sedge	non-native	rare
POACEAE (Grass Family)			
Bothriochloa bladhii (Retz.) S.T. Blake	plume grass	non-native	uncommon
Bothriochloa pertusa (L.) A. Camus	pitted beardgrass	non-native	rare
Cenchrus ciliaris L.	buffelgrass	non-native	rare
Cenchrus echinatus L.	common sandbur	non-native	uncommon
Chloris barbata (L.) Sw.	swollen fingergrass	non-native	uncommon
Cynodon dactylon (L.) Pers.	Bermuda grass	non-native	abundant
Digitaria violascens Link	smooth crabgrass	non-native	rare
Eleusine indica (L.) Gaertn.	wiregrass	non-native	rare
Eragrostis amabilis (L.) Wight & Arnott	Japanese lovegrass	non-native	rare
Megathyrsus maximus (Jacq.) Simon & Jacobs	Guinea grass	non-native	common
Melinis repens (Willd.) Zizka	Natal redtop	non-native	rare
Setaria verticillata (L.) P. Beauv.	bristly foxtail	non-native	rare
Stenotaphrum secundatum (Walter) Kuntze	St. Augustine grass	non-native	uncommon
DICOTS			
ACANTHACEAE (Acanthus Family)			
Asystasia gangetica (L.) T. Anderson	Chinese violet	non-native	common
AMARANTHACEAE (Amaranth Family)			
Amaranthus spinosus L.	spiny amaranth	non-native	uncommon
Amaranthus viridis L.	slender amaranth	non-native	uncommon
Chenopodium murale L.	ʻāheahea	non-native	rare
ANACARDIACEAE (Mango Family)			
Schinus terebinthifolius Raddi	Christmas berry	non-native	rare
ASTERACEAE (Sunflower Family)			
Bidens pilosa L.	Spanish needle	non-native	uncommon
Conyza bonariensis (L.) Cronq.	hairy horseweed	non-native	uncommon
Emilia fosbergii Nicolson	red pualele	non-native	uncommon
Emilia sonchifolia (L.) DC.	violet pualele	non-native	rare
Pluchea indica (L.) Less.	Indian fleabane	non-native	uncommon
Senecio madagascariensis Poiret	Madagascar fireweed	non-native	rare
Sonchus oleraceus L.	pualele	non-native	rare

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
BORAGINACEAE (Borage Family)			
Heliotropium procumbens Mill	fourspike heliotrope	non-native	uncommon
BRASSICACEAE (Mustard Family)			
Lepidium virginicum L.	pepperwort	non-native	rare
Sisymbrium altissimum L.	tumble mustard	non-native	rare
CARICACEAE (Papaya Family)			
Carica papaya L.	papaya	non-native	rare
CARYOPHYLLACEAE (Pink Family)			
Polycarpon tetraphyllum (L.) L.	four-leaf allseed	non-native	rare
CASUARINACEAE (She-oak Family)			
Casuarina equisetifolia L.	common ironwood	non-native	uncommon
CLEOMACEAE (Cleome Family)			
Cleome gynandra L.	wild spider flower	non-native	rare
CONVOLVULACEAE (Morning Glory Family)			
Ipomoea obscura (L.) Ker-Gawl.	obscure morning glory	non-native	rare
CUCURBITACEAE (Gourd Family)			
Momordica charantia L.	bitter melon	non-native	rare
EUPHORBIACEAE (Spurge Family)			
Euphorbia hirta L.	hairy spurge	non-native	rare
Euphorbia prostrata L.	prostrate spurge	non-native	rare
FABACEAE (Pea Family)			
Crotalaria incana L.	fuzzy rattlepod	non-native	rare
Desmanthus pernambucanus (L.) Thellung	slender mimosa	non-native	rare
Leucaena leucocephala (Lam.) de Wit	koa haole	non-native	rare
Macroptilium atropurpureum (DC.) Urb.	siratro	non-native	rare
MALVACEAE (Mallow Family)			
Malva parviflora L.	cheeseweed	non-native	rare
Sida ciliaris L.	bracted fanpetals	non-native	rare
NYCTAGINACEAE (Four-o'clock Family)			
Boerhavia coccinea Mill.	scarlet spiderling	non-native	uncommon
PASSIFLORACEAE (Passion Flower Family)			
Passiflora edulis Sims	yellow passionfruit	non-native	rare
PHYLLANTHACEAE (Phyllanthus Family)			
Breynia disticha J.R. & G. Forster	snowbush	non-native	uncommon
SOLANACEAE (Nighshade Family)			
Solanum americanum Mill.	pōpolo	indigenous	rare

FAUNA SURVEY REPORT

SURVEY METHODS

A walk-through fauna survey method was conducted in conjunction with the botanical survey. All parts of the project area were covered. Field observations were made with the aid of binoculars and by listening to vocalizations. Notes were made on species, abundance, activities and location as well as on observations of trails, tracks, scat and signs of feeding. In addition, an evening visit was made to the area to record crepuscular activities and vocalizations and to see if there was any evidence of occurrence of the Endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*) in the area.

RESULTS

Mammals

No mammal species were observed during two site visits to the property.

While not seen during the survey, rats (*Rattus* spp.), mice (*Mus domesticus*), Mongoose (*Herpestes auropunctatus*), feral cats (*Felis catus*) and domestic dogs (*Canis familiaris*) would be expected to occur within this type of habitat. Rats and mice feed on seeds, fruits and succulent vegetation, while mongoose and cats are predators of these rodents and birds.

A special effort was made to look for any occurrence of the native Hawaiian hoary bat by making an evening survey on the property. When present in an area these bats can be easily identified as they forage for insects, their distinctive flight patterns clearly visible in the glow of twilight. No evidence of such activity was observed though visibility was excellent. In addition, a bat detection device (Batbox IIID) was employed set to the frequency of 27,000 hertz which this bat species uses for echolocation when searching for nocturnal flying insect pray. No bats were detected.

BIRDS

Birds were sparsely represented in both species diversity and in total numbers in this urban environment. Just four non-native species were recorded during two site visits. Taxonomy and nomenclature follow the American Ornithological Society (2020). Just one species was common, the zebra dove (*Geopelia striata*). Two other species were uncommon, the house sparrow (*Passer domesticus*) and the common myna (*Acridotheres tristis*). The domestic pigeon (*Columba livia*) was rare. A few other common non-native birds could occasionally show up here such as the spotted dove (*Streptopelia chinensis*), the house finch (*Carpodacus mexicanus*), the northern cardinal (*Cardinalis cardinalis*), the white-eye (*Zosterops japonicus*) and the cattle egret (*Bubulcus ibis*), but this urban habitat is unsuitable for Hawaii's native waterbirds, seabirds and forest birds, and none were seen.

INSECTS

Insect life was sparse in the project area. Just six non-native species were recorded during two site visits. Taxonomy and nomenclature follow Nishida et al (1992). Just one species was common, the dung fly (*Musca sorbens*). Three other species were uncommon, the long-tailed blue butterfly (*Lampides boeticus*), the passionflower butterfly (*Agraulis vanillae*) and the cabbage butterfly (*Pieris rapae*). Two others were of rare occurrence. No native insects were seen.

MOLLUSKS

One non-native mollusk was seen, the giant African snail (*Achatina fulica*). No other mollusks were seen.

DISCUSSION AND RECOMMENDATIONS

All of the fauna observed were common and widespread non-native species. No native animal species were observed in or around the property area. No federally listed Threatened or Endangered mammal, birds, mollusk or insect species were recorded during the course of the survey and no special fauna habitats were identified.

While no protected seabirds, the `ua`u (*Pterodroma sandwichensis*) and `a`o (*Puffinus newelli*), were found on the property, they are known to overfly the area at dawn and dusk to their burrows high in the mountains between the months of March and November. In late fall the young birds fledge from their burrows to take their first tentative flight out to sea. These inexperienced birds are easily confused and distracted by bright lights and often crash to the ground where they are particularly vulnerable to being run over by vehicles or killed by predators. It is recommended that any significant outdoor lighting such as streetlights or flood lights that are incorporated into the project design be shielded to direct the light downward so that it is not visible from above.

As a result of the above findings, the proposed changes in land use are not expected to have a significant negative impact on the fauna resources in this part of Maui.

ANIMAL SPECIES LIST

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

1. Common name

2. Scientific name

3. Bio-geographical status. The following symbols are used:

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

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

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

   migratory = spending a portion of the year in Hawaii and a portion elsewhere. In Hawaii the migratory birds are usually in the overwintering/non-breeding phase of their life cycle.

4. Abundance of each species within the project area:

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

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

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

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

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
MAMMALS			
none			
BIRDS			
COLUMBIDAE (Dove Family)			
Columba livia Gmelin	domestic pigeon	non-native	rare
Geopelia striata L.	zebra dove	non-native	common
PASSERIDAE (Sparrow Family)			
Passer domesticus L.	house sparrow	non-native	uncommon
STURNIDAE (Starling Family)			
Acridotheres tristis L.	common myna	non-native	uncommon
MOLLUSKS			
ACHATINIDAE (Achatinid Snail Family)			
Achatina fulica Ferussac	giant African snail	non-native	rare
INSECTS			
Order DIPTERA - flies			
MUSCIDAE (Housefly Family)			
Musca sorbens Wiedemann	dung fly	non-native	common
Order HYMENOPTERA - bees, wasps, ants			
APIDAE (Honeybee Family)			
Apis mellifera L.	honeybee	non-native	rare
Order LEPIDOPTERA - butterflies, moths			
LYCAENIDAE (Gossamer-winged Butterfly Family)			
Lampides boeticus L.	long-tailed blue butterfly	non-native	uncommon
NYMPHALIDAE (Brush-footed Butterfly Family)			
Agraulis vanillae L.	passionflower butterfly	non-native	uncommon
PIERIDAE (White and Sulfur Butterfly Family)			
Eurema niccipe Cramer	sleepy orange butterfly	non-native	rare
Pieris rapae L.	cabbage butterfly	non-native	uncommon

Figure 1. Project Map

Figure 2. Kahului Affordable Housing project area

Literature Cited

American Ornithological Society 2020. Checklist of North American Birds. 7th edition. Washington D.C.

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Staples, G.W. & D.R. Herbst, 2005. A Tropical Garden Flora. Bishop Museum Press. Honolulu

Tomich, P.Q. 1986. Mammals in Hawaii. Bishop Museum Press, Honolulu.

U.S. Fish and Wildlife Service. 2020. Endangered and Threatened Wildlife and Plants. Listings and Occurrence for Hawaii. www.fws.gov/endangered

Wagner, W. L., D.R. Herbst, and S. H. Sohmer,1999. Manual of the Flowering Plants of Hawaii. University of Hawaii Press and Bishop Museum Press. Honolulu.

CHAPTER 6E, HRS ARCHAEOLOGICAL CONSULTATION

APPENDIX C-1

MICHAEL P. VICTORINO
Mayor

LORI TSUHAKO
Director

LINDA R. MUNSELL
Deputy Director

DEPARTMENT OF HOUSING
& HUMAN CONCERNS
COUNTY OF MAUI
2200 MAIN STREET, SUITE 546
WAILUKU, MAUI, HAWAI'I 96793
PHONE: (808) 270-7805

September 22, 2020

Dr. Alan S. Downer, Administrator
Department of Land and Natural Resources
State Historic Preservation Division
Kakuhihewa Bldg., Suite 555
601 Kamokila Boulevard
Kapolei, Hawaii 96707

Dear Dr. Downer:

SUBJECT: Request for State Historic Preservation Division (SHPD) Letter of Determination (pursuant to Hawaii Administrative Rules [HAR] § 13-275-3) for the Kahului Lani Family Affordable Housing Project, Wailuku Ahupua'a, Wailuku District, Maui, TMK: [2] 3-7-013:026

The County of Maui Department of Housing and Human Concerns (DHHC) is submitting the subject project for review under Hawai'i Revised Statutes 6E-8.

Project Description

Catholic Charities Housing Development Corporation (CCHDC) is proposing the development of Kahului Lani Family Affordable Housing Project, consisting of approximately 178 affordable housing units in Kahului, Maui. The Kahului Lani Family Affordable Housing Project will be developed on 4.865 acres of land identified as TMK (2)3-7-013:026. The subject property is located on Pu'unēnē Avenue with South Kaulawahine Street bordering west of the project in the Kahului urban core.

The Kahului Lani Family Affordable Housing Project will include the development of four (4) three-story multi-family residential buildings, parking stalls, private park, and related improvements. Each building of the proposed project will provide approximately 44 - 45 one and two bedroom rental units to families who earn 60 percent or less of the County's Average Median Income (AMI). Hale Mahaolu will be the property manager. The project will include State funding. No federal funding or involvement is planned.

Identification of Historic Properties
No historic properties have been identified within the project area. The project area was the subject of an archaeological inventory survey including subsurface testing with negative findings (Fredericksen and Fredericksen 2004). The archaeological inventory survey (termed an archaeological assessment due to negative findings) was reviewed and accepted by the SHPD on 4 March 2005 (Log No.: 2005.0405; Doc. No.: 0502MK15). The archaeological inventory survey recommended archaeological monitoring due to the presence of sand deposits within the project area.

Evaluation of Significance
No historic properties have been identified within the project area, therefore there has been no assessment of significance.

Determination of Effects to Significant Historic Properties
The DHHC proposes additional mitigation in order to provide the SHPD with sufficient information to make a project effect determination for this project.

Mitigation Commitments
The 4 March 2005 SHPD review of the Archaeological Assessment Report for the Proposed Central Maui Senior Housing Project (Fredericksen and Fredericksen (2004) concurred with the mitigation recommendation that precautionary monitoring is warranted on the subject parcel.

While no historic properties have been identified within the project area, the DHHC proposes that the project proceed with on-site archaeological monitoring for all project-related ground disturbance. The provisions of archaeological monitoring will be addressed by an archaeological monitoring plan prepared for the review and acceptance of the SHPD prior to the start of construction.

We respectfully request a letter of determination from the SHPD for the subject project and consideration of the proposed approach of archaeological monitoring during construction.

Sincerely,

LORI TSUHAKO, LSW, ACSW
Director of Housing and Human Concerns

Enclosures:
1. SHPD HRS 6E Form
2. TMK Map
3. Project Site Plan
4. Archaeological Assessment Report (Fredericksen and Fredericksen 2004)
5. SHPD Review Letter of Fredericksen and Fredericksen (2004)

State Historic Preservation Division
HRS 6E Submittal Form

Per §6E, Hawai‘i Revised Statutes, if the Project requires review by the State Historic Preservation Division (SHPD), please review and fill out this form and submit all requested information to SHPD. Please submit this form and project documentation **electronically** to:

dlnr.intake.shpd@hawaii.gov

If you are unable to submit electronically, please contact SHPD at (808) 692-8015. Mahalo.

The submission date of this form is:

1. APPLICANT (select one)

☐ Property Owner ☑ Government Agency

2. AGENCY (select one)

☐ Planning Department ☐ Department of Public Works ☑ Other (specify): DHHC - County of Maui

Type of Permit Applied For:

3. APPLICANT CONTACT

3.1) Name: Buddy Almeida 3.2) Title: Housing Administrator

3.3) Street Address: 2200 Main Street, Suite 546

3.4) County: Maui 3.5) State: Hawai'i 3.6) Zip Code: 96793

3.7) Phone: (808) 270-7356 3.8) Email: Buddy.Almeida@co.maui.hi.us

4. PROJECT DATA

4.1) Permit Number (if applicable):

4.2) TMK [e.g. (3) 1-2-003:004]: TMK: (2) 3-7-013:026

4.3) Street Address: 150 S Puunene Avenue

4.4) County: Maui 4.5) State: Hawai'i 4.6) Zip Code: 96732

4.7) Total Property Acreage: 4.865 acres

4.8) Project Area (acreage, square feet): 4.865 acres

4.9) List any previous SHPD correspondence (LOG Number & DOC Number, if applicable):

LOG NO. 2005.0405 DOC NO. 0502MK15

5. PROJECT INFORMATION

5.1) Does the Project involve a Historic Property? A Historic Property is any building, structure, object,

district, area, or site, including heiau and underwater site, **which is over 50 years old** (*HRS §6E-2*).

☐ Yes ☑ No

5.2) The date(s) of construction for the historic property (building, structure, object, district, area, or site, including heiau and underwater site) is

5.3) Is the Property listed on the Hawai‘i and or National Register of Historic Places? To check: http://dlnr.hawaii.gov/shpd/

☐ Yes ☑ No

5.4) Detailed Project Description and Scope of Work:

Catholic Charities Housing Development Corporation (CCHDC) is proposing the development of Kahului Lani Family Affordable Housing Project, consisting of approximately 178 affordable 1BR and 2BR family rental units plus one Resident Manager's unit in Kahului, Maui. The Kahului Lani Family

5.5) Description of **previous** ground disturbance (e.g. previous grading and grubbing):

AIS testing (Fredericksen and Fredericksen 2004) has documented landscaping fill sediment from 0-40 cm below surface throughout the project area, overlying natural sand strata to beneath the water table.

5.6) Description of **proposed** ground disturbance (e.g. # of trenches, Length x Width x Depth):

Proposed ground disturbance will include excavation for footings, utility connections, driveways, parking lots, walkways, and landscaping. The extent of ground disturbance is shown the project's site plan. The depth of excavation is to be determined.

5.7) The Agency shall ensure whether historic properties are present in the project area, and, if so, it shall ensure that these properties are properly identified and inventoried. Identify all known historic properties:

No historic properties have been identified within the project area. The project area has undergone an archaeological inventory survey with subsurface testing and no findings (Fredericksen and Fredericksen 2004). The archaeological inventory survey was reviewed and accepted by the SHPD on

5.8) Once a historic property is identified, then an assessment of significance shall occur.

Integrity (check all that apply):

☐ Location ☐ Design ☐ Setting ☐ Materials ☐ Workmanship ☐ Feeling ☐ Association

Criteria (check all that apply):

☐ a – associated with events that have made an important contribution to the broad patterns of our history
☐ b – associated with the lives of persons important in our past
☐ c – embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; or possess high artistic value
☐ d – have yielded, or is likely to yield, information important for research on prehistory or history
☐ e – have 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 property or due to associations with traditional beliefs, events, or oral accounts - - these associations being important to the group’s history and cultural identity

5.9) The effects or impacts of a project on significant historic properties shall be determined by the agency.

Effect Determination (select one):

☐ No Historic Properties Affected
☐ Effect, with Agreed Upon Mitigation Commitments (§6E-42, HRS)
☐ Effect, with Proposed Mitigation Commitments (§6E-8, HRS)

5.10) This project is (check all that apply, if applicable):

☐ an activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency;

☐ carried out with Federal financial assistance; and or

☐ requiring a Federal permit, license or approval.

If any of these boxes are checked, then the Project may also be subject to compliance with Section 106 of the National Historic Preservation Act (NHPA).

6. PROJECT SUBMITTALS

6.1) Please submit a copy of the Tax Map Key (TMK) map

6.2) Please submit a copy of the property map showing the project area and indicate if the project area is smaller than the property area.

6.3) Please submit a permit set of drawings. A permit set is a set of drawings prepared and signed by a licensed architect or engineer and is at least 65% complete.

6.4) Are you submitting a survey?

☐ Yes ☑ No

Specify Survey:

6.5) Did SHPD request the survey?

☐ Yes ☑ No

If 'Yes', then please provide the date, SHPD LOG NO, and DOC NO:

Date: LOG NO. DOC NO.

6.6) **SURVEY REVIEW FEES**. Fee for Review of Reports and Plans (§§13-275-4 and 284-4). A filing fee will be charged for all reports and plans submitted to our office for review. Please go to:

The Submittal Filing Fee Form is located on the Forms page

A check payable to the Hawaii Historic Preservation Special Fund should accompany all reports or plans submitted.

6.7) Please submit color photos/images of the Historic Property (any building, structure, object, district, area, or site, including heiau and underwater site) that will be affected by the Project.

The following are the minimum number and type of color photographs required:

Quantity	Description
1-2	Street view(s) of the resource and surrounding area
1-2	Over view of exterior work area
1	exterior photo of the North elevation (if applicable)
1	exterior photo of the South elevation (if applicable)
1	exterior photo of the East elevation (if applicable)
1	exterior photo of the West elevation (if applicable)
1-2	interior photos(s) of areas affected (if applicable)

CHECKLIST

☑ **SHPD FORM 6E** (this form)

☑ **PROJECT SUBMITTALS** (any requested documentation for items 6.1 - 6.7 of this form)

☐ **FILING FEE FORM** (if applicable)

APPENDIX

C-2

ARCHAEOLOGICAL INVENTORY SURVEY

0502MK15

Zone 3 M-01576
Section 7

AN ARCHAEOLOGICAL ASSESSMENT REPORT FOR THE PROPOSED CENTRAL MAUI SENIOR HOUSING PROJECT, WAILUKU *AHUPUA`A*, WAILUKU DISTRICT, MAUI ISLAND (TMK: (2) 3-7-13: Portion of Parcel 26)

Prepared on behalf of:

County of Maui
Department of Housing & Human Concerns
Wailuku, Maui

Prepared by:

Xamanek Researches
P.O. Box 880131
Pukalani, Maui

Erik Fredericksen
Demaris Fredericksen

25 October 2004

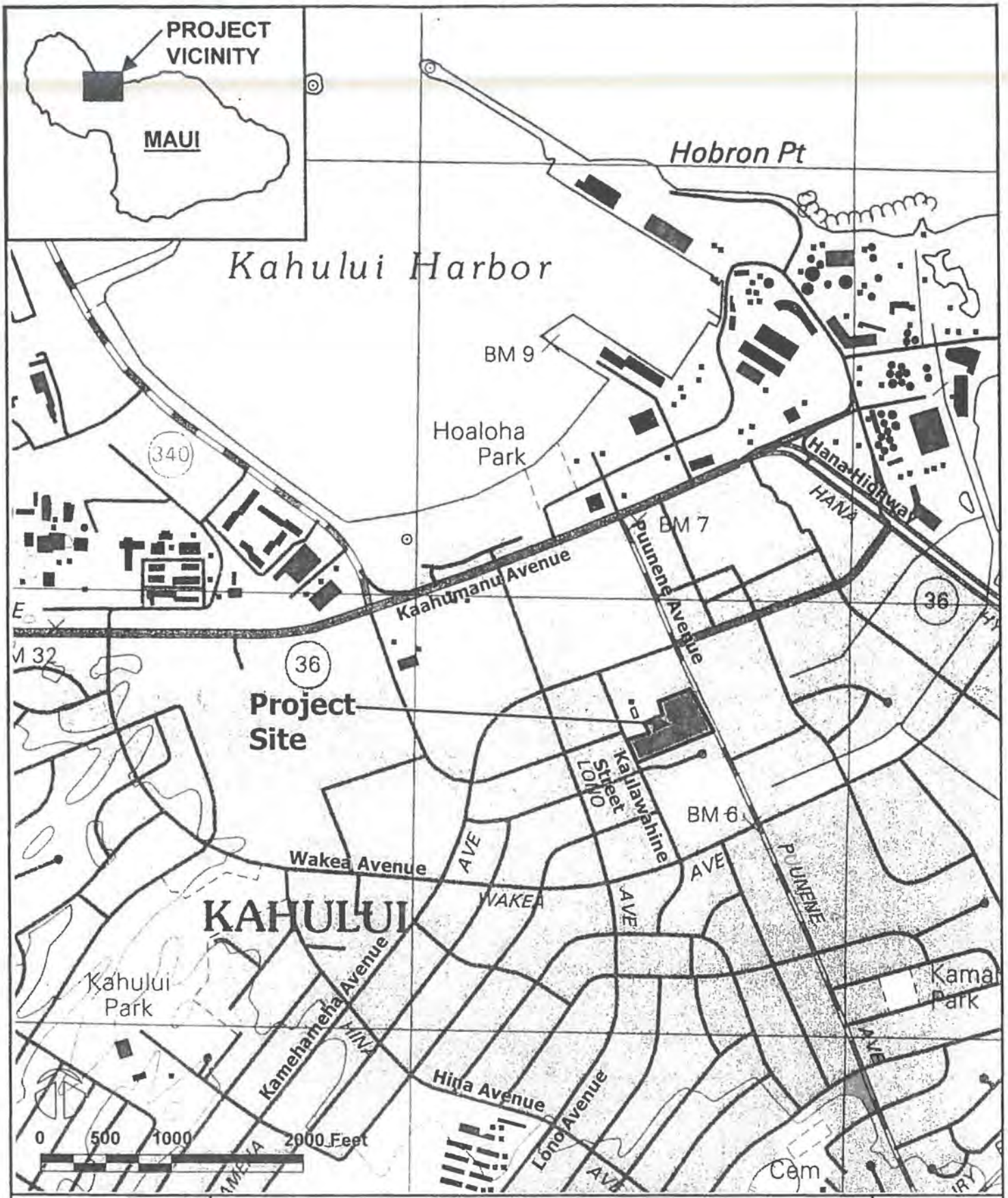
ABSTRACT

Xamanek Researches conducted an archaeological inventory/assessment survey during the summer of 2004 on a portion of land in Kahului, Wailuku *ahupua`a*, Wailuku District, Island of Maui (TMK: 3-7-13: portion of parcel 26). The inventory/assessment survey was carried out per previous discussions with Dr. Melissa Kirkendall, SHPD Maui staff archaeologist. The archaeological survey was conducted on behalf of the County of Maui Department of Housing and Human Concerns, Wailuku, Maui.

There were no significant material culture remains located during this archaeological survey of the proposed Central Maui Senior Housing project area. Landscaping soil with modern materials (Layer I) was found to cover tested portions of the study area to an average depth of about 40 cm. Layer II, which was composed of intact sand dune deposits, was located throughout the tested portions of the project area. The groundwater table was located in all test trenches between c. 90-120 cmbs.

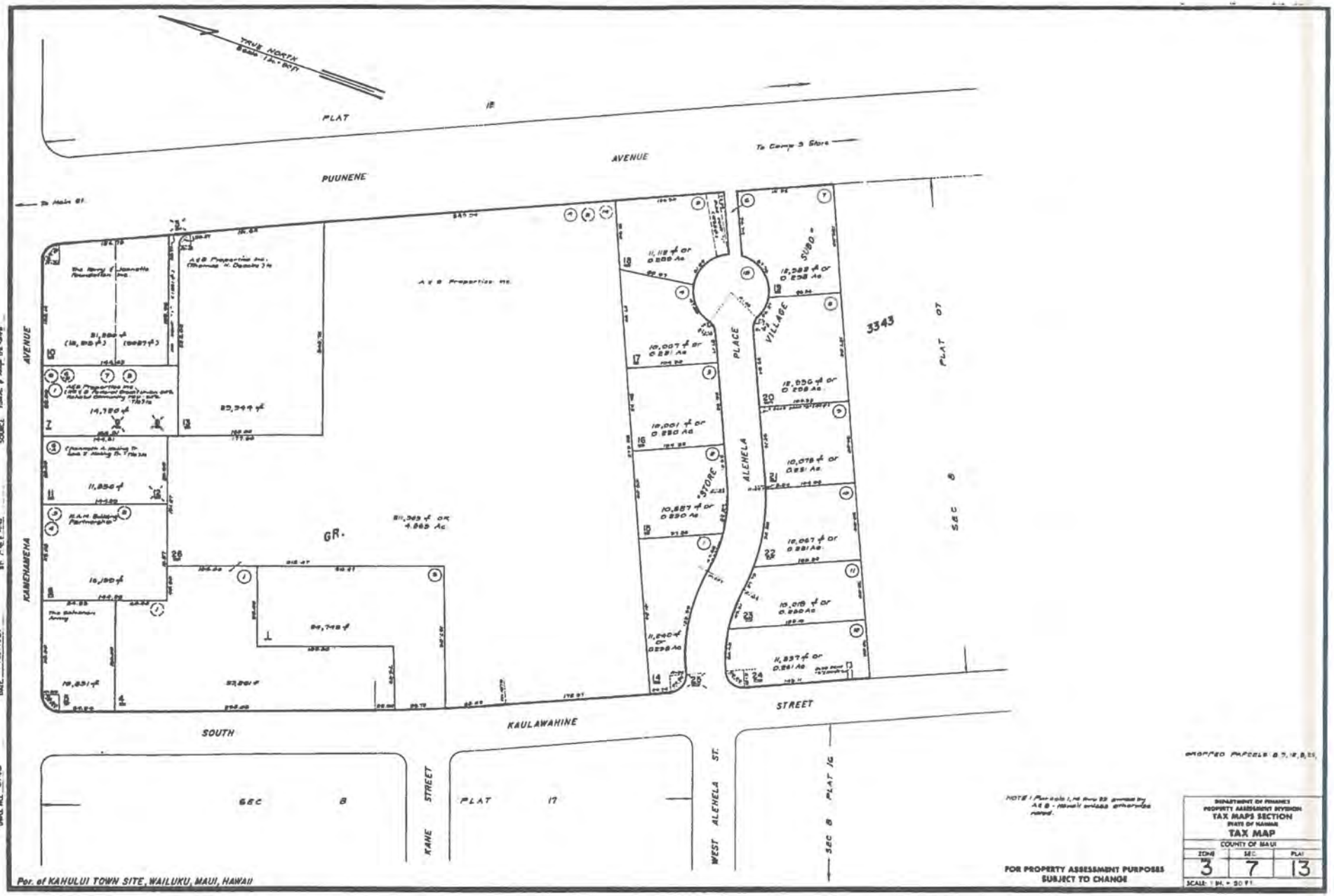
Given the presence of sand deposits throughout the project area, precautionary monitoring is recommended. This action is recommended because isolated human burials have been located in the central Maui area in the past. It is further recommended that future construction/development plans for the Central Maui Senior Housing project be reviewed by the State Historic Preservation Division Maui office.

Table of Contents

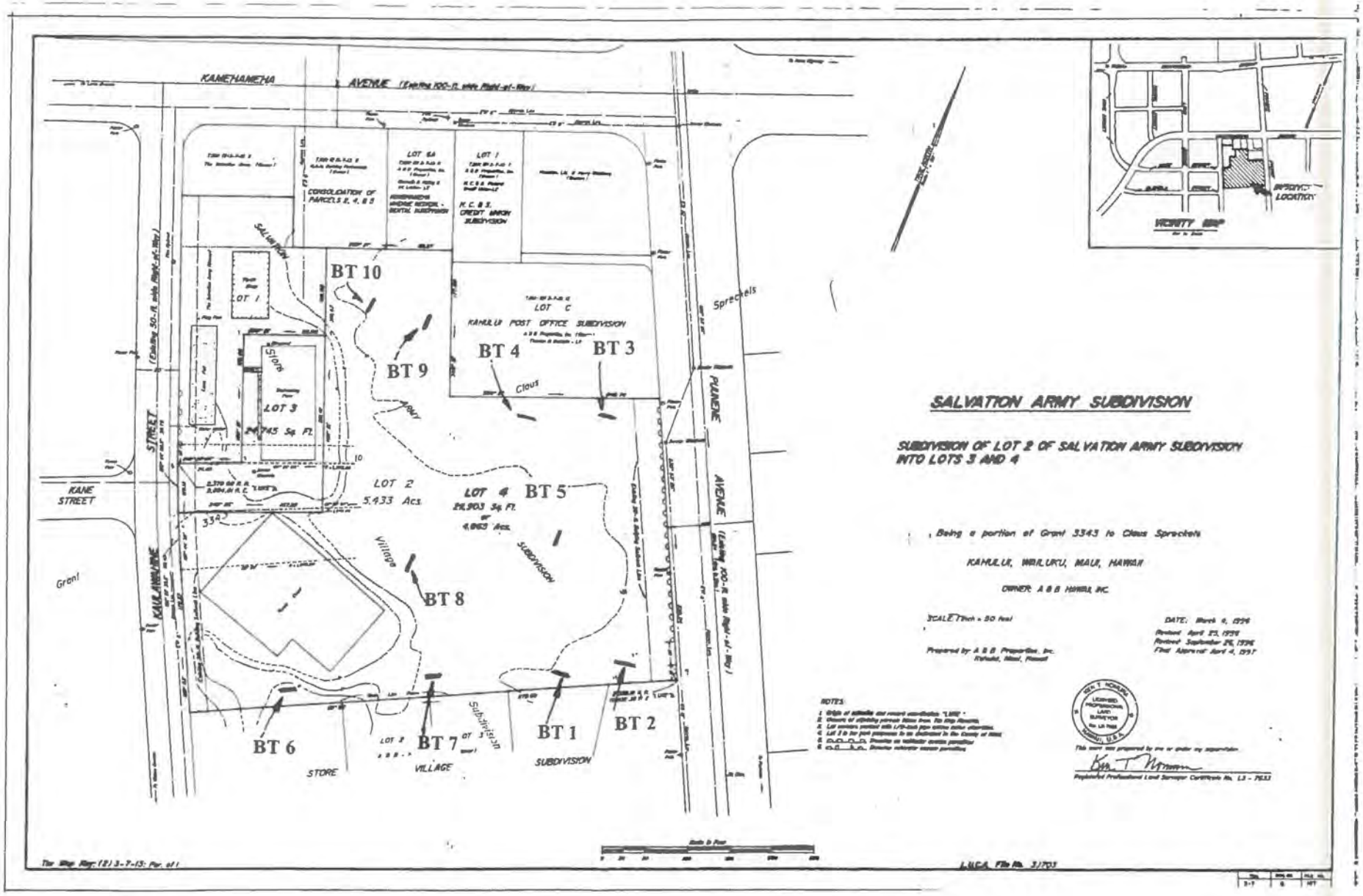


WILSON OKAMOTO CORPORATION ENGINEERS - PLANNERS	CENTRAL MAUI SENIOR HOUSING AND COUNTY OFFICES PROJECT	FIGURE 1
	LOCATION MAP AND VICINITY MAP	

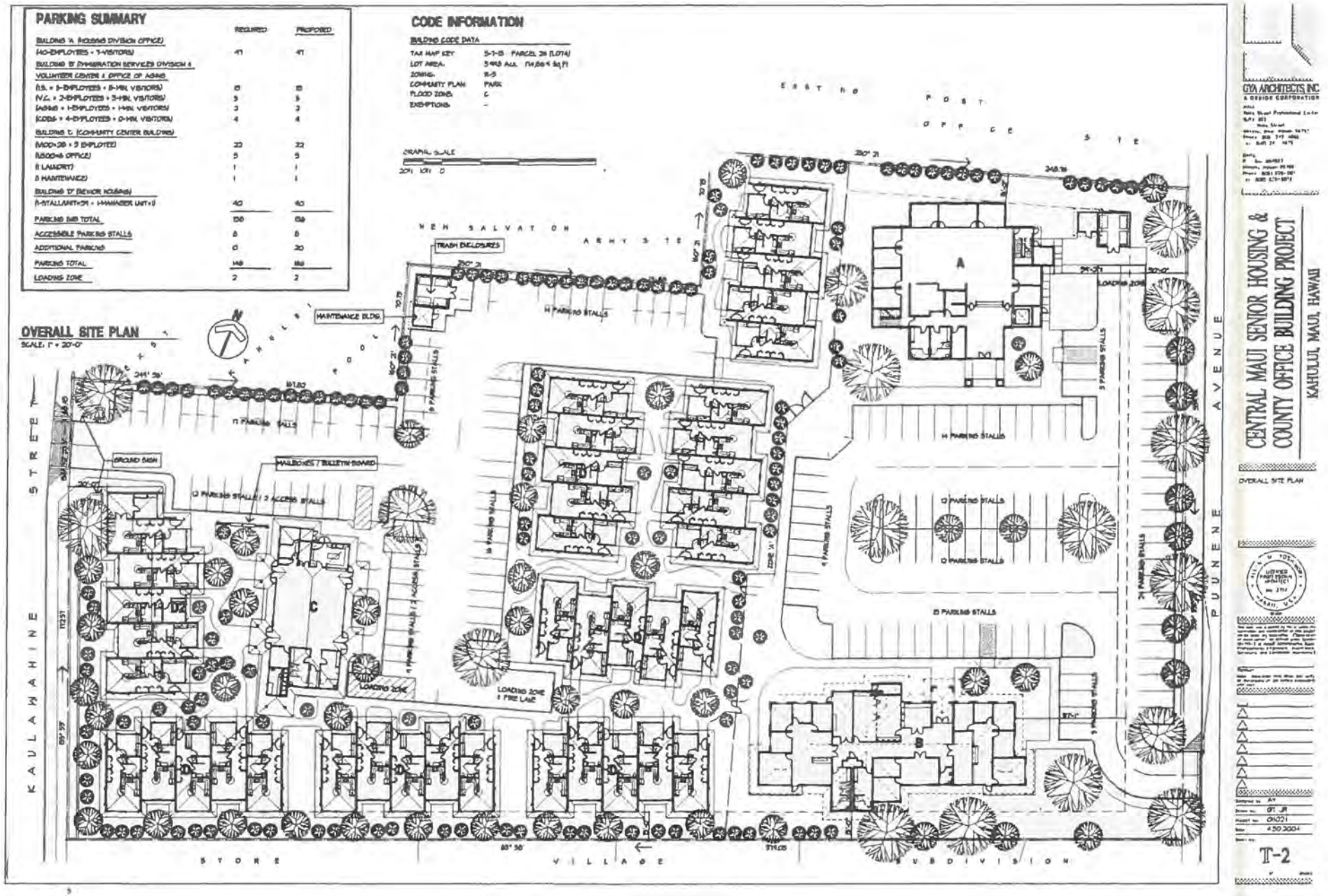
Map 1 – Topographic map



Map 2 – State Tax Map



Map 3 – Site map showing locations of Backhoe Trenches 1-10.



SH SP01 Fin04-T2

Map 4 – Schematic map of planned development.

INTRODUCTION

Mr. Michael Munekiyo of Munekiyo & Hiraga, Inc. contacted Xamanek Researches on behalf of the County of Maui Department of Housing and Human Concerns regarding the necessary archaeological work for a planned senior housing facility to be located on the grounds of the Kahului Swap Meet site in Kahului during the late fall of 2003. The 4.865 acre parcel was adjacent to and southwest of Pu`unene Avenue in Kahului, Maui (Maps 1, 2 and 3). Project plans called for the development of a housing complex along with support buildings, parking and other infrastructure. Mr. Munekiyo requested that we submit a proposal for the necessary archaeological work. Following discussions with Dr. Melissa Kirkendall, State Historic Preservation Division (SHPD) staff archaeologist for Maui, it was determined that an archaeological inventory/assessment survey was needed, because the project area lies in an area that contains sand deposits.

The SHPD had previously indicated in an 18 June 2004 review letter that an archaeological inventory/assessment survey was required for this project, because there had been no previous work undertaken on this parcel (SHPD DOC NO: 0406CD33). In addition, Jaucus Sand deposits and previously identified subsurface sites had been located in the general vicinity of the study area.

Following consultation with Dr. Melissa Kirkendall of the SHPD Maui office, we prepared a proposal for the necessary scope of work for this archaeological project. We submitted our proposal to Mr. Munekiyo and were subsequently contracted to undertake the necessary study. The following report presents the results of this archaeological survey on TMK: 3-7-13: portion of parcel 26. This report has been prepared at the direction of Mr. Daren Suzuki of Munekiyo & Hiraga, Inc. on behalf of the County of Maui Department of Housing and Human Concerns. Under the new SHPD rules and guidelines, this report will be hereafter referred to as an archaeological assessment, because there were no cultural resources located during the testing portion of the survey.

STUDY AREA

The proposed Central Maui Senior Housing project lies in Wailuku *ahupua`a*, Wailuku District, on the isthmus of Maui (TMK: (2) 3-7-13: portion of parcel 26). This c. 4-acre parcel has been impacted by previous activities, and is largely grassed over (Photographs 1-4). The study area lies adjacent to and southwest of Pu`unene Avenue, while, a portion of the study area is bounded by South Kaulawahine Street. The U. S. Post Office, various support buildings for the Salvation Army, and private residences also border portions of the project area. Much of the parcel has been utilized for the Maui Swap Meet for a number of years. The parcel is largely grassed over, and contains several gravel access roads and gravel set up areas for swap meet vendors. In addition, water and underground electrical lines were installed sometime in the past several years. The southwestern portion of the study area contains blacktop, which represents the remains of former tennis courts that were first used in the 1960s. The Kahului shoreline is located an estimated 1 km to the northwest of the project area.

Natural History

The soil types present in the vicinity of the Central Maui Senior Housing project area include Jaucus Sand deposits, as well as the reddish brown (7.5 YR 4/3) silty clay common to this part of central Maui.

The study area lies an estimated 5 feet to 7 feet AMSL. Annual rainfall on this part of Maui is about 20-30 inches, and the rains typically occur during the winter months. The average temperature ranges from the mid-seventies to the mid-eighties, and is relatively constant throughout much of the year.

Vegetation noted in the project area at the time of our survey was dominated by non-native plant species. Common vegetation noted in the study area included monkeypod (Albizia saman) trees, ironwood (Casuarina equisetifolia) trees, landscaping shrubs, alien grasses, and annual weeds.

BACKGROUND RESEARCH

Precontact Period

The *ahupua`a* of Wailuku is a large land unit stretching around Kahului Bay from Paukukalo to Kapukaulua. It includes Iao Valley and the northern half of the Kahului Isthmus. This single land division comprises nearly half of the District of Wailuku, and is noted as a place where chiefs were buried and wars were fought. The word itself can be translated as "water of destruction" (Pukui, et. al., 1974, p. 225), and this name is in reference to the battles that took place in the area.

Iao Valley and the two associated dune formations on the north and south sides of the river, constituted the core area of Wailuku. This was the religious and political center of Maui, which culminated during the time of Pi`ilani (c. 1600 AD). In the late precontact period, warfare increased as the chiefs from Maui, Oahu and Hawaii struggled for political and military dominance. High Chief Pi`ilani succeeded in unifying the districts of Maui by warfare, but after his death, his sons fought with one another--each hoping to succeed their father as high chief. Eventually Kiha-a-Pi`ilani became victorious, but each following generation of chiefs had to struggle through warfare to secure their positions of political domination (Speakman, 1978, pp. 9-13).

During the reign of the last powerful paramount chief or king, Kahekili (who ruled from 1765 to 1790), Wailuku again became the site of intense warfare. Wailuku was considered to be the capital of Maui, as Kahekili's royal residence, Kalanihale, was located in there, surrounded by his retinue.[1] In the mid-1770s, Kalanihale was marched upon by a Big Island chief named Kalani`opu`u and his *alapa*.[2] News of his coming preceded him, and Kahekili hid his warriors in the sand dunes above Haleki`i *heiau* to surprise the invading troops. A fierce battle ensued, and Kalani`opu`u's army was pushed to the sea and slaughtered (Speakman, pp. 16-17).

By 1786, Kahekili controlled Maui as well as Molokai, Lanai, and Oahu. This undisputed political control lasted for only 4 years, however. In 1790, Kamehameha the First invaded Kahekili's territory—an action that ended in the battle of Kepaniwai[3] and the defeat of the Maui ruler. The word Kahului can be translated as "the winning", and the Bay takes this name because Kamehameha gathered his warriors there prior to fighting the battle in Iao Valley (Pukui, et. al., 1974).

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[1] The location is said to be located just north of the intersection of High Street and Main Street leading into Iao Valley in Wailuku town.

[2] *Alapa* is the name given to the warriors of Kalani`opu`u.

[3] Kepaniwai means literally "water dam" in reference to Iao Stream, because the stream was choked with human bodies after the slaughter there (Pukui, et. al., 1974, p. 109).

Early Post-Contact Period

The reign of Kamehameha was intertwined with the increasing presence of foreigners (*haoles*) in the islands. The arrival of Captain Cook offshore at Kahului Bay in 1778 began the steady flow of outside influences that would forever alter the indigenous population and environment. One of the first of these influences came with missionaries, whose charge it was to save "heathen" souls. The first missionaries arrived in Wailuku in 1832, and the traditional religion began to wane under their influence. Rev. Jonathan Green established a girls' seminary (Central Female Boarding School) in 1836, where young Hawaiian women were taught the language, customs, and religion of the foreigners.

Another influence to bring change to the Hawaiians was foreign commercialism, and it came initially in the form of sugar production. The first sugarcane crop grown in the *ahupua`a* were harvested and processed in 1828. Kamehameha III, with the help of two Chinese technicians, established a water-powered mill in Wailuku. This was known as the Hungtai Sugar Works, and its location was fairly close to the later location of the Wailuku Sugar Mill, which was established in 1862. Hungtai Sugar Works continued to operate until the opening of the new sugar mill.

The population of the *ahupua`a* of Wailuku was listed in the 1831-32 census as 2,256, with most of it being in the northern portion, presumably in Iao Valley (Cordy, 1978, p. 59).

In Central Maui, on the southern and eastern side of the Iao Valley dunes (Pu`uone Dunes), an early commercial activity took the form of cattle ranching. This sizable area was used for pasturage. By as early as 1845, large herds of cattle were roaming the Kahului Isthmus (cattle had been introduced on the Big Island by Vancouver in 1793). The Maui cattle were under royal *kapu,* so were not to be molested. They were so destructive to the environment that Native Hawaiian landowners protested, but to no avail (Barrere, 1975, p. 52). In addition to the commercial raising of cattle, there were also other commercial efforts, one being a brief attempt at the production of cotton in the 1830s. This endeavor met with little commercial success however[4], and further adversely impacted the landscape.

[4]The Anglican Church felt that "the Hawaiian people, freed from their service to and dependence on the chiefs should be self-supporting and thought that the encouragement of the manufacture of cloth from the superior cotton which grew luxuriantly in the islands would be a means to that end. They therefore suggested that a manufacturer be sent with sufficient machinery to get the project started. They felt that the people would continue to work with the encouragement and cooperation of the chiefs." (Lemmon et. al., 1973, p. 2.B.3). To this end they sent Miss Lydia Brown in 1835 with " 'a quantity of domestic spinning apparatus' (presumably spinning wheels and a loom)" (Ibid.), and "charged with the responsibility of teaching the Hawaiian girls the arts of carding, spinning, weaving and knitting locally grown cotton and wool." (Ibid.) As each class grew proficient enough to teach others, a new class was formed (Ibid., 2.B.4).

Post-1850s Period

After the Mahele in 1848, much of Wailuku *ahupua`a* was designated as Crown Land, to be used in support of the royal "state and dignity". In 1872, Kamehameha V died, and his sister Princess Ruth Ke`elikolani inherited this land. She was designated as the owner of the *Ka`a* lands of Wailuku, the southern portion of the *ahupua`a*. The *ili* of *Owa* comprised of 743.40 acres, (LCA 420) was granted to Kuihelani, a steward to Kamehameha I. The smaller northern section (the *ili* of *Kalua*-LCA 7713, Apana 23--391 acres) was awarded to Princess Ruth's half-sister, Victoria Kamamalu. In 1882, Princess Ruth sold one-half of the Crown Lands of Hawaii to sugar producer, Claus Spreckels, in order to settle her debts with him. Spreckels already held a lease for 16,000 acres of Wailuku *ahupua`a*, dating from 1878. Worried about what Spreckels might do with half of the Crown Lands, King Kalakaua gave him Land Grant 3343, a 24,000 acre portion of the southeastern section of Wailuku ahupua`*a*, in return for the surrender of his claim (Adler, 1966, pp. 262-263). The Central Maui Senior Housing Project area is part of the large Land Grant 3343.

The Reciprocity Treaty of 1876 with the United States gave a boost to the sugar industry by increasing the prices of sugar. The dry eastern part of the *ahupua`a* became attractive as potential sugar land—if only water could be brought to it. In 1880, Spreckels began construction of what was called "Spreckels' Ditch", located *makai* of the Hamakua Ditch, which had been built earlier by Alexander and Baldwin to water their Maui Agricultural Company's fields in and around Pa`ia. The "Spreckels' Ditch" brought Haleakala water farther west onto the arid Kahului isthmus. The ditch was 30 miles long, delivered about 60 million gallons of water a day, and cost $500,000 to construct.

Spreckels also built another ditch, the Waihe`e ditch in 1882, which tapped the water resources from the West Maui Mountains, thus bringing water to both sides of the Wailuku Commons isthmus area (Adler, 1966, pp. 48-49). These endeavors enabled him, in 1882, to found Hawaiian Commercial and Sugar Company. He continued involvement in that company until 1898, when control was wrested from his hands. The parent company still bears the name of Alexander and Baldwin, the principal participants in the transfer of corporate control. The production of sugar cane continues to be an activity in the isthmus area to this day, although some portions operated by C. Brewer and Company have shifted to pineapple production.

The environmental conditions in the lower Iao Valley, which in precontact times were ideal for agricultural necessary to support a large population, were a wide valley floor, rich alluvial soils, and a constant water supply from Iao Stream. These combined with the access to Kahului Harbor, rich in marine resources, made this area the prime precontact location on West Maui for a political and religious center. The lower portion of Iao Valley contained some of the most productive taro land on the island, and the abundance of Land Commission Awards in the lower valley attest to this. There are 66 LCA's, primarily taro patch *kuleana*, and 39 *po`alima* located between the old Wailuku Mill site and Paukukalo, on the southern side of Iao stream. In addition, 13 awards were

made directly to individual chiefs by Kamehameha IV.[5] The study area lies to the southeast of this rich and productive area in the more arid portion of Wailuku *ahupua`a.*

Lower Main Street was built along the route of an old government road, which very likely followed the course of existing transportation routes from the ocean to the inland portions of Iao Valley. Many of the LCAs in this area have borders aligned with the road, indicating it was an important transportation corridor at the time the *kuleana* were granted. This corridor follows the natural boundary between the sand dune and the alluvial deposits of the valley. The Kahului Railroad paralleled Lower Main Street, and was one of the earliest known commercial projects that impacted the dunes along Lower Main Street and Kahului Beach Road (Photograph 5).

The route of the railroad ran from Kahului Harbor to Wailuku Sugar Mill. The remnants of this old railroad bed can still be noted in a few places along Lower Main Street, and along Kahului Beach Road. The most striking architectural remnants of the railway system located along Kahului Beach Road are the five concrete pillars and arches, the most visible *makai* one impressed with the date "1921". In the past, a large wooden frame building rested on these pillars, serving as the housing for the Makaweli Rock Crusher apparatus. It was constructed so the train carrying rock from the quarry could off-load from the track-bed into the crusher. The concrete pilings elevated the crusher adequately above ground so trucks could be driven in and filled with crushed rock (Photograph 6). This series of pillars (that was the footings for the Makaweli Rock Crusher Mill) still stands near the intersection of Kanaloa Avenue and Kahului Beach Road.

Railroad construction was begun in the late 1870s (Photo 1)[6] and continued for nearly 2 decades, as routes were added and service expanded. The Maui News contains articles dealing with activities in the general vicinity of the project area. One dated February 8, 1902, describes a problem and potential solution resulting from the railroad:

"*Superintendent R.W. Fuller of the Kahului Railroad Company is preparing to make some important changes in the line of railroad track between Kahului and Wailuku. At present the sharp turn and the railroad crossing at the beach is extremely dangerous on account of the sand dunes that shut out the approaching trains from the view of those approaching the crossing with teams, especially the wind is blowing a gale.*

The track will be moved some hundreds of feet south of its present location, so that the point where it crosses the road as well as the approaching trains themselves can be seen for quite a distance. On crossing the road, the track will skirt the pasture at greater distance from the public road."

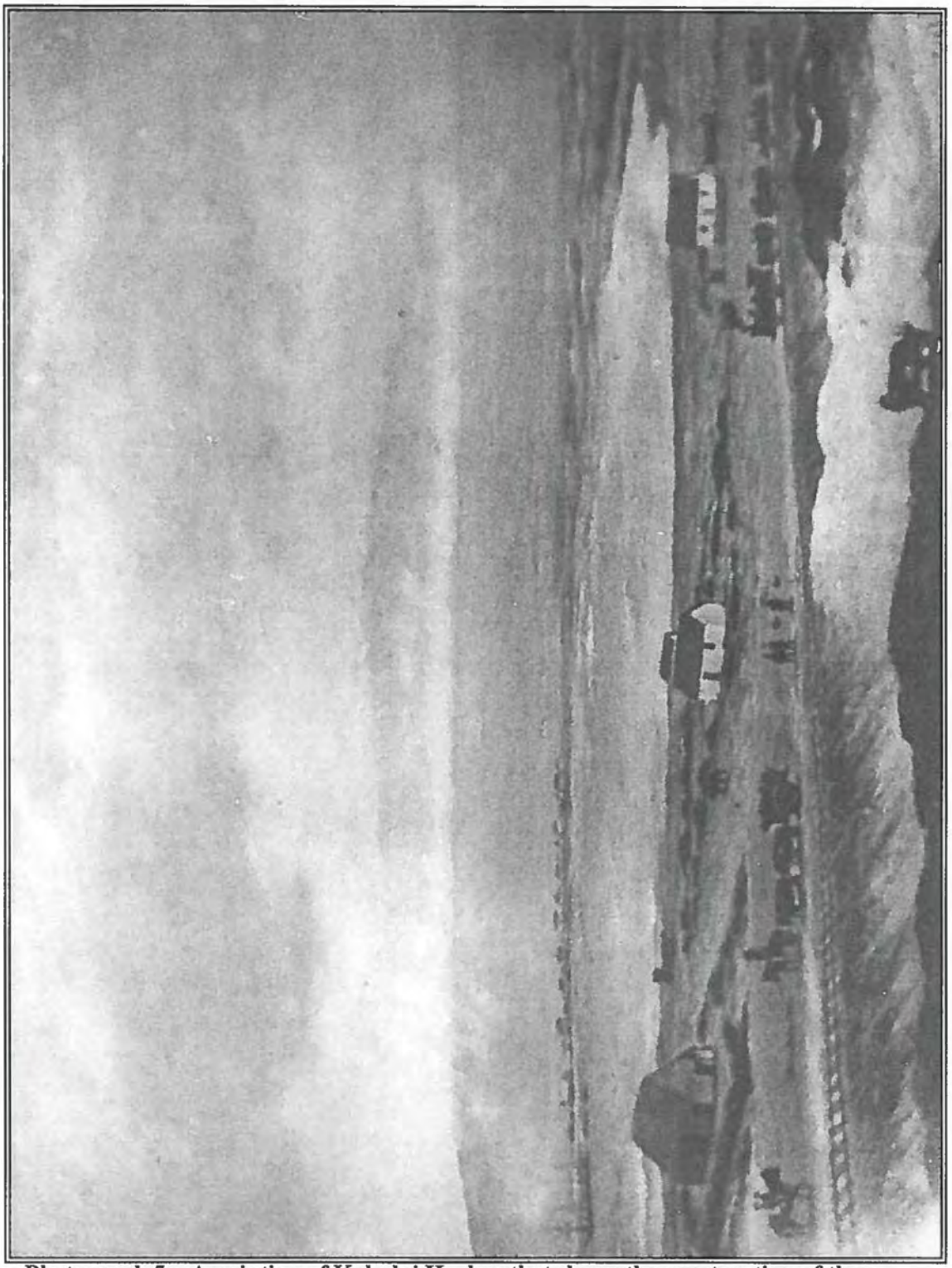
[5] This is in contrast to the area south and east of Lower Iao Valley. Here there were two LCAs awarded—one to Victoria Kamamalu (7713), and one to Kuihelani (420). The largest land partition of Central Maui is Grant 3343 to Claus Spreckels.

[6] This painting by Rev. Bailey shows several structures, which may be houses that were associated with LCAs.

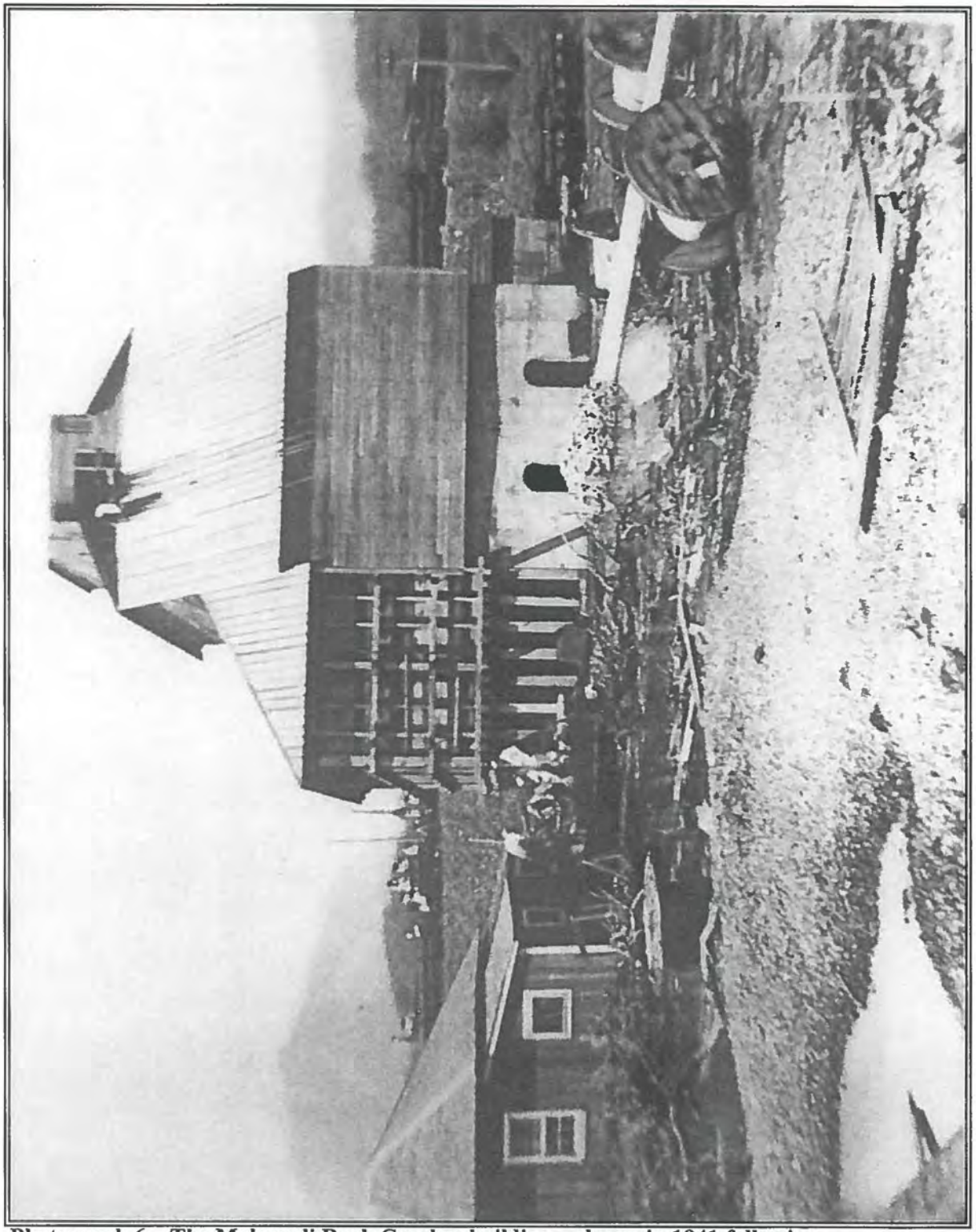
On June 8, 1907, another reference describes plans improving the land for further residential use in the future:

"The Kahului Railroad Company is filling in the lowlands, in and about Kahului and will in time raise the level of the entire town site, when the work is completed and proper drains provided, the town should be free of mosquitos and the place a most desirable locality in which to live."

The railroad continued operations until after World War II. Then slowly, demands began to change, and segments of the system were phased out. An article in **The Maui News** of October 15, 1957 bore the headline "Iron Horses Bow Out As Wailuku Sugar Company Discontinues Use of Railroad". The railroad continued to serve other areas until 1966, when it ceased operation.



Photograph 5 – A painting of Kahului Harbor that shows the construction of the Kahului Railroad with houses that may be associated with Land Commission Awards.



Photograph 6 – The Makaweli Rock Crusher building—shown in 1941 following the April 1 tsunami.

PREVIOUS ARCHAEOLOGICAL WORK

Iao Valley/Pu`uone Dunes Area

The earliest archaeological work in the Wailuku area was part of the island-wide survey done by Winslow Walker in 1931. He reported that there were a number of *heiau* in the general area of Wailuku. Two lie on the northern side of Iao Stream atop the large dune formation there--Pihana and Haleki'i. Both have been restored and are designated as the Halekii-Pihana Heiau State Monument, under the supervision of the Division of State Parks (DLNR). Walker also reported that there were a number of other *heiau* in this area of Wailuku, which were said to have been consecrated by Liholiho during his visit to Maui for that purpose in 1801 (Walker, 1931, pp. 146-147). At the time of his survey, none of these reported *heiau* (named Keahuku, Olokua, Olopio, Malena, Pohakuokahi, Lelemako, Kawelowelo, Kaulupala, Palamaihiki, and Oloolokalani) could be found (Ibid., p. 148).

A personal communication (1992) from Mr. Charles Keau, a well-respected authority on history and prehistory of Maui, provided more information about some of these *heiau*, which Walker could not find. By Mr. Keau's account, there were 3 *heiau* located in the Lower Main Street corridor from Kahului Harbor to the intersection of Lower Main and Mill Streets. One was situated across the street from the Maui Soda Company. Another was located on parcel 83 (TMK: 3-4-39) between the Maui Electric Power Station and the County of Maui Wailuku Government cemetery. A third may have been located near the Home Maid Bakery. During the construction of the parking lot next to the bakery, Mr. Keau reported that Wesley Wong, a well-known local antiquity collector, found 5 adzes of "Tahitian" style. He did not specify when this was, but thought there might still be portions of the *heiau* there as well as some burials. Recent archaeological work has corroborated at least the latter part of this prediction.

Nisei Veterans Memorial Center

This extensive sand dune habitation area is located near the corner of Lower Main Street and Wai`ehu Beach road—the site of the future Nisei Veterans Memorial Center. The Nisei Memorial project has been underway for more than 12 years, as the site has proven to be one of the more significant sites studied on the northern Maui coastline.

In February of 1992, the present authors began with an inventory survey on the 2-acre parcel of land at the intersection of Lower Main and Wai`ehu Beach Road (Fredericksen and Fredericksen, December 1992). The most notable feature surface feature was the railroad bed that ran the length of the property (Site 3112). Another

historic site (Site 3119A) was a refuse disposal area about 20 cm. below the surface. The predominant historic items were bottles and ceramics dating from the late 1800s, about the time the railroad was built and in use. A subsurface excavation that cut through the historic site, located a subsurface precontact site designated as Site 3119B. Later data recovery work at this site caused a revision in the site numbering system. All precontact components of the site are designated as Site 3120, while the historic components bear the Site 3119 designation.

Site 3120 became extremely interesting when a very early radiocarbon date of AD 233-410 was obtained. However, later data recovery work did not produce material of a comparable date. The deposits from which it came, turned out to have been previously disturbed by excavations done during the construction of the railroad bed, and the original source was not located.

In another area of Site 3120, test excavations produced a number of artifacts, including coral files, bone picks, an unfinished fishhook, and worked bone, along with large quantities of food midden. Data recovery research has shown Site 3120 to be a large habitation site, which contains a cluster of burials. The latter remain *in situ* and will be preserved as a permanent burial/grave site. Several fire pit features were recovered and a series of 12 radiocarbon dates were obtained. They range from the very early date mentioned above (AD 233-410) to AD 1200-1740, with the majority of the precontact dates falling in a range between AD 1400 to 1700 (Fredericksen, et al., 1998).

Archaeological monitoring followed the completion of data recovery, and a total of 38 additional burials (Site 4668) were located in the southwestern corner of the 2-acre parcel near the crest of the dune. A radiocarbon date from carbon recovered in a large double posthole beneath one of the burials returned a conventional radiocarbon age of 620 +/- 50, and a calibrated date range of AD 1285-1420. The monitoring program is still in process.

The adjacent property to the south (TMK: 3-8-07: 38) was surveyed by Xamanek Researches in November of 1992. Fourteen backhoe test trenches were excavated, along with 3 manual test units, in the dune areas, and relatively undisturbed portions of the parcel. The *makai* portion of the property has been impacted by a sewer line, and the mid-portion by the railroad bed (Site 3112) and rock crusher mill construction (Site 3145) [see Photograph 6]. The only cultural materials recovered were historic items, most likely associated with the railroad construction (Fredericksen and Fredericksen, November 1992).

Kanaloa Avenue

Xamanek Researches carried out an inventory survey and archaeological monitoring for the Kanaloa Avenue improvement project between 2002 and the early spring of 2004 (report in preparation). Initially, a previously unidentified habitation area site remnant was located within the road corridor (Site 4899). While it was not possible to recover a radiometric date for this site, it was interpreted as a possible precontact site,

based on the lack of any recognizable trade goods within the recovered cultural materials. During the course of construction monitoring, a total of four burials and two finds of previously disturbed human remains were located—Sites 5171, 5172 and 5495. Finally, an extensive precontact habitation area (Site 5496) was located during work within Keopuolani Park. Two charcoal samples from excavations at this habitation site returned radiometric age ranges from the AD 1300s to the 1600s.

Central Maui Area

The central area of Maui, south of Ka`ahumanu Avenue, is noted for many burials in the Pu`uone Sand Dune formation, which stretches across the isthmus. There have been a number of studies documenting these finds (Fredericksen et al., 1997; 1998; Panteleo and Sinoto, 1996; Rotonno-Hadzuka, 1994).

However, in the central area to the north of Ka`ahumanu Avenue, very few sites other than scattered human burials have been found. The authors have conducted studies at Maui Community College, Maui Central Parkway (Fredericksen and Fredericksen, December 1992; Fredericksen, et. al., 1994), and at the Keiki Zoo Maui (Fredericksen and Fredericksen, September 1995)—all with negative results. Archaeological Consultants of Hawaii conducted a survey for the Maui Arts and Cultural Center, again without significant findings (Kennedy, 1990). An inventory survey for the 110-acre Maui Central Park area, in which a large intact dune is present, was conducted by Cultural Surveys of Hawaii. Here again, no indigenous cultural sites were found. However, scattered human remains (Site 50-50-04-4211) were located on the surface near the Maui Arts and Cultural Center, during a botanical survey conducted by Xamanek Researches. Subsequent archaeological work at the inventory level indicated that no additional human remains were present, and Site 4211 was evaluated as no longer significant (Heidel, Pyle and Hammatt, January 1997, p. 97). Other historic sites noted in the Maui Central Park inventory survey include Site 4232, a former WW II military facility, and Site 3112, the Kahului Railroad Berm. Both sites will be partially preserved by being incorporated into the landscaping of the Park (Ibid., p. 96).

The paucity of archaeological findings in this area suggests that the extensive military activity associated with World War II has altered the Central Maui landscape, thereby potentially obliterating possible archaeological sites.

Settlement Patterns and Expected Findings

The lower Iao Valley portion of Wailuku *ahupua'a* was a central political and religious area of West Maui, because of its fertile taro lands and close proximity to the sea. Given these conditions, a large population could be supported, and wherever large population clusters are found, the social framework of chiefly importance and religious expression is also present. This is attested to by the existence of the 2 *heiau* (Haleki'i and Pihana) atop the northern dune system, and others reported by Walker (1931) and Keau (1992, oral communication) within the Iao Stream corridor. The middle and upper reaches of Iao Valley were also rich in *lo'i* and *'auwai* which produced additional

foodstuffs to support political and religious activities. The Upper Iao Valley had been traditionally known as a very significant sacred place in the history of Maui (Donham, MCCRC minutes, June 1, 1995). Coastal sites, such as Site 3120, have been occupied since the 1200s (and possibly much earlier), and no doubt provided the complex with marine resources. There seems to be a pattern in Iao Valley, whereby sites closer to the ocean have earlier dates than the ones farther inland, suggesting that settlement occurred first along the sea shore and gradually moved inland as the population numbers increased.

An intensification of usage appears to have occurred during the 16th century, and seems to have peaked around the time of Pi`ilani, ca. 1600 AD (Ibid.). All radiocarbon dates, which have been recovered from the sites along this corridor fall into this temporal framework.

The study area, in which the present survey and monitoring took place, lies behind the Pu`uone Dune Foundation, and is a part of the island that has been adversely affected by the presence of the military during World War II. A large Maine base existed in the area that is now Keopuolani Park. Before the construction of the base, a sizable plantation community—Raw Fish Camp—occupied the area. Prior to that, it was used as pasturage. As a consequence of the considerable amount of land alteration associated with these events, most traces of precontact activity, if it existed, has been most likely destroyed. At the northeast section (*makai*) of the Kanaloa Avenue corridor, remnants of habitation sites with associated burials have been found, and there is a possibility that similar subsurface features are present on the remaining remnants of the sand dune formation.

TABLE 1

List of Archaeological Studies carried out in Lower Iao Valley, and Central Maui Area.

AUTHORS	LOCATION	FINDINGS
Burgett and Spear, 1995	TMK: 3-8-37: 48, Lower Main St., Home Maid Bakery. Sites 3924 and 3925	Habitation sites; human burials. Dated c. AD 1430 to 1671.
Connolly, 1973	TMK: 3-8-36: 94, Lower Main St., Site 1171	Habitation site; burials discovered 1994 eroding from dune face.
Donham, 1994	TMK: 3-8-37: 49, Lower Main St., , Home Maid Bakery, Site 3556	Inadvertent burial discovery, both historic and precontact burials
Fredericksen, W. and Fredericksen, D, December 1992a	TMK:3-8-07: 40 and 43; Maui Community College Parking Lot Extension.	Historic sites from WWII. No precontact cultural materials.

Table 1 continued

Ibid., September 1995	TMK: 3-8-07: por. 1; Keiki Zoo Maui.	No findings of significance.
Ibid., February 1996	TMK: 3-8-07: 104; Maui Scrap Metal Company, Waikapu. Borrow Site, Site 3525.	Remains of at least 22 individuals recovered from mined sand.
Fredericksen D. and Fredericksen, W. December 1992b Fredericksen, et. al., November 1998	Inventory Survey - TMK: 3-8-07: 123, at Lower Main and Waiehu Road, Nisei Veterans Memorial Center. Data Recovery Report	Historic site, Kahului Railroad (Site 3112); large precontact habitation site, with continuous occupation from c. 1200 AD to c. 1740 (Site 3120); numerous burials to be preserved *in situ*.
Fredericksen, et. al., July 1995; Fredericksen, E. and Fredericksen, D. September 1996	Inventory Survey and Data Recovery: TMK: 3-4-39: por. 81, 82, 83 at Lower Main and Mill Streets, Site 4127	Habitation site; dated c. AD 1450 to 1675.
Fredericksen, E., W., and D., September 1994	TMK: 3-8-07: por. 125; Maui Central Park, 10 acres along Kahului Beach Road	No significant findings.
Ibid., January 1997	TMK: 3-4-07: por. 121, Maui Lani Parkway corridor	No precontact finds in corridor—human remains (Site 4368) on Golf Course Hole #10—monitoring recommended.
Ibid., May 1997	TMK: 3-8-47: por. 1, 2, 3, 4, 17, 18, 30, and 32; 3-9-07: por 121 Mahalani Street Extension	No significant findings—limited monitoring recommended.
Fredericksen, E., February 1997 (post-field summary)	TMK: 3-4-07: por. 121, Lot 11-A, Maui Lani Project—20.7 acres	One indigenous *in situ* burial (Site50-50-04-4401)-Monitoring recommended.
Heidel, Pyle and Hammatt, 1997	TMK: 3-8-07: 1 and 3-7-01: 2; Maui Central Park	Historic sites: 4232-WW II military camp; 3112-Kahului Rail-road Berm; 4211-scattered human remains.
Kennedy, 1992	TMK: 3-8-07; Maui Arts and Cultural Center.	No findings.
Pantaleo, J. and A. Sinoto, January 1996	TMK: 3-8-07: 2, 110; Phase 1 and Phase 1A, Maui Lani Partners Development, Wailuku.	No habitation sites. Human burials in several locations. Monitoring recommended. Additional burials during monitoring.
Rotunno and Cleghorn, 1990 Rotunno-Hazuka, et. al. May 1994a	TMK: 3-8-07: 2, 110: Maui Lani Development Property.	No precontact sites other than burials (Site 2797).
Spear, 1995	TMK: 3-8-37: 48; Lower Main St., Site 4066.	Human burials and habitation layers.

Expected Findings

With the introduction of sugarcane cultivation in the 1850s, and the importation of foreign labor to work in the plantation, the character of much of the island of Maui changed. The sugar plantations acquired either by purchase or lease, large amounts of

land, further displacing the native Hawaiian people. The acquisition of stream water for sugarcane cultivation dried much of the remaining *kalo* fields by the end of the 19th century. Afterwards a pattern of dispersed villages and camps for plantation workers emerged. *Kuleana* land grants changed ownership as plantation workers became affluent enough to purchase land from Hawaiians who were willing to sell. Commercial development became a driving force that would continue and intensify through the 20th century.

Based on our background research, the location of the parcel, the expected findings were thought to include possible human burials, precontact subsurface habitation site remnants, possibly containing associated human burials, and post-contact site remnants possibly associated with the plantation era. Given that the proposed Central Maui Senior Housing project has already been disturbed, we did not anticipate any above ground pre- or post-contact features such as walls, roads, irrigation ditches, and building foundations associated with former plantation-era activities.

ARCHAEOLOGICAL METHODS

The fieldwork for testing phase of this archaeological survey was conducted during late July of 2004. The field team was made up of Jennifer Frey and Timothy Stewart. Erik Fredericksen and Hugh Coflin had previously conducted a surface inspection of the subject parcel and located underground water and electric lines. Erik Fredericksen was also the project director. Walter and Demaris Fredericksen were the senior advisors, and Demaris Fredericksen compiled a portion of this report.

The assessment survey of the study area was carried out in two phases—a pedestrian inspection was first conducted, followed by subsurface investigation. This latter phase consisted of ten backhoe trenches that were placed in accessible portions of the study area (Map 2). The walkover portion of the survey was undertaken using transect lines spaced c. 5 meters apart, and oriented roughly northwest/southeast. While it was not possible to test in the tennis court area, the grounds around it were inspected in order to assess the possible presence of significant material culture remains elsewhere on the parcel. In addition, the margins of the adjacent properties to the southwest were visually inspected from the border of the planned County facility.

As previously noted, a total of ten backhoe trenches were utilized to sample the study area. These subsurface tests were excavated in various locales, allowing for avoidance of underground utilities, tree roots, access roads, etc. Backhoe trench profiles were visually inspected, and recorded using metric survey tapes and hand-bearing compasses. In addition soil samples from each trench profile were spot checked with

1/8th inch screen, and the back dirt was raked over. Written notes were kept in the field, and photographs were taken in a digital format. No material culture remains were transported off-island and standard laboratory procedures and methods were utilized.

ARCHAEOLOGICAL RESULTS

A total of ten backhoe trenches were utilized to assess subsurface conditions in study area during the course of this small archaeological inventory survey. There were no subsurface cultural layers encountered during the course of our subsurface testing. The backhoe trenches were c. 5.5 meters in length by 0.7 meter in width by a maximum of 1.4 meters in depth. All trenches were excavated into the water table, which was located between 90 and 120 cmbs. Table 2 at the end of this section provides a summary of backhoe trench results for the project. Backhoe test results are briefly discussed below. Refer to Appendix A for photographs.

Backhoe Trenches 1, 2, 6 and 7 (Figures 1-4, Photographs 7, 8, 12 and 13)

These four backhoe trenches were located near the southwestern boundary of the proposed Central Maui Senior Housing project area. Trench orientations were roughly 70 degrees magnetic and the trenches were c. 5.5 meters in length by up to 1.3 meters in depth. The groundwater table was encountered between 90 and 120 cmbs.

Layer I was up to 40 cm in thickness, and was composed of pale brown (10 YR 6/3) to light yellowish brown (10 YR 6/4), silty sand and/or top soil (7.5 YR 4/4). In addition, gravel was present on the parking area that BTs 1 and 2 sampled. This relatively loose layer contained some sand banding, along with scattered modern materials such as aluminum foil, plastic and bottle glass. In addition, small pieces of cinder were also noted. This material is interpreted as landscaping fill.[7]

Layer II extended to the bottoms of all trenches. This semi-compact stratum was composed of moist, light gray (10 YR 7/1) medium-grained sand. There were no significant material culture remains noted in this layer.

The groundwater table was encountered between 90 and 120 cmbs in all four trenches of these trenches.

[7] An abandoned PVC irrigation line was noted c. 15 cmbs.

SHPD ACCEPTANCE OF ARCHAEOLOGICAL INVENTORY SURVEY

APPENDIX

C-3

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING, ROOM 555
601 KAMOKILA BOULEVARD
KAPOLEI, HAWAII 96707

March 4, 2005

Mr. Erik Fredericksen
Xamanek Researches
P.O. Box 880131
Pukalani, Hawai'i 96788

LOG NO: 2005.0405
DOC NO: 0502MK15

Dear Mr. Fredericksen:

SUBJECT: Historic Preservation Review - 6E-42 - Archaeological Inventory Survey Consultation for the Central Maui Senior Housing and County Office Buildings Project
Wailuku Ahupua'a, Wailuku District, Island of Maui
TMK (2) 3-7-013: por of 026

Thank you for the opportunity to review this report which our staff received on October 28, 2004 (Fredericksen and Fredericksen 2004, *An Archaeological Assessment Report for the proposed Central Maui Senior Housing Project, Wailuku Ahupua'a, Wailuku District, Maui island [TMK (2) 3-7-13: Portion of Parcel 26]*...Xamanek Researches ms). We have previously provided comments as part of the above consultation (Log 2004.1832/Doc 0406CD33) and recommended an archaeological inventory survey. The northern portion of the subject parcel is located within the boundaries of the Kahului Historic District (SIHP 50-50-04-1607). The USDA Soil Survey indicates that the proposed project area is located in the Pu'uone Sand series, known to contain both isolated and clustered human burials. Gley pond deposits have been identified in recent archaeological investigations to the south (the extent of the Kanaha Pond boundaries has not been determined, to date).

The background section acceptably establishes the ahupua'a settlement pattern and predicts the likely site pattern in the project area. The historical information provided summarizes the history of the post-contact period land uses. The summary of previous archaeological work in the area provides a baseline for the current work.

The survey has adequately covered the project area documenting no historic properties. Subsurface testing (ten backhoe trenches) were also negative for evidence of cultural deposits. Ground water was identified at a depth of approximately 1 meter in the trenches. Mixed recent materials identified between depths of 0-40 cmbs, with compact sterile sand to the water table.

We concur with the mitigation recommendation that precautionary archaeological monitoring is warranted on the subject parcel, as the intact sand layer suggests that cultural deposits and/or human burials may still be identified in the project area during future construction activities.

We find this report to be acceptable. We will await an archaeological monitoring plan at such time as grubbing/grading or construction is proposed on the parcel. As always, if you disagree with our comments or have questions, please contact Dr. Melissa Kirkendall (Maui/Lana'i SHPD 243-5169) as soon as possible to resolve these concerns.

Aloha,

Nathan Napoka

for MELANIE A. CHINEN, Administrator
State Historic Preservation Division

MK:jen

c: Bert Ratte, DPWEM, County of Maui
Michael Foley, Director, Dept of Planning, 250 S. High Street, Wailuku, HI 96793
Maui Cultural Resources Comm, Dept. of Plng, 250 S. High Street, Wailuku, HI 96793
Maui/Lana'i Islands Burial Council

APPENDIX

D

CULTURAL IMPACT ASSESSMENT

Hale Pilina Affordable Housing Project
Cultural Impact Assessment Study

TMK: (2) 3-7-013:026
Wailuku Ahupuaʻa, Puʻali Komohana Moku
Kahului Town, Island of Maui

by
Katherine Kamaʻemaʻe Smith
Historical/Cultural Consultant
Honu Media, LLC

November 16, 2020

Prepared for
Catholic Charities Housing Development Corporation

Hale Pilina Family Affordable Housing Project

Cultural Impact Assessment Study
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Figure 1. The subject parcel, (2) 3-7-013:026, is in the center is outlined in blue. This is the old Swap Meet Grounds and previously was used for Maui County Fair parking.

Figure 2. Hawai‘i State Map of Kahului Pu‘unēnē Avenue indicates this parcel is within Tsunami Zone and experienced flooding in 1937 and 1948

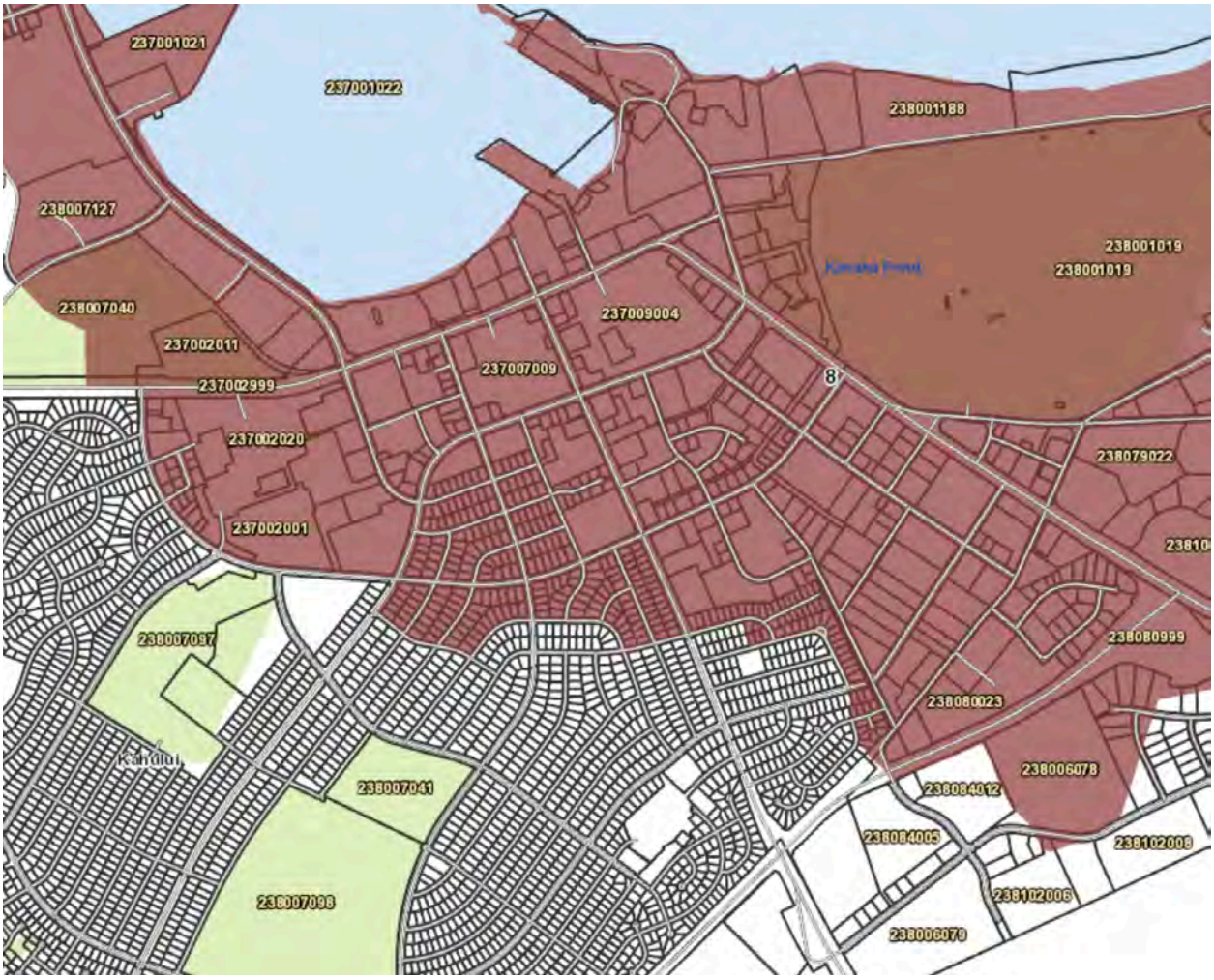


Figure 3. Hale Pilina Family Affordable Housing Project is in zoned urban and residential. Almost all of Kahului is zoned urban except for the conservation lands of Kanahā State Wildlife Sanctuary.

Pedestrian Survey Images

Figure 4. Hale Pilina property looking Eastward across property from Kaulawahine Street to Pu‘unēnē Avenue. Kahului Post Office Flag on left in distance.

Figure 5. From Kahului Post Office parking lot, Hale Pilina property looking South. Christ the King Church in distance. Pu‘unēnē Avenue on left. Modern era curved concrete slab foreground.

Figure 6. The southern boundary of Hale Pilina property is marked a cinder block wall belonging to the subdivision on Alehela Place. In the distance are residences on Kaulawahine Street, ironwood trees on the Hale Pilina property, and the parking lot for Coach Spencer Shiraishi Memorial Swimming Pool (Kahului Pool).

Figure 7. The ironwood trees in the southwest corner of the study property were wind abatement for a public tennis court that is no longer in use. Cement and macadam slabs and tall chainlink fence are remnants of the court.

Figure 8. North of the tennis court, are the short driveway and parking lot for Coach Spencer Shiraishi Memorial Swimming Pool. Hale Pilina boundary runs along the southern margin of this driveway and continues north to properties fronting on Kamehameha Avenue.

Figure 9. Coach Spencer Shiraishi Memorial Swimming Pool driveway and parking end with bollards inside a double wood fence, and a graded skirt of land planted with coco palms, and a maintenance enclosure. There is one mature coco palm on the Hale Pilina property, which is fully fenced. Visible in the distance are the backs of properties fronting on Kamehameha Ave.

Figure 10. Other ground features on this property are best described from an aerial accessed from Google Maps satellite in June 2020. Modern era macadam, pea gravel and cement slabs were used for Kahului Athletic Club activities and overflow parking for the Maui County Fairgrounds and track once across Puʻunēnē Avenue. Up until the 1990s the open space was used to house the Kahului Swap Meet traffic. One very tall coconut palm sits in the northeast corner of the study property.

II. Introduction: Hale Pilina Parcel Description and Abstract

The study parcel is in Puʻali Komohana Moku, Wailuku Ahupuaʻa, in the town of Kahului and accessible by a gate on Puʻunēnē Avenue. This polygonal, 4.86-acre fully-fenced property currently fronts on Puʻunēnē Avenue, immediately North of the Alehela Place Subdivision lots and immediately West of properties on Kaulawahine Street, including, Coach Spener Shiraishi Memorial Pool (Kahului Pool) and the Salvation Army building. The north property line runs behind commercial properties on Kamehameha Avenue, to the Kahului Post Office parking lot southern boundary.

Over many decades of urban growth in Kahului, this parcel was subdivided from a larger parcel, first by Hawaiian Commercial Sugar Company, then by Alexander and Baldwin and Alexander and Baldwin Properties. But this remainder was never developed beyond a public park space and overflow parking for the Maui County Fairgrounds and Racing Association, which was immediately across the street.

The study parcel is very flat with an approximate elevation 4-5 feet AMSL. Drainage is by County sewer system and percolation into the porous Kahului ground, which consists of sandy soils over a coral rock base. In this area, there is a very gentle slope toward the harbor, which makes storm flooding less likely than areas nearer the harbor.

All of Kahului is designated urban by the State Land Use Commission except for the 143 acre Kanahā State Wildlife Sanctuary to about 0.5 miles east of this property, which generally constitutes the center of a city block, with smaller commercial and residential projects fronting two major thoroughfares. Puʻunēnē Avenue has been a commercial street for 150 years. Kamehameha Avenue commercial properties began developing in the 1960s.

View lines from this property are all over rooftops—The West Maui Mountains visible in the distant West, and southeastern glimpses of Haleakalā and upcountry Maui are mostly impeded by power lines.

Other than ironwoods and one coconut palm the only flora is mixed Buffalo grass and alien weed turf. No fauna but Myna birds were observed. Fencing is chainlink.

No cultural resources, features or artifacts were visible. Modern era features and objects on the project site date to the 1930's and 1940's. Although some are over 50 years old, they have little very limited identity and significance.

Adjacent Area Historical Buildings
Adjacent neighborhoods on Kaulawahine Street and Alehela Place are well-maintained single-family homes. Adjacent buildings are considered historical heritage sites: The Kahului Post Office building, The old National Guard building and concrete slab from. WWII era, redeveloped into the Coach Spencer Shiraishi Memorial Pool facility. The land directly south, the (Alehela Place subdivision) was the site of Store Camp housing for employees of the Kahului Store in plantation times. The next parcel to the south boasts Christ the King Roman

Catholic Church, which built in 1932, over fifty years after Catholic priests from Pāʻia were celebrating Mass in Kahului. Kahului Post Office (formerly the Mormon Church) is historic.

III. Cultural Historical Study Methodology

A. Previous Studies and Filings for TMK (2) 3-7-013:026 and Surrounding Properties
July 2, 2019 a search of DLNR SHPD resources and previously registered Cultural Impact Assessments on this parcel. Subsequently, an archivist at Kapolei SHPD Library was able to provide all the archaeology and cultural reports in their archives.

B. Primary Historical Data
A search of online historical resources and primary source historical literature was conducted, searching for all mentions of the ahupuaʻa and original grantee. Searches were also made on Ulukau and Papakilo Database for histories, moʻolelo, kaʻao, palapala and mentions of this area of Wailuku and the original grantee in Nūpepa ʻŌlelo Hawaiʻi. No data was withheld.

C. Solicitation of Cultural Informants
A notice asking for cultural information ran in The Maui News Thursday July 29 and Sunday, August 1. August 11, 2020 a press release was issued to online and print outlets, local Hawaiian churches, cultural associations, practitioners and educators seeking lineal descendants of previous grantees of this land or cultural descendants of Kahului with knowledge of cultural practices on this parcel in the past or presently.

D. Search of Hawaiian Kingdom Land Records
Royal Patent and Land Commission Awards at the Great Mahele are recovered from Ka Puke Mahele and palapala much as native testimonies for land claims are researched at Office of Hawaiian Affairs at Papakilo Database website and ulukau.org. Government Land Grant, homesteads and kuleana land locations within the study property are determined from County of Maui Tax Key Maps.

E. Review of Settlement Patterns in Kula Moku
A review of habitation sites on Maui was studied to determine the probability of pre-Western contact kauhale in this area of Kahului based on its location and land features of the property. Works of historians Kirsch, Sterling, Zeigler and Handy & Handy are researched.

F. Maps of the Parcel and Ahupuaʻa
Historical maps, historical aerial photos and current Google map satellite photos of the property were studied. All place names researched for possible mentions in Hawaiian literature, and links to persons and events associated with the study parcel or its ahupuaʻa were researched.

G. Review of Periodical Literature
A search of Hawaiian and WWII era newspaper stories is undertaken for Wailuku and Kahului mentions, and mentions of nearby commercial buildings, subdivisions or organizations. Previously reported or recorded in archeological reconnaissance, reports, cultural impact assessment, environmental assessment or environmental impact assessment reports in or nearby the study area are requested from State Historic Preservation Department Library in Kapolei.

H. Site Visit

A Site visit of the former Swap Meet grounds on Puʻunēnē Avenue was conducted on the morning of Jun 26, 2020 to inspect the study parcel and experience its orientation, sites, sounds and view lines. A pedestrian survey was conducted to look for surface cultural landforms, features and artifacts, and natural resources useful for Hawaiian cultural practices.

IV. History of Parcel (2) 3-7-013:026

The parcel is located in Kahului, a commercial harbor, retail and industrial city about three and one-half miles east of Wailuku Town within the Ahupuaʻa of Wailuku and Puʻali Komohana Moku District of Maui Island. Before western contact, this barren in the plains of Kamaʻomaʻo was not suitable for food agriculture. However, fishing was abundant and close to the bay, was a fishing and perhaps trading village, and a two natural lagoons, Kanahā and Mauʻoni.

The history of Wailuku area was elegantly reported in an archaeological report on this parcel by Ericksen & Ericksen in 2004, and a 2020 Kahului Draft EA for renovation of Maui High School, by Cultural Surveys Hawaiʻi. No Hawaiian burials or artifacts were found on this parcel.

The purpose of this study is to document the history of this parcel and nearby areas to provide additive historical and cultural information to the owners that will promote respect for significance of the lands in their care.

Pre-Western Contact History

The Hawaiian Islands were colonized by Polynesians via Sāmoa, and the Marquesas between 800 and 1100 AD. The Tahitians brought their systems of governance and religion later in the 10th century. With the ahupuaʻa system of land management aliʻi controlled and conserved land, sea and kanaka for the duration of the Hawaiian Kingdom. One of five heavily settled areas of Maui outlined by Handy, Handy & Pukui was Nā Wai Ehā section of Wailuku. However, Kahului is 3.5 miles east of Wailuku on a sandy plain that was not suitable for food cultivation. The historical record notes a small fishing village at Kahului Bay and pond keepers tending two loko: Kanahā and Mauʻoni. This barren sandy isthmus between East and West Maui volcanoes is referred in early Hawaiian literature as Kamaʻomaʻo and later as Wailuku and Waikapū “Commons.”

The area of Wailuku ahupuaʻa adjacent to ʻĪao Valley was a seat governance for many Maui ruling chiefs. Hāna is geographically separated from the larger settlements of Wailuku, Kāʻanapali, Lāhainā and Honuaʻula, and through history, control of Hāna swapped back and forth between the high chiefs of Maui and Hawaiʻi.

Unification of Maui by High Chief Piʻilani in the late 15th century was followed by expansion of farming into leeward areas and increased population. More people and more wealth increased the lure of conquest, producing nearly a century of wars among high chiefs of Hawaiʻi, Maui and Oʻahu during the 1700s.

Several battles took place on the plains of Kamaʻomaʻo and the sand hills of Wailuku, west of the harbor and this study parcel. However, because the battles were nearby, it is possible that remains of fallen warriors or Hawaiian cultural artifacts may be unearthed when sub-surface sandy soils are disturbed on this property. Information on specific battles recounted in Hawaiian literature is presented later in this report.

‘Ōlelo No‘eau Collected by Mary Kawena Pukui that Refer to the Study Area

#19 - “Ahulau ka Pi‘ipi‘i i Kakalilua,” *a slaughter of the Pi‘ipi‘i at Kakalilua.*

Any great slaughter is compared to the utter destruction of the Pi‘ipi‘i lau of expert warriors lost in the sand dunes of Wailuku.

#1711 - “Ke inu akula paha a‘u Ālapa i ka wai o Wailuku,” *My Ālapa warriors must now be drinking the water of Wailuku.*

A remark by Kalaniōpu‘u to his wife Kaloa and son Kiwala‘o before his soldiers were utterly destroyed by Kahekili at Kakanilua.

#1722 - “Kekai holu o Kahului.” *The swaying seas of Kahului.*

#2300 - “Nā Wai ‘Ehā,” *The Four Waters.*

The four streams of windward West Maui are Waikapū, Wailuku, Waiehu, and Waihe‘e.

#2351 -“Nūnū Lawe leka o Kahului,” *Letter carrying pigeon of Kahului.*

In 1893 carrier pigeons were brought to Kahului. One was taken to Honolulu with a letter tied to it’s neck. It‘s successful flight back to Kahului drew so much attention that a song was written to commemorate the event.

#2578 - “Pākahi ka nehu a Kapi‘ioho.” *The nehu of Kapi‘ioho are divided, one to a person.*

Kapi‘ioho, ruler of Moloka‘i, built Kanahā and Mau‘oni ponds in his land in Kahului. Workers from Moloka‘i and O‘ahu were rprovided food from Moloka‘i, but the drain on that island was often so great that workers were reduced to eating one nehu fish, ‘opae from the streams and poi. This saying is used when poi is plentiful but fish is so scarce it must be rationed.

2647 - “Pili ka hana o Wailuku.” *Wailuku holds its breath.*

Said of one who is speechless from fear or extreme cold - a word play on “luku” which means destruction.

#2923 - “Wehe i ka mākāhā i komo i‘a.” *Open the sluice gate so fish may enter.*

A prophecy bu Kaleopu‘upu‘u, kahuna of Kaheliki, regarding the 1776 invasion by Kalaniopu‘u. This saying applies to any strategy for trapping an enemy.

The Historic Period

High Chief Kalaniopu‘u Raids on Maui 1775-6

Samuel Kamakau chronicled many 18th century battles for the rule of Maui. Most prominent are the battles for Maui between the heirs of King Kekaulike in 1738. These conflicts all took place on the Lāhainā side of West Maui.* This war put Kamehamehanui in firm control until his younger brother Kahekili took reign in 1767.

Rule of Hāna switched intermittently between Maui and Hawai‘i high chiefs, but Kalaniopu‘u started earnest skirmishes to take the rest of Maui starting in 1752. A later raid on Kaupō in 1775 was driven back by Kahekili’s forces when Hawai‘i retreated in their canoes from

Kalaeokaʻilio in Kaupō. In 1776, Kalaniopuʻu tried landing at Māʻalaea, but his complete force was ambushed and destroyed by Kahekili warriors in the dunes and sandhills approaching Waikapū. Battles like these created iwi, burials and artifacts in the sandy soils of Wailuku ahupuaʻa:

> When Kahekili heard of the fighting at Honuaʻula, he got his forces together—chiefs, fighting men, and left-handed warriors whose slingshots missed not a hair of the head or a blade of grass. … Kalaniopuʻu landed his forces before noon, a great multitude filling the land from Kīheipukoʻa at Kealia to Kapaʻahu, all eager to with the thought that the Alapa were to drink of the waters of Wailuku. Across the plains of Puʻuʻainakō and Kamaʻomaʻo shown the feather cloaks of the soldiers…
>
> Kahekili was at Kalanihale just below Kihahale and above the plateau of Kaʻilipoe at Pohauokahi. …Like a dark cloud hovering over the Alapa, rose the destroying host of Kahekili seaward of the Sandhills of Kahului, the “smoke head” Poʻoahi and the “red coconut” Niuʻula divisions. They slew the Alapa at the southeast of Kalua.

Moʻolelo of eyewitness survivors of Kakanilua and Kamehameha‘s 1790 invasion of Maui were published serials in “Ka Nūpepa Kū ‘Okoʻā’’ Hawaiian Language nūpepa. Later, that information was published in book form by Kamehameha Schools Press as *Ke Aupuni Mōʻī*. Other primary sources were collected from kūpuna by a team of Hawaiian scholars and preserved by a Circuit Judge for the Hawaiian Kingdom, Abraham Fornander in 1872. Yet another Hawaiian language resource for Hawaiian military history was written by Reverend Stephen L. Desha and translated by Francis N. Frazier in *Kamehameha and His Warrior Kekūhaupiʻo* in 2000.

The young warriors, Kamehameha Paiʻea and Kekūhaupiʻo fought together against Maui armies in early skirmishes. In 1790, they invaded when Kahekili was on Oʻahu, and knew to avoid the Wailuku sand hills. Also, Kamehameha‘s younger brother, Kaliʻimaikaʻi was once exiled in Hāna, where the makaʻāinana grew to love him. These historical events play into Kamehameha‘s conquest of Maui.

*Note that the Puʻunēnē village mentioned in Kamakau’s account of this battle is not in Puʻali Komohana, but in Kāʻanapali Moku, Mailepai Ahupuaʻa.

<u>Ke Pani Wai Invasion of Maui by Kamehameha the Great - September, 1790</u>

Armed with muskets from Canton and a single copper bulwark cannon from *The Fair American* sloop, Kamehameha set out with some 800 war canoes and 10,800 warriors to conquer Maui, which was under the rule of King Kahekili. At the time, Kahekili was on Oʻahu, so his sons, High Chiefs Kalanikūpule and Koalaukani with High War Chief Kamohomoho, defended Maui with a force of 12,400 warriors.

Wailuku was the prize, with it’s great heiau of Hale Kiʻi, birthplace of Maui‘s highest kapu chiefess Kalola was born, and the sprawling terraces of Pīhana luakini protecting the sacred ʻĪao Valley where many generations of high chiefs were laid to rest.

Kamehameha first landed at Hāna, where the people put up a defense, and there was no pillage. Then he dispatched a small division to march by land to Hamakualoa, flanked by his huge flotilla of canoes, cruising in the westerly currents. After Kamehameha overcame Maui

champion Kapakahili for control of the sacred ʻOlopū adze at Kokomo, he consulted his feather god, Kūkaʻilimoku and received a favorable sign. All Kamehameha's canoes proceeded to round Kūʻau point, fly downwind and land *en masse* at Kahului Bay. The warriors and canoes filled the beaches from Papaʻu Point at Kanahā to Hopukoa in Waiheʻe!

After ordering his troops to remove of the iako and bake the waʻa hulls in the sun, from atop the beach end of the Wailuku Sandhills, Kamehameha delivered this famous command to his troops, " I mua e nā pōkiʻi a inu i ka wai ʻawaʻawa ʻaʻole hope e hoʻi aku ai," *"Forward my precious brothers, to drink the the bitter water; afterward, there is no returning."* Kamehameha remembered the retreat from Kalaeokaʻilio years earlier and by his actions and this proclamation, his warriors understood that victory was their only option.

The night before battle commenced, a skirmish at Waiheʻe burned down that village and Hawaii troops garrisoned the escape route to Waiheʻe Valley. Early the next morning, Hawaiʻi met Maui on the Wailuku plains and fought for two days until Maui retreated. Some of this fighting may have taken place in the Kahului area, but most occurred in to the west of the study property in the sandhills.

After an engagement at Waikapū, the Maui forces retreated into the stronghold of ʻĪao Valley, where Hawaiʻi prevailed and many lives were lost. One name for this battle describes the Maui warriors seeking to escape by clawing up the steep valley walls, "Kauwaupali," the other refers to the many corpses damming the ʻĪao Stream, causing its blood-stained water to flow uphill. From that time, Maui women worked the fields, cooked the food, and paid taxes to the chiefs because there were so few adult men left.

As history shows, Kamehameha's decisions to attack from the north and avoid Kamaʻomaʻo were wise. The innovation of using western muskets and a single six-pounder copper canon to penetrate Maui's battle line allowed his kaua to succeed despite the topographical and geological advantages of the ʻĪao stronghold and his army being outnumbered.

With so many days of fighting with sling stones, arrows, hand weapons, musket shot and canon balls, one might wonder why these artifacts are so rare. Unlike modern armies, Hawaiian koa crafted their own weapons. Therefore, after battle, it was common practice for the victors to gather up all weapons and ammunition for future use.

In the 1960s a former owner of Sun Motors in Wailuku found a 6-pound cannon ball in the dune behind his car lot, which is now on display at the Maui Historical society. (Personal communication Terry Wallace, 1993.)

<u>Kanahā and Mauʻoni Ponds</u>

Loko are important cultural resources for Hawaiian communities. Ponds and wetlands surrounding them are habitats for sedge grasses used in fine weaving. Salt ponds are sources of edible seaweeds and shellfish, and paʻakai salt used as seasoning and for preserving foods. Brackish ponds are sources of sedge grasses used in fine weaving, gobi, and shrimp. They also create habitat for Hawaiian waterbirds like Hawaiian stilts, white-billed coot and the Koloa Duck. Many other migratory birds sojourn at Kanahā on their journeys along the Pacific flyway.

Loko with fresh water are home to Moʻo that protect ground water, which, like the sky water of Kāne, creates and nurtures the balance of one nature: sky, mountain, sea and kānaka. Hawaiian tradition commemorates the importance of ground water in the person of the Moʻo. The most noted Moʻo of Maui is Kihawahine, revered feather god of Queen Keōpūolani,

Hawaiians know that underground fresh water in their islands flows from a deep source. Guarding the waters are large supernatural black lizards called moʻo. They inhabit loko, ponds,

streams and springs. We see moʻo in silhouettes in our mountain ridges rolling down to the sea. They resemble the profiles of huge dark moʻo, with heads looking out to sea.

Moʻo traditions connect sky, land, sea and people in one balanced whole, as the great moʻo, swim through the cavernous lava tubes under the islands, appearing in various ponds and watercourses, we understand the interlocking islands of Maui Nui and Hawaiʻi connect deep in the earth to islands all across the pacific — wherever there is fresh water. Kihawahine is a deification of the daughter of High Chief Piʻilani, who ruled Maui in the late 1400s. Kihawahine is noted as a goddess of Kahekili, Kalola and Keōpūolani. When Kamehameha the Great took Keōpūolani as his queen, Kihawahine became his goddess too, along with Kūkaʻilimoku, a god of war and other gods. Hawaiian practitioners honor this moʻo today, and Hawaiian practitioner Vernon Kalanikau of Waiakoa recognizes his kuleana for the moʻo protecting the underground waters of Kīhei and Lāʻie. The voyaging canoe of Maui is named for her: Moʻokiha o Piʻilani, “Lizard goddess Kiha of Piʻilani.” Governor Hoapili and his Lāhainā descendants are the the Maui keepers of Kihawahine in Waineʻe.

Kihawahine was seen at Mokuhinia in Lāhainā and at Kanahā. In her photo essay book, Nā Wahi Kapu o Maui, Kapulani Landgraf chose a photo from Kahahā looking toward the entrance to ʻIao Valley for the book jacket, and quotes this hui from a mele preserved by Mrs. Sheldon in the “Kapiolani-Kalanaianaole Collection of Mele:”

> Alia ʻoe, alia mai
> Auē ke anu i Kahahā!
>
> *Wait a minute, hold on*
> *Isnʻt it wonderfully cold at Kanahā!*

Landgraf also notes that this mele was chanted by Kumu Hula Mae Loebenstein who descends from the Kanahā pond keepers. Pond keepers mālama and kiaʻi the loko and physically and spiritually so that it is preserved and kept in perfect balance. The keeper protects both physical and spiritual aspects of the pond and its inhabitants. As all Hawaiian cultural practices, the divine and the mundane are respected and balanced.

In *Sites of Maui,* Elspeth Sterling quotes testimony from Puea-a-Makakaualii (Rosalie Blaisdell) in 1923 that is abridged here:

> The custodians of Kanahā and Mauʻoni from Kamehameha I to Kamehameha II were Chiefess Kaipuʻula and her son, Pūmaia.
>
> Kanahā and Mauʻoni ponds were formed by interaction of sand, waves and fresh water. ki stretched as far east as Kāne Street, but there was a place where the sea broke through, and High Chief Kapiʻioho decide to build a kuapā dividing wall to separate the two ponds.
>
> The ponds are said to be built by Kapiʻioho, ruler of Oʻahu and Molokaʻi. Before he could finish the project, he died in battle on Molokaʻi, at Kawelo. He was survived by his daughter Kahamaluihiikeaoihi, and a son, Kanahāokalani.

King Kamehmehanui continued the work. Meanwhile, Kahamalu was searching for her little brother, whom she thought was on Maui. She chose to disguise herself, and called herself Mauʻoni. While in Honuaʻula, she fell in love with Kauhiokalani, who was stewarding Honuaʻula and Hāna. They searched for her brother, and heard that Kamehamehanui was at Kahului preparing for an event to dedicate the two fishponds her dear father had started, and until the dedication the kuapā was kapu. The time was just when the milky way shifted in the heavens. Kamahamalu and her attendant, Paʻu walk from Kula to Keonekapuʻo and arrived at the break of dawn.

When the people and high chiefʻs retinue arrived, the young princess tore off her pāʻū and stood on the kuapā, with a pola of malokea tied around her waist! Kamehamehanui received her, the kapu was not and Kamahamalu named the two ponds— makai for for her brother Kanahā and mauka for her alias, Mauʻoni.

The Great Mahele of 1848, and The Kuleana Act of 1850

At The Mahele, Most of Wailuku ʻili were assigned to King Kauikeaouli Kamehameha III, and those in ʻĪao Valley went to Hazeleponi Kalama. Wailuku ahupuaʻa was so heavily populated and cultivated that over 540 kuleana land claims were eventually awarded by the Land Commission.

In Wailuku, three grantees had Wailuku awards near Kahului:

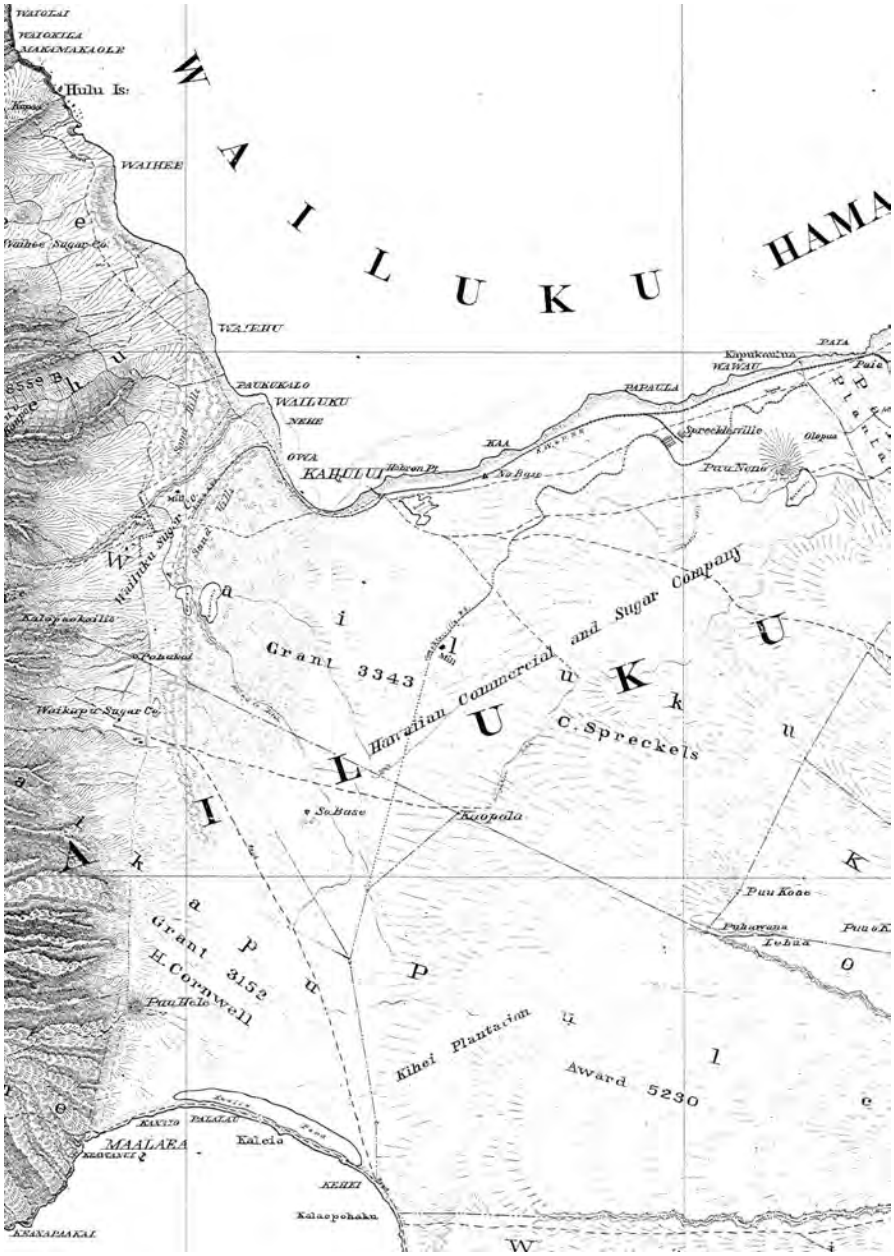
Award #.	ʻIli.	Awardee
1. 8515.	Owa.	Keoneana
2. 240 and 5228	Owa	Kuihelani
3. 7713.	Kalua	Victoria Kamamalu

Chiefs who received lands often transferred them to the crown or sold them outright, which was their right. In 1882, King Kalākaua signed Land Grant #3343 to Claus Spreckels, who began growing sugar on these and many other lands he acquired, which all became part of a huge plantation plantation called Hawaiian Commercial & Sugar Company.

In1898, HC&S company and land came under the control of Alexander & Baldwin. In 1948 all sugar lands were merged into Alexander & Baldwin company.

Distinct from agricultural land use in the lush koʻolau valleys of Wailuku, these dry, sandy plains of Wailuku Commons had few Land Commission claims. Only after construction of irrigation ditches and wells did the plains become useful cattle grazing lands and sugar cane plantations.

Kahului was the only bay on Maui that lent itself to improvement into a deep harbor for ships to carry sugar and other goods to the mainland. The Northeast trades create a ventura between Haleakalā and the West Maui Mountains that makes mooring dangerous, so Māʻalaea and



Lāhainā continued to be ports, but tall ships and later “steamers” used the docks at Kahului. Soon the area around the docks grew into a commercial railroad town.

Sugar Mills, Railroads and Trans Pacific Shipping

Claus Spreckels

The growth of Hawaiian Commercial Sugar Company begins with entrepreneur Claus Spreckels. The study property was a portion of the land leased to Spreckels in 1862 by King Kalākaua and later converted to a Royal Patent Grant No. 3343 in 1882 seen on the map above. Spreckels was growing sugar beets in Northern California and had inside information about the Reciprocity Act of 1877 that reduced tariffs on importation of Hawaiian sugar. At the

time, mainland news came in letters by ship, and Spreckels was able to get to Hawai‘i before the news. He bought up the state’s entire annual sugar yield (10 percent of the total American market) before Hawai‘i planters knew the new value of their crop.

By June 1878, he had, through collaboration and maneuvering with King Kalākaua, opened up irrigation to his leased lands so that he could grow sugar: 24,000 acres of Wailuku Commons plus 1,600 acres of Waikapū Commons. He built a 30-mile aqueduct and the Wai‘ale Reservoir. His first crop was harvested in 1880.

In addition to these enterprises, he bought an interest in W.G. Irwin & Co. sugar factors, designed efficiencies in sugar processing, created the Spreckels Oceanic Steamship Company (subsidized by the Hawaiian Kingdom) to move his product to the mainland, and even opened a bank that sold coinage to the Kingdom.

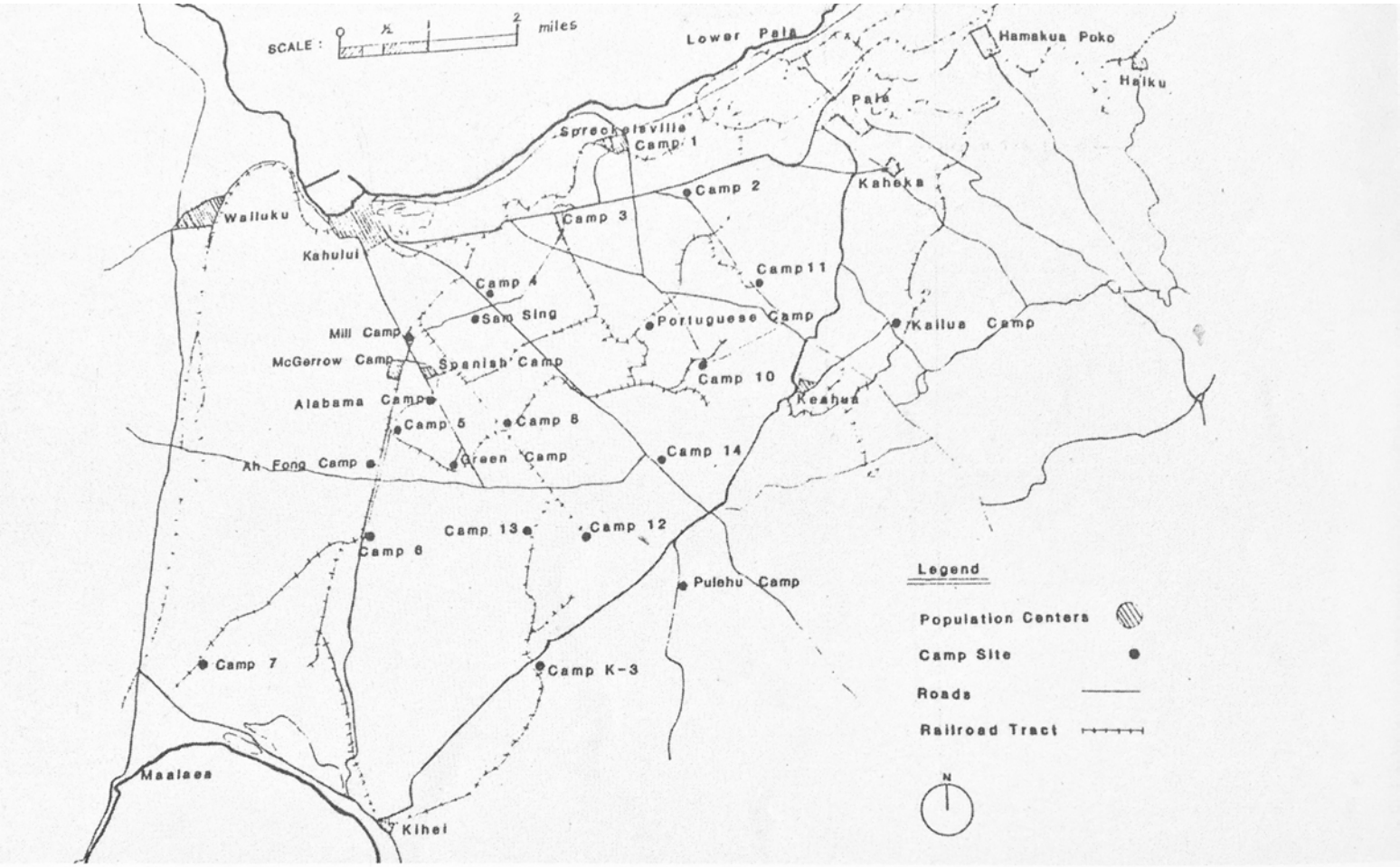
Eventually King Kalākaua and the Kingdom came to owe Spreckels over $1MM dollars. To prevent giving him any more power, the Kingdom took a loan from British bankers to pay him off. Spreckels received an anonymous death threat and went back to San Francisco, where he had the largest sugar refinery in the U.S. and continued to dominate Hawaiian sugar trade until after the takeover of the Hawaiian Kingdom 1893. Five years later, he sold Hawaiian Commercial & Sugar to Alexander and Baldwin.

If imitation is the sincerest form of flattery, the five families carefully duplicated Claus Spreckel’s innovations of amassing lands, acquiring water rights, banking, shipping and rail.They even began a sugar refining cooperative in San Francisco to compete with Spreckels.

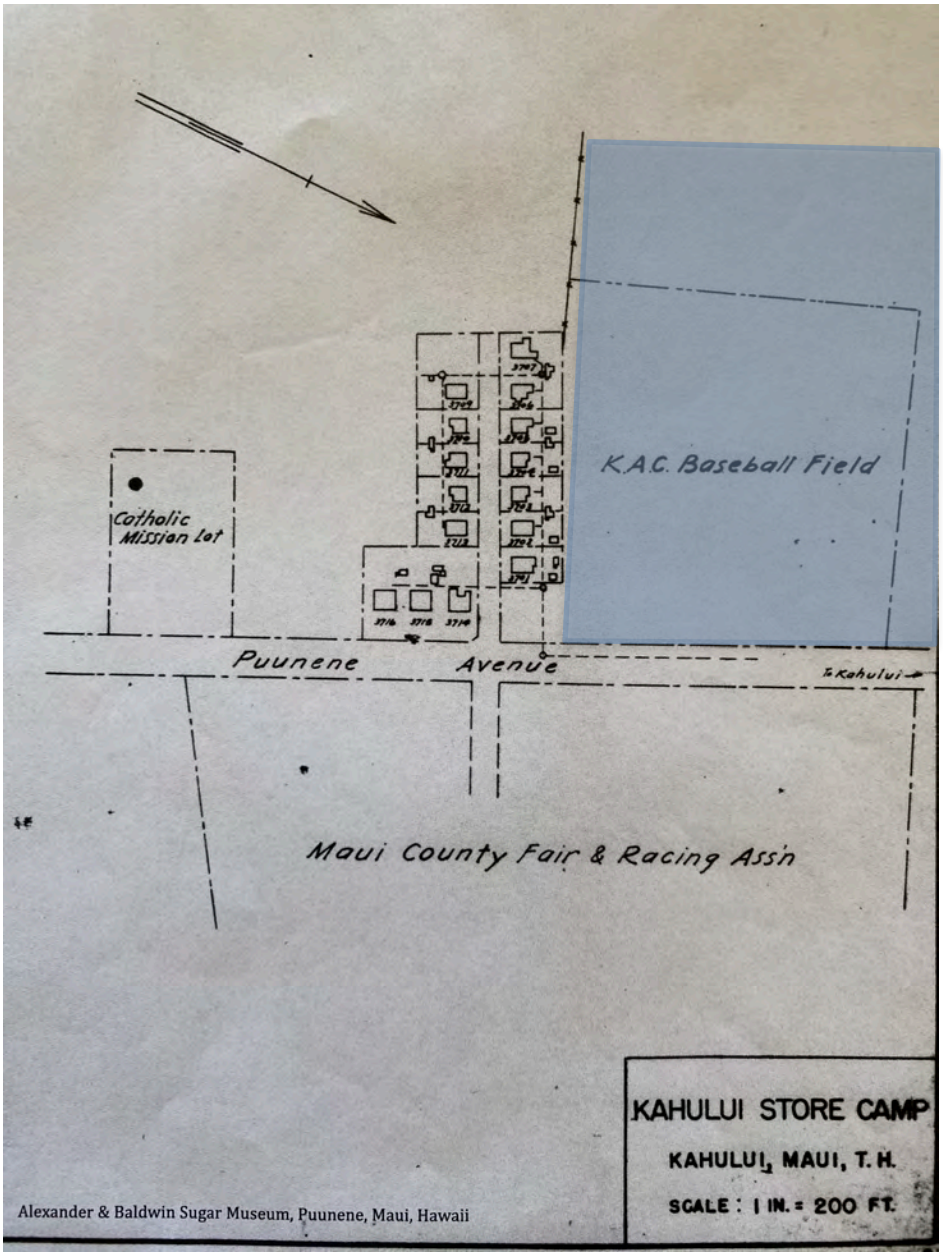
Alexander & Baldwin

The modern history of Kahului was formed by Alexander and Baldwin (HC&S) plantations overseen by Henry Perrine Baldwin and their subsidiary companies, like Kahului Railroad Company (KRRC), managed by Frank Baldwin. Alexander and Baldwin and James B. Castle purchased controlling stock in HC&S in 1898, and in 1948 merged with Maui Agricultural Company. Their transpacific and inter-island shipping, stevedore and trucking businesses made sugar more profitable and their employee housing and benefits forever impacted settlement patterns on Maui.

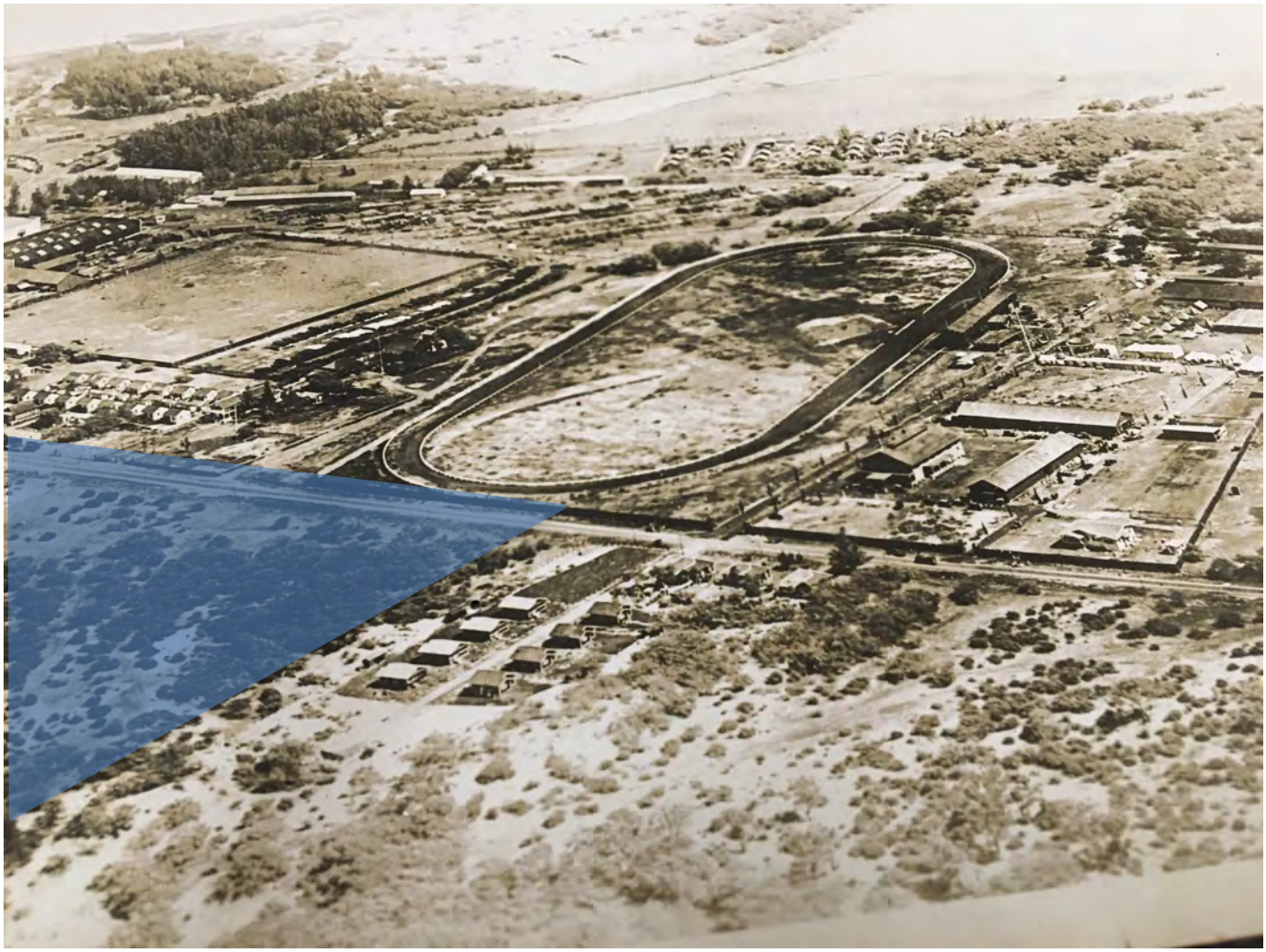
In I940, the largest population center on Maui was Upper Pā‘ia, with residents numbering 20,000. When the Pā‘ia Mill closed, Alexander and Baldwin fired up a cement factory and produced cinder blocks made with lava chips. With this material they built Dream City. By the early 60‘s many of the Pā‘ia camp families owned their own homes in Kahului.



The closest camp to the study property was Kahului Store Camp housing for Store employees. This schematic provided by Alexander and Baldwin Sugar Museum locates the Kahului Athletic Club Baseball field on the study property, shown in blue. Other nearly historic properties are Christ the King Church and Maui County Fair and Racing Association. The study site was used as Fair Grounds parking and The Kahului Athletic Association (K.A.C.) Baseball field.



This 1920 aerial of Kahului, provided by the Alexander & Baldwin Sugar Museum, shows the newly built County Fairgrounds and Racing Association track and Puʻunnēnē Avenue. The Study undeveloped property site is shown in blue and eight house of Store Camp in the center foreground. The project site sandy soils were never planted with sugar cane, and cattle "grazing" on the site was limited to foraging scrub and kiawe bean pods.



This 1960s aerial of Kahului, taken during the build-out of Dream City, shows the project site in blue, The Kahului Athletic Club ball field and a tennis court diagonal to its Southwest corner.

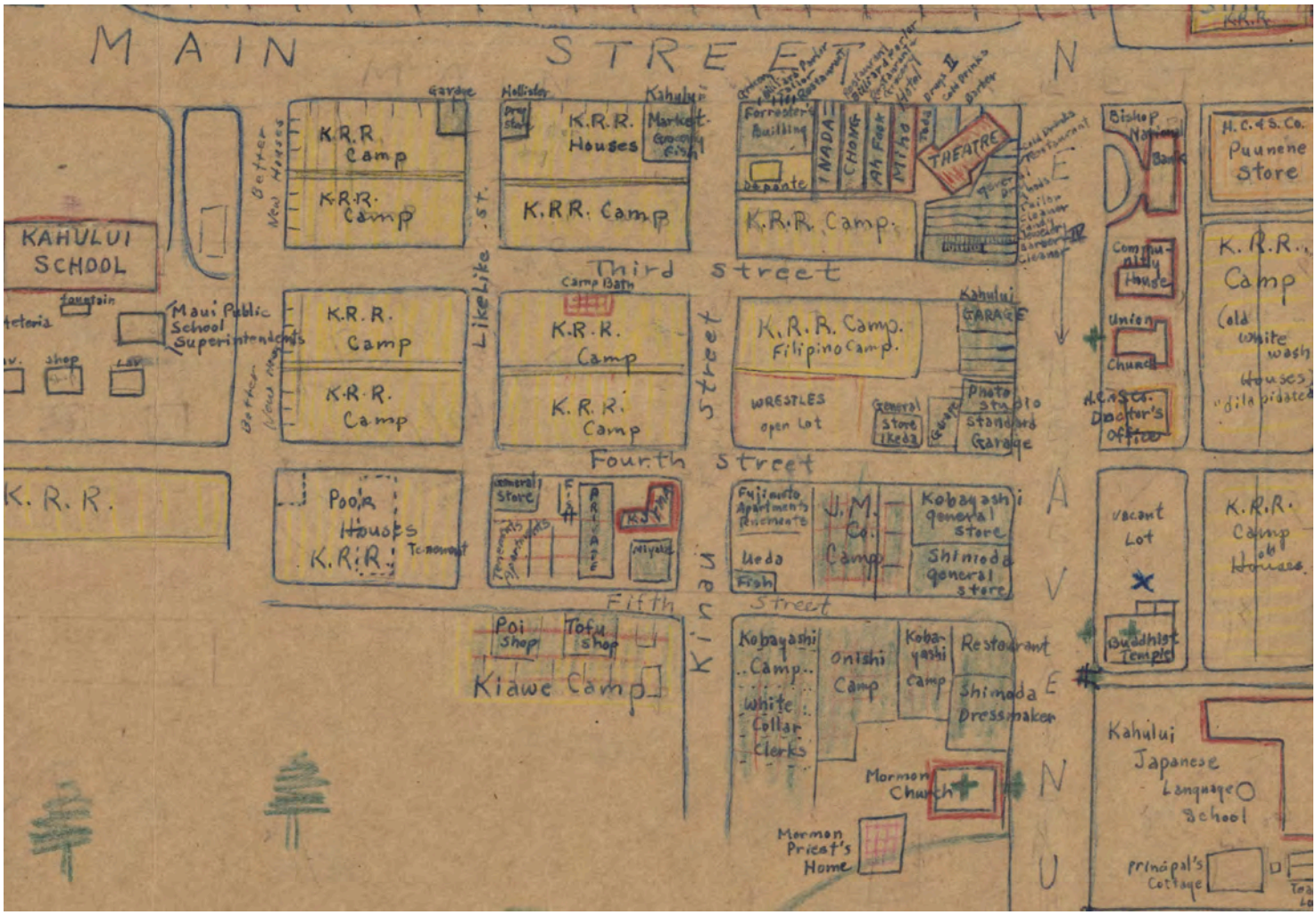
Kahului in 1937

This hand drawn map of Kahului was the project of a Sociology student at UH Mānoa during her summer vacation in 1937. The 2x3 foot original identifies the owner of every building and public space. Her conclusion was that Kahului was a “railroad town,” where the seat of power rested in the Kahului RR Company. Thomas Hobron began the railroad between Wailuku and Kahului in 1879 to haul cane, sugar and passengers. The efficiencies of rail transportation did in fact build Kahului.

The study parcel is superimposed in blue. The student identified it as a parking area next to A&B pasturelands. Notice the many railroad tracks and sidings by the piers, tracks which disappeared when A&B turned from rail to trucking in 1966.

This blow up shows the Kahului Japanese Language School on Puʻunēnē Avenue run by Maui Jinsha Temple, and the Buddhist Temple across the street. The population of Kahului was nearly all Japanese American. A majority were Naichi, but Maui also had a good number of Okinawans. A couple of Chinese families lived in Kahului and a few Hawaiian families lived near Kanahā Pond off Haleakalā Highway. The vast majority of kūpuna from this area descend from Japanese who immigrated here to work on sugar plantations.

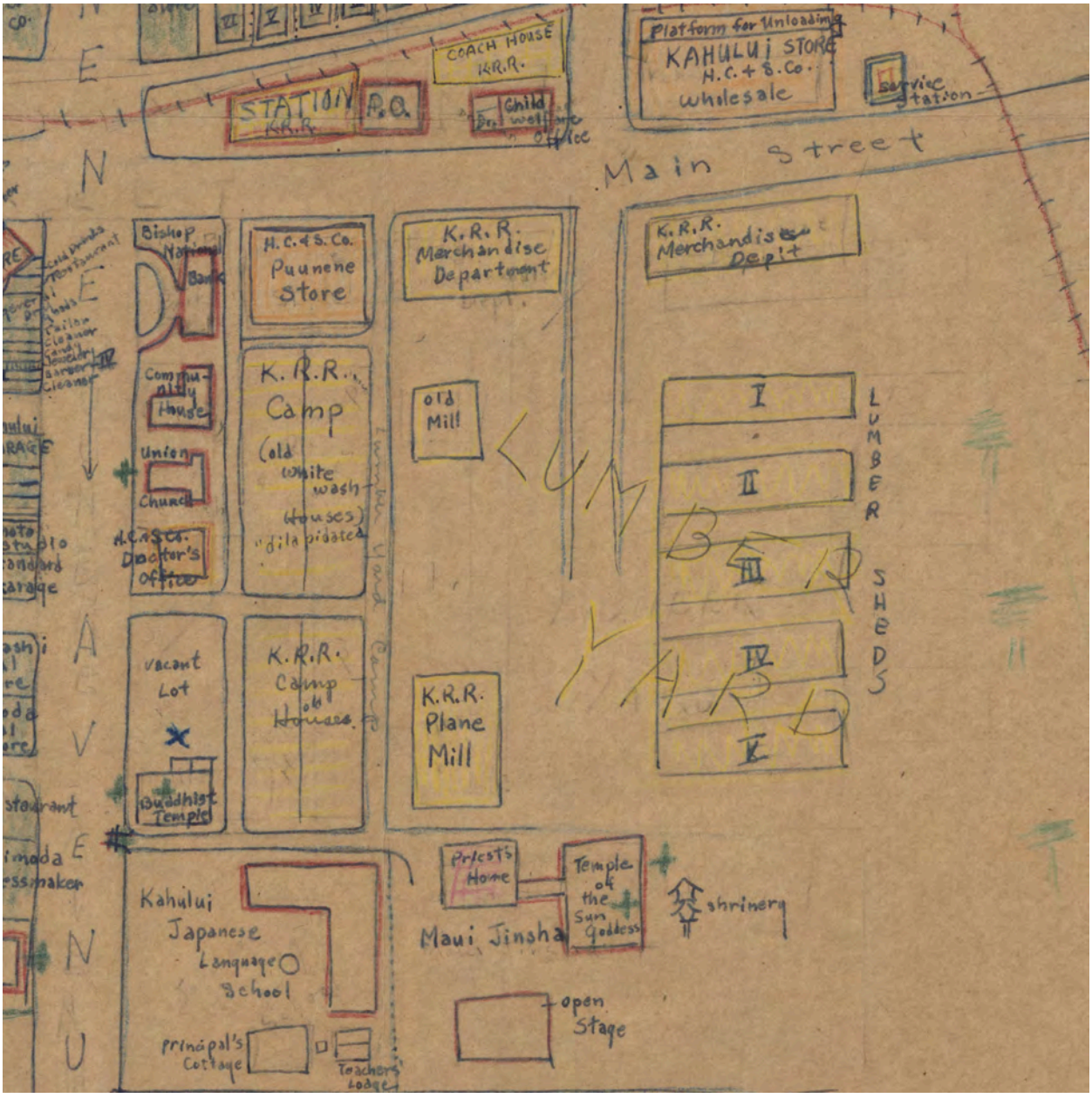
Camps on the west side of Puʻunēnē housed employees of Japanese-owned businesses. Among Japanese American residents of Kahului in plantation times, merchants and business owners were respected and Japanese mothers approved of their daughters marrying into the business class.



Children from Japanese families went to Kahului School and after the last bell, they attended Japanese Language schools associated with temples. Japanese on Maui held together like “mochi” and practiced their traditional ceremonies. Some ceremonies that died out in Japan, are still practiced on Maui, to the delight of Japanese and other visitors.

During WWII, many Nisei young men from Maui served in the famous 442nd Combat Battalion in Europe, and others trained in Military Intelligence Service schools in Minnesota to become observers, interrogators and interpreters embedded with Naval AIr Command units in the Pacific Theatre.

In Kahului, KRRC owned the largest number of buildings, sugar was king in Kahului and all the large buildings were owned and operated by partners and subsidiaries of the sugar company. In this close-up, the long roofs seen in all early aerials of Kahului are identified as the huge lumberyard and mill for Kahului Railroad Company



Christ The King Roman Catholic Church

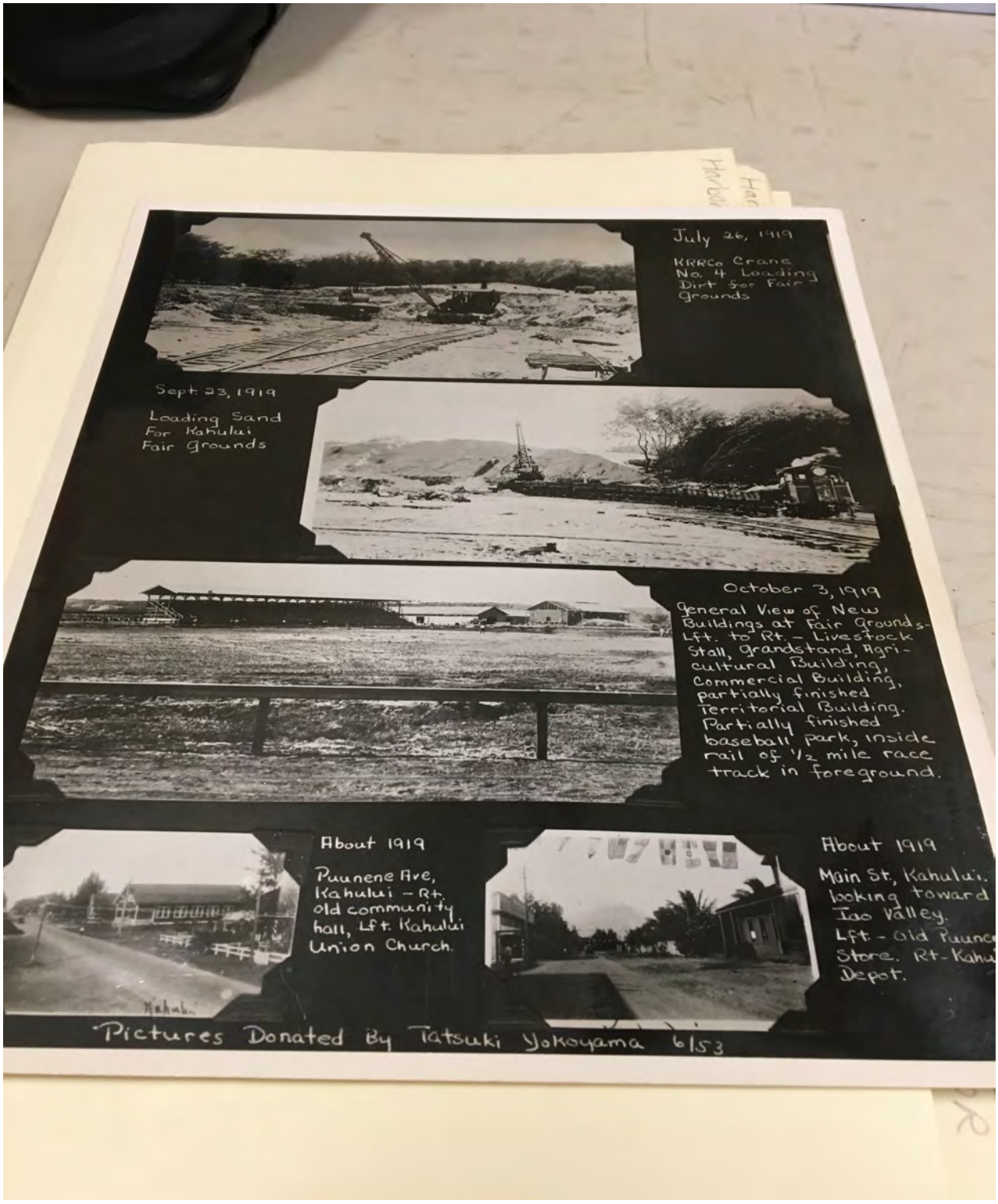
In the 1880s Catholic priests from the robust parish of Holy Family Parish in Puʻunēnē Camp were celebrating Mass in the little town of Kahului as a mission. Church historians estimate that there were no more than 60 Catholics in Kahului in 1924. In 1931, parishioner Anne Enemoto and Pastor Bartholomew Bax asked Frank Baldwin to donate a piece of land so they could build a church. They were offered a beachfront lot, but the Dutch priest was concerned about tsunami and an inland parcel was agreed on, with the provision that the church would never sell the land. Construction of the red-roofed Spanish style stucco church was started in 1932. The parish was blessed by Bishop Stephen Alencastre in October of that year. In 1955, the church purchased more land from A&B for a school, which was staffed by the Sisters of St. Joseph Carondelet and enlarged in 1958. Father Joseph Hendriks from Belgium pastored the cheuch from 1879 to 1989 before being assigned to St. Francis parish in Kalaupapa, Molokaʻi. Father Florencio Rebebes from the Philippines shepherded the largely Filipino Congregation. Later, the church aquired more land for their parking lot.

Harbor Genesis

Kahului Village before the first landing was constructed. Probably taken in the 1860s when photography came into use. An early missionary account states that there were 26 houses in the village of Kahului in 1837

Kahului Harbor

The Kahului bay became a harbor in 1879 with a small landing, a warehouse, custom house and saloon. A good area near the dock was burned in 1900 as a measure to kill the fleas carrying Bubonic plague. Soon after, Kahului town was rebuilt and the harbor was formally developed for large ships. Kahului Railroad Company, Limited, a subsidiary of HC&S, built the 400-foot east breakwater, and purchased the first tugboat, *The Leslie Baldwin.*



In 1911, The Territory of Hawai‘i condemned the wharf improvements and allocated funds to rebuild the Harbor which it now controlled. From then to 1931, the Army Corps of Engineers constructed the western breakwater, two piers and dredging created the harbor we recognize today. Dredging to widen and deepen channels is a part of harbor management.

The dredging of Kahului Harbor resulted in mountains of sand, some of which was used to raise the level of large sections of Kahului town, so that the area would be less prone to flooding and tsunami. Sand dredged from the harbor was added to the Fair Grounds in 1919, and possibly could have been added to the adjacent parking area (study parcel) as well. The scrapbook of Tatsuki Yokoyama shows pictures of the sand piles and the new Fair Grounds project, as well as pictures of Pu‘unēnē Avenue and Main Street Kahului. The Tidal wave of 1937 inundated Kahului as far as Wakea Street with harbor with up to three feet of seawater.

Kahului in Hawaiian Literature

There are scant mentions of Kahului in nā mele kahiko and early Hawaiian literature. It is a place name, and the name of a military formation where the warriors attack in a semicircular formation. Without the mo‘olelo connected to the name, we cannot know its true meaning.

Early archaeological studies and maps located “a village” at Kahului, near Kahului Bay. The Bay was a terminus of the Wailuku stream and it also received groundwater from Kaliakalinui Gulch to the East and ocean surge from a deep hole off Ka‘a. In pre-Western contact times, before development of the harbor, the loko behind Kahului Bay was extensive. In 1930, Bishop Museum archaeologist Winslow Walker estimated it covered 37 acres. In Handy & Handy says about the first Polynesian colonizers:

> Almost certainly the first settlers chose protected bay and beach areas where fresh water was available and where there was good inshore and offshore fishing….On Maui, one thinks of Lahaina, of Kahului; and on the windward coast, first of Ke‘anae and Wailua, then of Hāna Bay with its rich hinterland.

Kahului Fishing Traditions

Kahului would have had abundant fishing year-round. Improvement of the natural loko may have been for aquaculture of limu-eating fish. Inshore fishing was permitted in summer months when deep sea fishing was kapu. In winter, shore fishing was kapu but deep sea fishing for Dolphin (Mahimahi), Black Cod (Butter Fish), Moonfish (Opah) Tuna (Ahi) Wahoo (‘Ono) or Marlin, blue or striped, was allowed. Offering the first catch to Ka‘ulukai at a fishing shrine was important to assure continued abundant and safe fishing. Hawaiian tradition frowned on being stingy with your catch, and taking more fish than your family needed. These practices conserved the produce of the sea for many generations.

Fishponds were other ways that the ali‘i of a region could grow limu-eating fish and provide protein for themselves and for feeding those who worked on building heiau and other large earthworks in the ahupua‘a. We infer that Kanahā and Mau‘oni Ponds in Kahului were built for this aquaculture and sustenance purpose, although legends do not specifically confirm this.

Today, shore and line fishing traditions continue on the non-commercial breakwaters of Kahului and along the North Shore, with “whipping light line” to catch inshore reef fish, and “sinking heavy line” for deep sea fish. Prized shore fish are Kaku (Barracuda), Goatfish (Kumu), Young Jack Fish (Papio) and Jack fish (‘Ulua).

Inshore shoals where the wave action was calm allowed netting and fish-trapping methods of fishing, although not much on this north side of Maui.

Surfing and Paddling Traditions

Kahului Harbor development has changed wave patterns. Even so, consistent wave patterns offer good surfing near Kahului harbor year round, but more favorable conditions prevail in the winter months. They train and race in Kahului Harbor and make longer upwind runs east to Kanahā Beach and return downwind to their landing. Alternatively they race along the western short to a buoy at Waiheʻe Point and back to Kahului.

Hawaiian Canoe Club is a large active club preserving the Hawaiian traditions of canoe paddling, the most used form of transportation in ancient Hawaiʻi. The canoe was one of only three items the makaʻāinana fully controlled: their canoes, their hale and their own bodies. Everything else was at the disposal of the headman, chief or king.

No Heiau Sites Recorded for Kahului Area

Winslow Walker visited Maui in the 1930s to inventory all the cultural sites recorded by Stokes. His hand-written notes are in the Maui Historical Society and SHPD Archives. His work was reviewed and compiled in 1998 by Elspeth P Sterling and published by Bishop Museum Press as “Sites of Maui.”

1. There are no mentions of any heiau or ceremonial shrines on the study property.

2. Aside from the prominent Hale Kiʻi and Pīhana Luakini complex in ʻĪao Valley, no other heiau were found by Walker. Preservation of this complex, sacred to Kalola and Keōpūolani and ʻĪao Valley are critical because so many important sites have been lost.

3. The names of lost or destroyed heiau of Wailuku ahupuaʻa noted by Walker are: Kaulupala, Kawelowelo, Keahuku, Lelemako, Malina, Olokua, Oloolokalani, Olopio, Palamaihiki, Pohaluokahi,

4. Walker mentions that Puohala or Puʻuohala may have been in Waiehu canefieds.

Kahului in World War II

From 1943 through 1945, Maui was the rest and retraining encampment for 17,000 men of the 4th Marine Division, and many more Army, and Naval Air Command personnel. Kīhei beaches and Mā‘alaea Harbor and over 50 military combat training areas prepared troops for amphibious landings and defense. Kahului was their central shipping and warehousing depot.

This picture shows camouflaged elevated Quonsets installed as a munitions store in Kahahā pond. A grid circuit of stone and macadam access revetments are just wide enough for military transport vehicles.

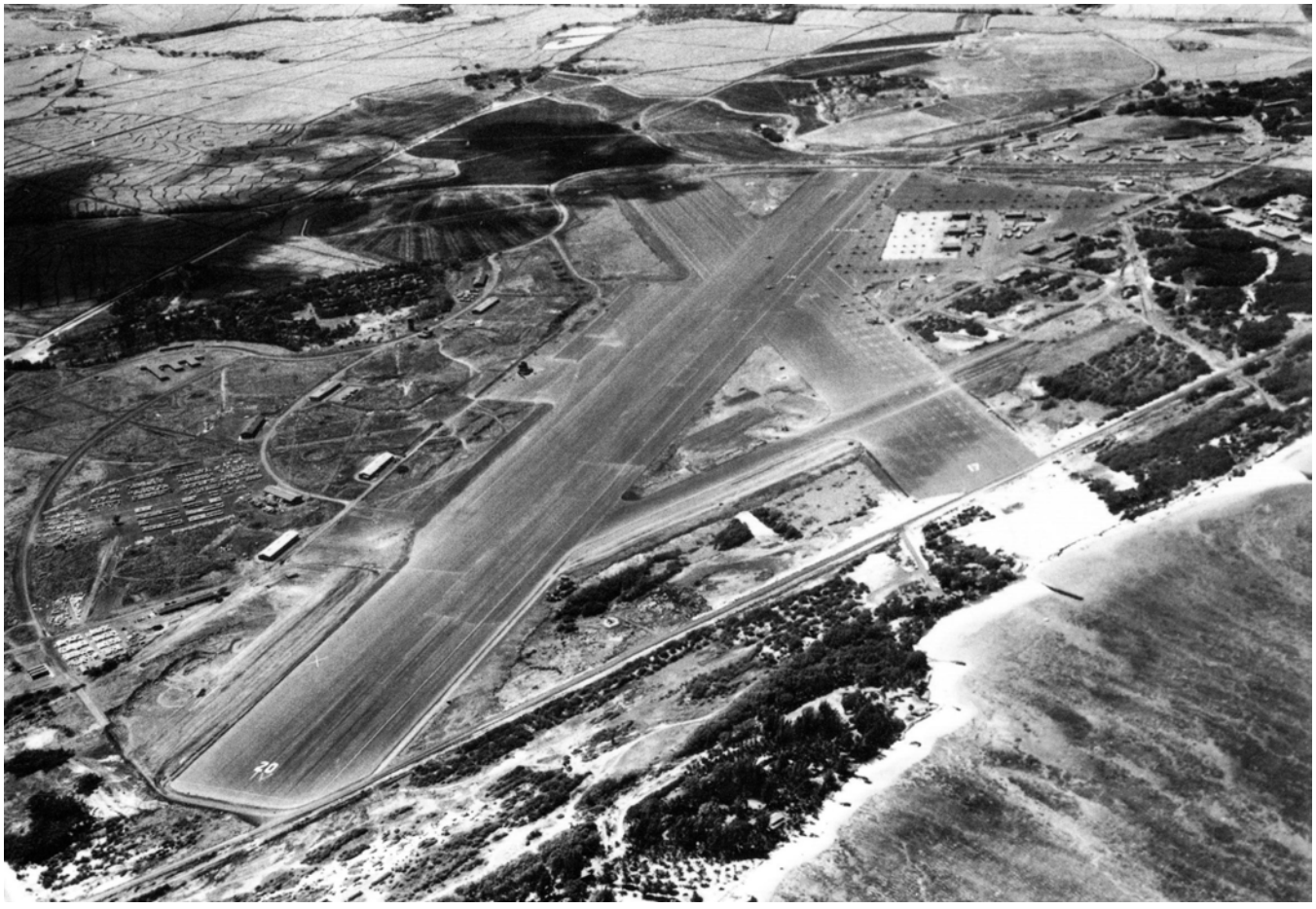
Another string of 40 Quonset warehouses at the east end of Kahului harbor were later repurposed and used by Maui County for decades.

Naval Air Station Kahului 30

A Naval Air Station Puʻunēnē 27 was developed at Pulehunui by the Navy in 1939 and with the growth of air combat in WWII, was deemed too small. In 1942 Navy Construction Battalions (“Seabees") attached to combat operations began construction on Naval Air Station 30 at Kahului, (NASKA) in 1942. Before the construction of the airfield on Tinian in the Marianas, NASKA was the largest military airfield in the world.

Over 3,000 Navy pilots were trained on Maui during WWII. Carriers arriving from the West Coast would release their fighters to NASKA for training in the Maui airspace while the ship steamed on to Pearl Harbor for reprovisioning. The 1944 air sectional map of Kahului instructed pilots flying on dead reckoning to use the Kahului Railroad tracks for positioning.

Through a series of transactions after 1947, Naval air station lands and facilities, including a major power plant were turned over to the Territory of Hawaii Commission of Public Lands by the U.S.Secretary of the Navy. Through a series of transactions, A&B received compensation for the land used by the military, and the resulting public lands were allocated to the board that would become DLNR, and to Maui County. The air field and building were developed into Kahului Airport as part of a statewide civilian transportation plan under the Hawaii Aeronautics Commission, and Puʻunēnē Naval Air Station was closed.



1. Sister Roselani Enomoto, Kahului Cultural Descendant

Sister Roselani Enomoto grew up in Kahului. Her mother, was Scottish-Irish and Hawaiian. Her father, G.N "Toshi" Enomoto was Japanese - Hawaiian. Her mother's brother, Walter Soule was the Harbormaster for Kahului Harbor, and volunteer Manager for Kahului Athletic Club. He died in 1962. Her Hawaiian grandparents were Keoho Kalohi and David Poʻai.

"I had a Sottish Grandpa Mac Nichols, my mother's father, called "Mac" who was in charge of constructing the Kahului Breakwater.

"My Father Toshi graduated 10th grade at St. Anthony's and went to work at the plantation. Soon he was managing the A&B Warehouse at the wharf. Later, he was picked by Frank Baldwin to work at Bishop Bank, now became Bank of Hawaiʻi. He worked there for 20 years.

"During WWII he served as MIS in Liete, in the Philippines.

Japanese Shops in Kahului

"Shimoda Store was across from the Maui Clinic sold fabric for work clothes, like denim and canvas. But they also had Hawaiian print fabric to make dresses. Mother used to take us there. All the shops were named after the families who owned them.

"Mauka of the theatre, the sidewalk was a boardwalk four feet off the ground on both sides of Puʻunēnē Ave. On the side towards Wailuku, the shops were for merchandise. Also one Tagawa Jewelers, a watchmaker. No food shops on that side. The first building on the Pāʻia side of Puʻunēnē closest to the beach on the corner of the boardwalk—was Tokyo Tei Restaurant and then a string of other food shops. Tokyo Tei moved four times.

"I lived in Kahului when I came back from a mission to Japan to serve at St. Anthony's. But I have worked more on Oʻahu and Molokaʻi.

"I have brought you my personal copy of the history of Christ the King parish, and you can give it back to me when you are finished, just send it back to me.

The land to build Christ the King

"My father's mom, Mrs. Anne Enomoto was very direct and she had a vision for getting property and a building for Christ the King Mission. Toshi tells the story that his mom told him one day, When you come home today, I want you to take me to the bank. "Why?" He asked. She replied, "That's for me to know." That was the day she asked Mr. Baldwin to please give land because the Catholics had to walk such long distances to church. At that time, everyone was on foot. Only the luna had cars.

"Toshi drove his Mom to see Father Bax; Annie got out and went inside to talk with him. Then the priest came out to get in Toshiʻs car. His mom sent Father Bax right down to the bank to talk to Mr. Baldwin! The men came out laughing and that was all Toshi knew. But the Church was established. Not on a piece of beachfront property that Mr. Baldwin offered, but a mauka piece at the corner of Wakea, where they would be safe from tsunami flooding.

My Grandmother Keoho

“My grandmother Keoho was born in Kalaupapa and and was separated from her parents. She graduated from Kapiolani School for Girls on Oʻahu and converted to Catholicism at a young age, and then went on a mission. As far as we can determine, her conversion in the orphanage was the beginning of our Catholic heritage. Keoho knew Father Damien. In our family, there is a female named Keoho in every generation.

“Malulani was a small hospital on Maui begun by Mother Mary Anne Cope the same year she and the Sisters of Saint Francis of Syracuse New York went to Kalaupapa to assist Father Damien. My grandmother was trained to help the nurses at Malulani Hospital, where Hale Makua is now.

“My grandfather was in a truck accident and came to Malulani for treatment — thatʻs how he met my Grandmother. He said it was love at first sight!

Roselaniʻs Father, G.N. “Toshi” Enomoto

“My father Toshi never told us any dates, he just shared stories. His whole high school class was hired by the plantation because they had received such a good education. After a year at the Kahului warehouse, Frank Baldwin picked to work at Bishop Bank. He was 20 years at the bank and then worked a short time for an insurance company.

“In 1924 my dad had already graduated the 10th grade from St. Anthony’s. That was the highest grade offered then.

Dad in Military Intelligence during WWII

“He volunteered for the Army in 1945, with 6 children at home. He grew up in Haʻikū and went to Japanese Language School in Upper Pāʻia. Speaking Japanese was a skill very valuable to the War Department. Dad studied Japanese military language at fort Snelling in Minnesota. Nisei MIS men figured out the Japanese Army code by the time the battle of Midway occurred, so my Father only served a little over two years. And then he came home.

Dad grew up near Sunnyside

“Sunnyside was named after the Baldwin mansion at the end of the drive, and all the Baldwins lived up there. My Dad grew up downhill from there but nearby. Old-timers know where Sunnyside is — young people donʻt. His family listed Makawao Union as their church in Upper Pāʻia (everything below Rainbow Gulch is called Upper Pāʻia), but he was Catholic.

Only a few Hawaiian families in Kahului at Hawaiian Camp

“Hawaiian Camp was in back of Kahului School towards the Kaʻahumanu Center. That is where Annie Enomoto lived. Toshi dropped off his Mom at Mr. Frank Baldwinʻs office in her best muʻumuʻu and they talked for over an hour. She never said what happened but she told her son to pray the Rosary every day to soften Mr. Baldwin so he would give the church a piece of land.

May have been Hawaiians living near Kanahā

“There may have been some Hawaiians near Kanahā—up Hāna highway which was only two lanes. It was in the fields but not the dairy fields Those were further upland. The fence on Kanahā side separated the cattle from some little houses. People got in there on little dirt roads. I was a freshman in high school then, so it was before 1950 Hard to remember.”

2. **Mr. Teruo Ozai of Kahului**, Age 93. Mr Ozai grew up in Kahului, and graduated from Baldwin High School in 1945.

Ozai:
“I lived my whole life in Kahului. I was born in McGerrow Camp where there were over 100 houses. Later my dad went to work at the Dairy and we lived in Dairy Camp were there were only 12 houses.

“My brother and I walked to Kahului School. Were no cars or buses then in Kahului, maybe the big lunas, but everyone walked everywhere. There were only four big buildings in Kahului — the Bank, the Clinic, Kahului School and the Library — maybe one more. We walked to school through the fields — just kiawe trees and sand. Nothing. It was too far to come home for lunch so we bought our lunch or carried a bag of lunch.

“After school I went to Japanese School for another couple hours. Not in high school. I went to Baldwin, and it was a real hike to get to the Wailuku library. There were no buses because the army took them all. In 1942 there was no graduation because of the war. I graduated in 1945 and the war was over. No need go in the Army.

“You know. I worked for Puʻunēnē Mill as a machinist. When I started working, I walked from Dairy Road to the mill. We had to be there at 6.am. you know. Worked until 5 p.m. There was one railroad track that went from the docks in Kahului all the way to Puʻunēnē Mill. That track was only 4 inches wide. Funny. It was for carrying bags of sugar to the docks. Sometimes I hopped on that funny train instead of walking to the mill.

“In 1950 or close to that I bought a piece of land in Kīhei. You know it was a long time ago and I planted a mango orchard. I didn’t live there, I just went down there with my brother and we took care of the trees. We sold those mangoes here in Kahului. At that time all the mangoes on Maui were grown here. Many people grew mangoes. Now no more mango growers—they ship in all the mangoes.

Do you remember the park across Puʻunēnē from the old Fair Grounds?

Ozai:
*“*Oh. Which side? The ball park? That was the Kahului Athletic Club field. Plenty baseball and football for kids. Never any buildings there, just a park.

What about the stand of trees in the back corner, by the Swimming Pool?

Ozai:
“I donʻt know.

Do you know what that concrete slab is — on Kaulawahine Street between the Swimming Pool and the Salvation Army?

Ozai:
“Oh sure! That was the old National Guard Building. One bowling alley, there. And a pool hall. Sure Sure. Eh, eh, eh — I remember in the corner there—by the pool was one tennis court! Yeh. A tennis court. Haha.

Tell me about the County Fair.

Ozai:
“The Fairgrounds backed up to a field and as little kids we snuck in. It was fun! In the early fairs they had baseball tournaments for adult amateurs. The teams came from all over — Pā‘ia, Lāhainā, Wailuku, you know. The organizer was Dr. Kruger and he paid me thirty cents to run around behind the outfield and bring the balls back in to him. That was a lot of money for a ten-year-old kid. Yeh. Usually the HC&S team won. They had all the good players and everyone wanted to play for them. Haha.

Were there any Hawaiians living in Kahului in your day?

Ozai:
“Most of the kids in my class were Japanese you know. I had one Hawaiian kid in my class and I still remember his name: Apo Kaio. There were a couple of families I heard of, but not many. I think the Enomotos were part Hawaiian, and maybe some Hawaiian in Mr. Yabui’s (Math Teacher) family because his father was from Honolua. At graduation kids would go camp out there in Honolua.

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3. **Doug Sheehan, President of A&B Sugar Museum and President of Kula Community Association**

I don‘t have any information about the land where old swap meet was, across from the old County Fair grounds. And I never knew any old Hawaiian camps or homes.

We have a a complete set of newspapers called The Maui Record, written in Japanese, Filipino and English that started weekly in the 1920s. It was discontinued after Pearl Harbor in 1941. However, it is not yet indexed. There is probably a lot of information about like on Maui in those papers.

VII. Confidential Information Withheld/Conflicts of information

No confidential information regarding the history or cultural resources or significance of the study parcel has been withheld from this report and no conflicts of information concerning this research about this property have been observed.

VIII. Conclusion and Effects on Plan

No cultural items, artifacts, earthworks, sites or record of any cultural practice was observed or found in research for this study property. No natural resource valuable for the practice of Hawaiian culture was found or reported for this property. No historical stories, events or artifacts significant to the history of Kahului were found or known to be registered with the State of Hawai‘i or any national heritage organization. The State of Hawaii State Historic Preservation Division has no reports or letters noting any historical or cultural assets or resources for this parcel.

A 2004 study of this property found no cultural assets on this parcel. A recent study of property just south and west of the study parcel on similar land also found no cultural assets.

A&B Sugar Museum extensive collection of maps, photos and aerials do not show any structures on the study property besides the remnants of a modern era tennis court that has not been in use for decades. My request for informants via The Maui News, Maui Now and personal press release went to all sectors of the Maui community. Informants I solicited by cold calls shared their oral histories but none knew of cultural features, practices or resources connected to the study parcel.

No informant testified to the presence of any ceremonial or cultural practices or presence of burials or ceremonial sites connected to this parcel.

Due to the absence of cultural and historical artifacts and resources on the study property, I conclude that there is no effect on plan. I recommend best practices for monitoring when soil is moved, graded or excavated in the course of the building project, and adherence to monitoring practices that SHPD recommends.

I further recommend that should names be selected for parts of Hale Pilina Affordable Family Housing Development, that the developers consider preserving Kahului place names that have fallen out of use, like Pu‘ali, Owa and Kalua.

IX. Individuals and Groups Contacted

State Historic Preservation Department, Land and Natural Resources Division Kapolei
Archivist, Stacy K. Naipo
Aha Moku o Maui website information
A&B Sugar Museum Archives
Wilson Angel, Paddler
Setsuko (Bess) Matsuoka, Pu‘unēnē Ave. resident
Sr. Roselani Enomoto
Stan Kunitake, Kahului resident
Kanahā State Wildlife Sanctuary
The Coach Spencer Shiraishi Memorial Pool
Hawaiian Canoe Club
Doug Sheehan, President A&B Sugar Museum
Alan DeCoite, WWII on Maui Historian
Rev. John Tomoso, Good Shepherd Episcopal Church, Wailuku
Alan DeCoite, WWII Aviation Historian

Letter Requesting Cultural Information sent to 19 Maui Hawaiians groups and practitioners
Maui Native Hawaiian Chamber of Commerce

X. Resources and Bibliography

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Wm. pau loa #8.

G. M. Robertson
J. H. Smith
Ioane Ii
W. L. Lee
J. Kekaulahao

Honolulu Novemaba 19, 1851

Helu 420 Kuihelani — Owa, Wailuku, Maui

Aina o Kuihelani, o Owa ka inoa, aia i Wailuku, Maui.

E hoomaka ana i ke ana ana o keia aina ma ka pahu e ku ana ma ka aoao Hema o ke kahawai nui o Wailuku ma ka aoao hoi mauka o ke Alanui Aupuni e holo ana makai o ka hula wiliko. A holo aku la ka aoao mua i ka Hema 44° 15' Hikina, 6 Kaulahao, 27 Kapuai; huli i ka Hema 37° 45 Hikina, 14 Kaulahao, 12½ Kapuai. Huli i ka Hema 56° Kom. 2 Kaulahao, 44 Kapuai, e holo ana mauka aoao Akau o ke Alanui Aupuni hou; huli i ka Hema 31° Hikina, 2 Kaulahao, 12 Kapuai; huli i ka Hema 69° 30' Kom. 10 Kaulahao, 36½ Kapuai; huli i ka Hema 5° 39' Hikina, 10 Kaulahao, 54½ Kapuai, e holo ana mauka aoao makai o ka pa o Kuihelani ma Peepee, alaila huli a holo mawaena o ka aina i kapaia o "Kalua" a me keia aina i ka Akau 88° 30' Hikina, 27 Kaulahao, 46½ Kapuai a hiki i ke Alanui Aupuni e holo ana makai o "Kalua", a malaila aku holo mawaena o na puuone i ka Akau 76° Hikina, 2 Kaulahao, 49 Kapuai; huli i ka Akau 81° 45' Hikina, 10 Kaulahao, 46½ Kapuai; alaila, huli a holo no ma na puuone a hiki i kahi i kapaia, o "Kahului" i ka Akau 59° 15' Hikina, 114 Kaulahao, 10 Kapuai, o "Kahului," oia ka palena o keia aina ma ka aoao Hikina o Kahakai; a malaila aku holo ma kahakai i ka Akau 58° Kom. 19 Kaulahao, 6 Kapuai; huli i ka Akau 39° 30' Kom. 21 Kaulahao, 36 Kapuai; huli i ka Akau 22° 30' Kom. 10 Kaulahao, 22½ Kapuai a hiki i kahi i kapaia, o "Kaihuwaa," huli i ka Hema 75° Kom. 3 Kaulahao, 60 Kapuai; huli i ka Akau 28° 30' Kom. 12 Kaulahao, 20 Kapuai; huli i ka Akau 76° Kom. 10 Kaulahao, 28½ Kapuai, hiki i ka loi malo i kapaia o "Kahuena"; a malaila aku holo no ma ka kiki one mawaena hoi o ka aina i kapaia, o "Alualole" a me keia aina i ka Hema 58° Kom. 9 Kaulahao, 26½ Kapuai; huli i ka Hema 46° Kom. 18 Kaulahao, 43 Kapuai; a malaila aku holo mawaena o na aina i kapaia, o Kapaaloa, Kukuilalaimaka, 2 Kiwela, 2 Lamalii, a me keia aina i ka Hema 31° Kom. 23 Kaulahao, 21 Kapuai; a malaila aku holo mawaena o na aina i kapaia, o "Waiaka a me Papohaku" a me keia aina i ka Hema 30° 15' Kom. 17 Kaulahao, 28 Kapuai; alaila holo no mawaena o ka aina i kapaia, o "Papohaku" a me keia aina i ka Hema 18° 30' Kom. 27 Kaulahao, 33 Kapuai; holo i ka Akau 71° 45' Kom. 15 Kaulahao, 7 Kapuai; huli i ka Akau 39° Kom. 16 Kaulahao, huli i ka Akau 33° 30' Kom. 6 Kaulahao, 13 Kapuai a hiki i ka loi Aupuni i kapaia, o "Hana"; a malaila aku holo mawaena oia loi Aupuni a me keia aina i ka Hema 45° 30' Kom. 60 Kapuai; huli i ka Akau 42° 30' Kom. 4 Kaulahao, 40 Kapuai a hiki i kahi auwai uuku ma ka aoao Hema mai o ke kahawai nui a malaila holo i ka Hema 46° 30' Kom. 2 Kaulahao, 64 Kapuai; huli i ka Hema 24° Kom. 4 Kaulahao, 26½ Kapuai; huli i ka Hema 51° 30' Kom. 5 Kaulahao, 42½ Kapuai; alaila huli a holo no ma ka aoao Hema o ke kahawai a hiki i kahi i hoomaka ai ke ana ana i keia aina i ka Hema 31° 30' Kom. 8 Kaulahao.

Eia hoi ka ili maloko o keia aina — 670 Eka, 3 Kaulahao Huinaha.

Eia hoi keia. Ua anaia no ke Kai o keia aina.

E hoomaka ana ma kahakai ma ke kihi o keia aina e pili ana i Kahului, a holo maloko o ke Kai i ka Akau 33° 15' Hikina, 14 Kaulahao, 10½ Kapuai, e holo ana mawaena o ke Kai o Kahului a me ke Kai o keia aina, a hiki i kahi i kapaia, o ka "Lae o Koakea"; a malaila aku holo ma kuaaunalu i ka Akau 39° Kom. 46 Kaulahao, o kuaaunalu, oia ka palena makai a hiki i kahi i kapaia, o ke Awa o Ioio ma kuaaunalu no hoi; a malaila aku holo iuka a hiki i ke kihi o keia aina e pili ana i Kaihuwaa i ka Hema 48° Kom. 16 Kaulahao o ka hookomo o ke Kai ma kahi i kapaia, o ka "Lae o Koakea," 13½ Kapuai, ma ke kihi hoi ma ke Awa o Ioio 30½ Kapuai, ua anaia ka mawaena aneane i kaupeha, o ka aoao mauka o ke Kai, oia no ka palena o keia aina e holo ana ma kahakai.

Eia hoi ka nui o ka ili maloko o ke Kai — 73 Eka, 1 Kaulahao Huinaha.

Ina e huipuia me ia eka ma ka aina maloo, loaa mai — 743 Eka, 4 Kaulahao Huinaha.

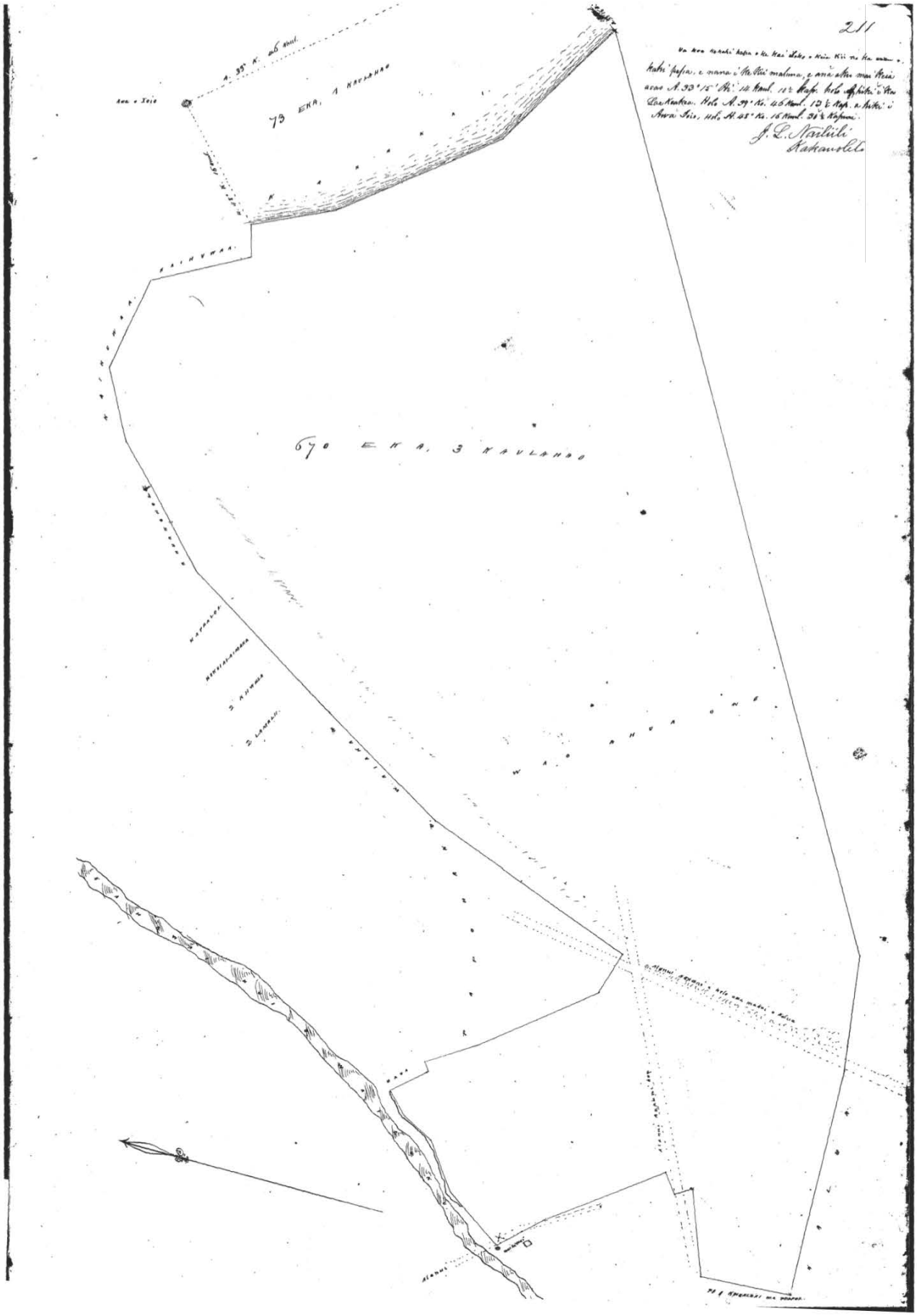
Anaia i Maraki 23, 1849 e Ioane Richardson

Ololo Hooholo.

Maloko o keia aina i hookoia no S. H. Kuihelani e like me ia i hoakakaia ma ke ana ana a John Richardson. Ka nui o na Eka 670 Eka Aina. E malamaia no hoi ke Kuleana o Kanaka, ka poe hoi i loaa ka lakou apanaia e na Luna Hoona, a he mau palapala Kuleana ko lakou.

He Kuleana no hoi kona ma ka ia hookahi iloko o ke Kai o keia aina e like me na Kanawai i kauia e noho nei i pili i na Konohiki. Penei na palena oia Kai, kahi i holo ai kona ia Hoomalu.

E nana malama i ke ana o ke Kai.

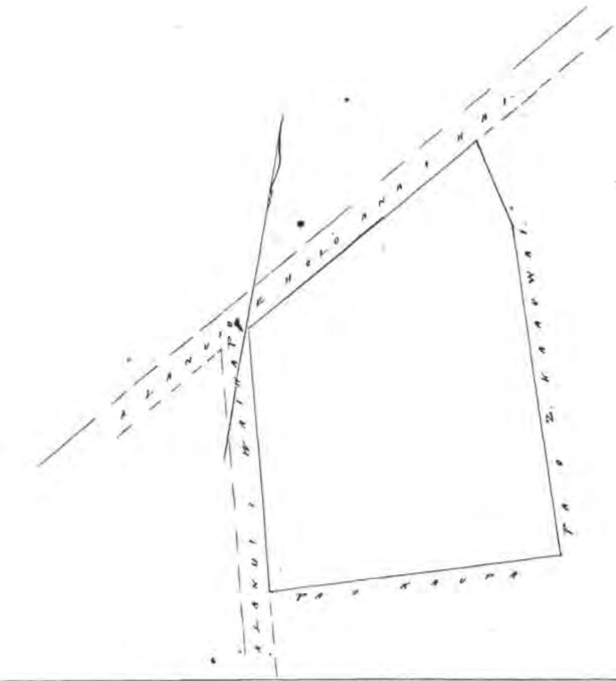

211
75 ΕΚΑ. 1 ΚΑΥΛΑΚΑΣ
60 ΕΚΑ. 3 ΚΑΥΛΑΚΑΣ

Helu 397 Kuikelani

Ke kai o ka pa o Kuikelani ma Kukalepa i Wailuku, Mokupuni o Maui, aia hoi keia pa ma ka Akau o ka pa o Kaupa, ma ke Komohana hoi o ka pa o Z. Kaauwai.

E hoomaka ana ma ka lihi makai o ke Alanui Aupuni, e holo ana i Waikapu, ma ka aoao Hema hoi o ke Alanui e iho ai i kai, mai kahi mai o Rev. E. W. Clark a moe aku ka aoao ma A. 15° Ak. 5 Kaulh. 6 Kap. a hiki i ka pa o Kaupa; huli A. 72° Ak. 5 Kaulh. 28 1/2 Kap. a hiki i ka pa o Z. Kaauwai; huli A. 18° Ko. 6 Kaulh. 19 1/2 Kap. huli A. 35°30' Ko. 1 Kaulh. 47 1/2 Kap. a hiki i ke Alanui e holo ana i kai; alaila huli i kahi i hoomaka'i A. 42° K. 6 Kaulh. 5 1/2 Kapuai. Eia hoi ka ili maloko : 3 Eka, 38 Roda

Ania e Jame Richardson.—



See Page 317

Uku pau loa. $25.—

W. L. Lee
Ioane Ii
J. H. Smith
J. Kekaulahao
G. M. Robertson

Honolulu Novemaba 19, 1851

Helu 2383 Z. Kaauwai Kula, Maui.

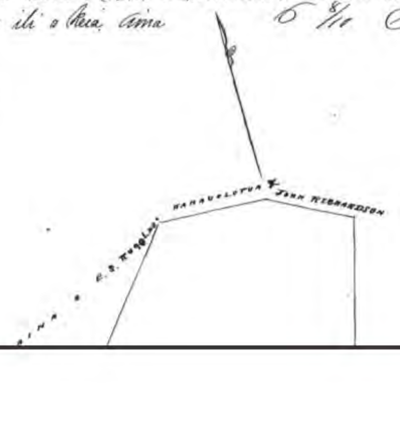
No Z. Kaauwai, aia ma Maalae i Kula, Mokupuni o Maui.

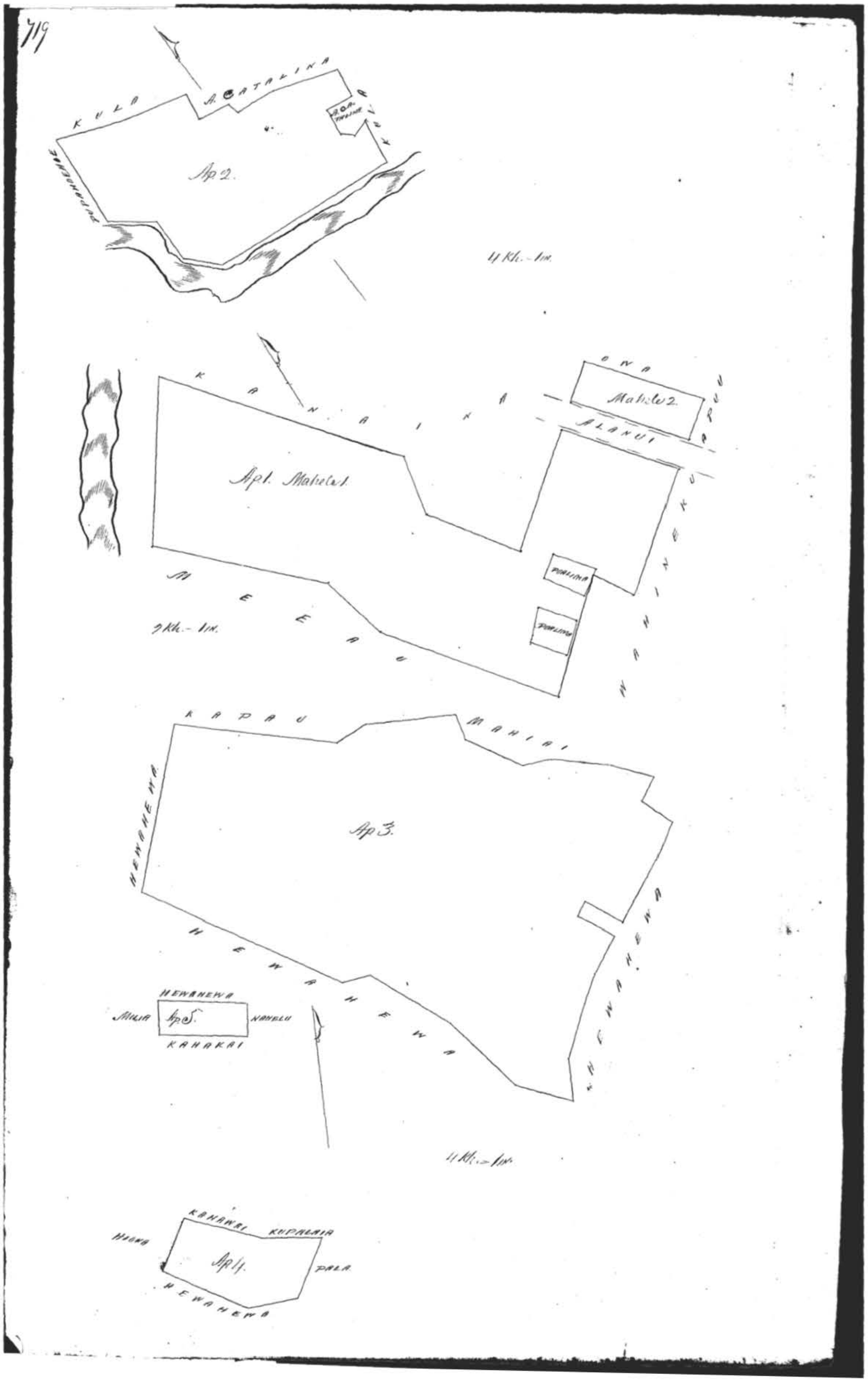
E hoomaka ana ma kekahi puu pohaku uuku i ke kihi Komohana Hema o keia aina, alaila ma ko E. S. Ruggles aina i ka Akau 38° Hikina. 8 Kaulh. alaila ma ko Kahauolopu a me ko John Richardson aina, Hema 88 1/2° Hik. 4 Kaulh. Hema 64 1/2° Hik. 3 42/100 Kaulh. alaila Hema 15°10' Kom. 8 Kaulh. Akau 74°15' Kom. 10 5/100 Kaulh. hiki i kahi i hoomaka'i ke ana ana.

Eia ka ili o keia aina 6 8/10 Eka.

John Richardson
I ana iho

Mai aoao 84





720.

Ukupaulua $16.00

W. L. Lee
G. M. Robertson
J. Kekaulahao
J. H. Smith

See Page 3715

· the present Award delivered First delivery 22 Feb.

Honolulu Feberuari 11. 1854.

Honolulu Aug. 4 1851

Helu 5228 Kuihelani — Waihikua M

Palapala no ke ana ana i ke Kuleana 5228 no Kuihelani ma ka ili o Kalua i ... Kapuni o, Maui. Apana 1 he Kula.

E hoomaka ma ke kihi Komohana Akau e pili ana me ke na hoolina o Kaili Kekuauli, a e holo ana A. 83° 45' Hi. 7.30 Kaulahao ma ke Kaili & Kaanoai i ke Ma

He. 73° Hi. 4.93	" "	Kamakauahoa – a i ole – ma
He. 4° 45 K. 3.51	" "	Haleola
He 36° 30' K. 1.78	" "	"
He. 3°. 45' K. 1.14	" "	"
He. 86° 15' K. 4.21	" "	" a hiki i ka Poalima
A. 78° 30' K. .77	" "	Poalima
He. 10° 15' K 1.23	" "	" a hiki i ko Kaai
A. 79° K. .30	" "	Kaai oia ka hoolina o Ke
A. 40° K. 3.56	" "	" " "
A. 86° 45' K. 3.22	" "	" " "
A. 20° K. .12	" "	Kamakahanohano
A. 8° K. 1.28	" "	"
A. 82° Hi. 1.45	" "	Kaai – Kona pahale
A. 7° 15' K. 2.27	" "	" a hiki i kahi i ho

A maloko o keia Apana 6 49/100 Eka.

Apana 2. E hoomaka ma ke kihi Hikina Akau o keia Apana ma kapa alanui ana me ko Kamakauahoa, a e holo ana A. 80° K. 12.30 Kaulahao ma ko Kamakauaho

He. 73° Hi. 4.93	" "	Kona iho no
He. 4° 45' K. .19	" "	" " "
He. 79° 30' Hi. 2.93	" "	Haleola
He. 82° 15' Hi. 4.52	" "	" " a hiki
A. 20° 30' K. .62	" "	Alanui a hiki

i hoomaka 'i, a maloko oia Apana 64/100 Eka

E. Bailey

Mea Ana.

717 Helu 5228. Kuihelani. Wailuku & Waikapu. & Kula. Maui.

Apana 1. Mahele 1. Ma ka ili o Peepee, Wailuku.
Ehomaka ma ke kihi Hema e pili ana me ko Wahinekuapuu a e holo. Ak. 38° Ko. 4.62 Kh. e pili ana me ko Meeau

Ak.	14°	Ko. 1.80	"	"
Ak.	45°1/4	Ko. 4.32	"	"
Ak.	34°1/2	Hi. 3.98	"	" ke Kahawai
He.	40°	Hi 2.88	"	" Kanaina.
He.	39°	Hi 3.29	"	" "
He.	10°1/2	Ko. 1.45	"	" "
He.	35°1/2	Hi. 2.45	"	" "
Ak.	51°1/4	Hi 3.13	"	" " ike Alanui.
He	39°1/2	Ko. 2.94	"	" Alanui Aupuni
He	52°	Ko 3.24	"	" Wahinekuapuu.
Ak.	32°1/2	Ko. 1.04	"	" "
He.	47°1/2	Ko. 3.05	"	" " a hiki

ma ke kihi mua.— 4 45/100 Eka.

Mahele 2. Ehomaka ma ke Alanui Aupuni, kihi Hema o keia a e holo.

Ak	39°1/2	Ko. 2.94	Kh. ma ke Alanui Aupuni.	
Ak.	51°1/4	Hi. .99	"	ko Kanaina.
He.	41°	Hi. 2.96	"	ka ili o Owa.
He.	52°	Ko. 1.04	"	ko Wahinekuapuu

a hiki ma ke kihi mua.— 3/10 Eka.

4.45
.30
4.75

Apana 2. Ma ka ili o Wahineomaili. Waikapu
Ehomaka ma ke kihi Komohana Akau e pili ana me ko Pupahoehoe, a e holo.

He.	6 1/2	Ko. 4.53	Kh. ma ko Pupahoehoe	
He.	53°1/4	Hi. 2.39	"	ke Kahawai.
He.	1/4	Hi. 2.16	"	" "
He.	44°1/4	Hi. 1.87	"	" "
He.	85°	Hi. 9.35	"	" "
Ak.	11°1/2	He. 2.33	"	" Kula
He	74°	Ko. .88	"	ko Akoni Katalina.
Ak.	53°	Ko. .68	"	" "
Ak.	11°	Hi 1.34	"	" "
He	83°	Hi. 1.43	"	" "
Ak.	7 1/2	Hi. 1.38	"	ke Kula
Ak.	70°	Ko. 3.34	"	ko Akoni Catalina
Ak.	83°3/4	Ko 1.95	"	" "
Ak.	13°1/4	Ko. .54	"	" "
Ak.	77°1/2	Ko. 1.58	"	" "
Ak.	11°	Hi. 1.36	"	" "
Ak.	74°1/2	Ko. 3.27	"	ke Kula
Ak.	70°	Ko. 3.43	"	" " a hiki

ma ke kihi i hoomaka'i. 9 4/10 Eka.

C. Bailey. Meaanaaina.

Wailuku. 1853. 3.
Kiwa Kula ma ke Ahupuaa Kamoulu, Kula. Maui.

Kula 3 ap. 718

Apana 3. Ma ka ili o Kapukahawai, Ehoomaka ma ke kihi Hema Komohana, a e holo.

Ak.	16° 3/4	Ki. 8.20	Kh. ma ko		Kuwahewa.
Ke	78° 1/4	Ki. 7.80	"	"	Kapau
Ak.	63° 3/4	Ki. 1.57	"	"	"
Ak.	89°	Ki. 4.42	"	"	"
Ke.	15° 3/4	Ki. 1.30	"	"	Mahiai
Ke.	60° 3/4	Ki. 3.00	"	"	"
Ak.	81° 3/4	Ki. 1.29	"	"	"
Ke.	79° 1/2	Ki. 3.00	"	"	"
Ke.	69°	Ki. 2.00	"	"	"
Ke.	26° 1/2	Ko. 1.26	"	"	"
Ke.	53° 3/4	Ki. 1.73	"	"	"
Ke	27° 1/2	Ko. 2.00	"	"	Kuwahewa
Ke	33° 1/2	Ko 6.20	"	"	"
Ke	25°	Ko 1.50	"	"	"
Ke	22° 1/2	Ko 2.83	"	"	"
Kema pono		2.00	"	"	"
Ak.	70° 1/2	Ko 2.90	"	"	"
Ak.	40°	Ko 4.30	"	"	"
Ak.	54° 1/4	Ko 4.40	"	"	"
Ke.	82° 1/2	Ko 1.47	"	"	"
Ak.	64°	Ko 3.41	"	"	"
Ak.	60°	Ko. 7.00	"	"	" a hiki ma

kahi i hoomaka'i. — 28 Eka.

Apana 4. Ma ka ili o Kupalaia, Ehoomaka ma ke kihi Komohana a e holo.

Ak.	98°	Ki. 2.70	Kh. ma ko	Kiina
Ke.	69° 3/4	Ki. 3.74	"	ke Kahawai
Ke.	86°	Ki. 3.00	"	" "
Ke.	28° 3/4	Ko. 3.20	"	ko Pala
Ke.	85°	Ko 2.31	"	" Kuwahewa
Ak.	61° 1/2	Ko. 4.38	"	" " a hiki ma kahi

i hoomaka'i. — 18/10 Eka.

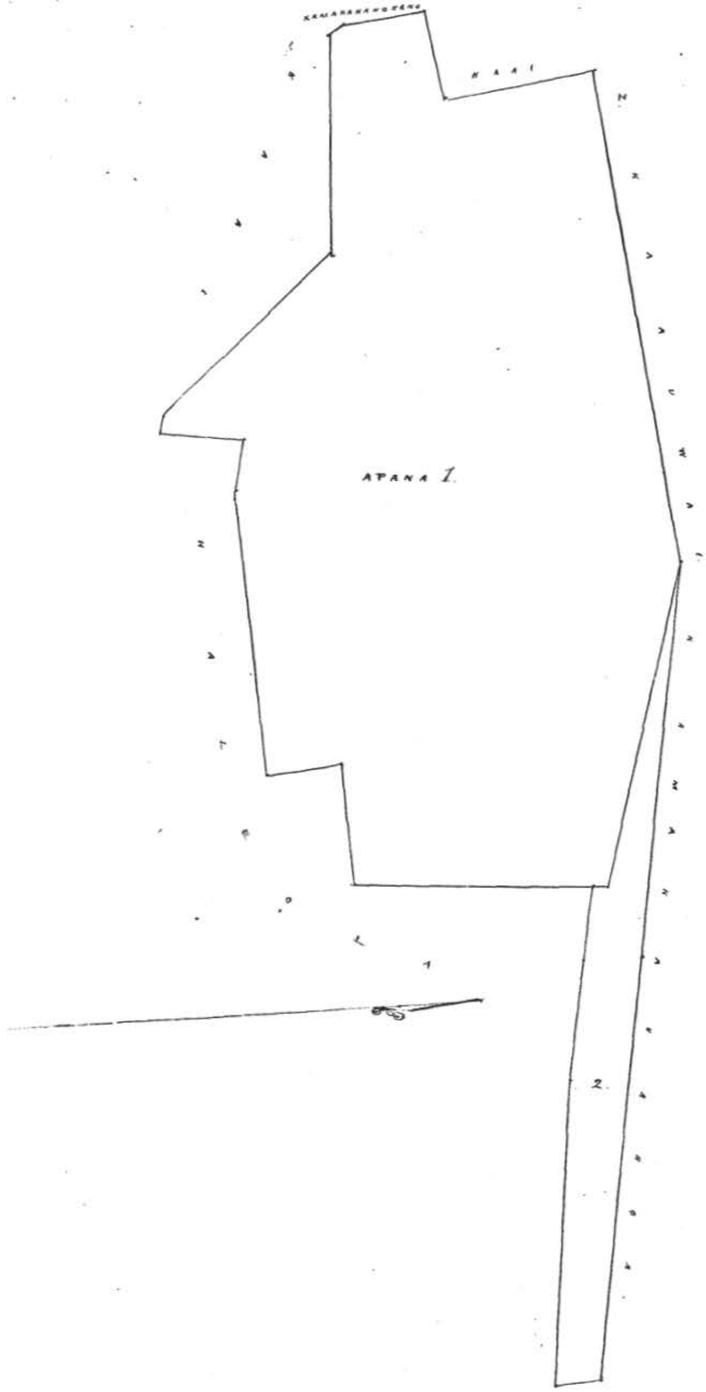
Apana 5. Pahale ma ke Kahakai. Ehoomaka ma ke kihi Hema Hikina a e holo.

Ak.	84°	Ko. 2.05	Kh. ma ke	Kahakai.
Ak.	5°	Ki. .82	"	ko Milia
Ke.	84°	Ki. 2.05	"	" Kuwahewa.
Ke	5°	Ko. .82	"	" Nahelu. a hiki ma

kahi i hoomaka'i. 16/100 Eka.

Aperila 28. 1852. Na Keohokalole. Iana.
" E. Bailey Ikope.

Ma kela aoao ma hii.



Uku pau loa $7.–

W. L. Lee
Ioane Ii
J. Kekaulahao
G. M. Robertson
J. H. Smith

Honolulu Augate 4, 1851.

Uku pau loa $5.—

W. L. Lee
G. M. Robertson
J. Kekaulahao
J. H. Smith
Lorenzo

Honolulu June 20, 1851.

Helu 1742 Z. Kaauwai — Wailuku, Maui.

Apana 1. Aina o Z. Kaauwai ma Papohaku, Wailuku, Maui.

E hoomaka ana i ke ana ana ma ke kihi Komohana Hema o keia aina, e holo ana hoi mawaena o ka aina o Ahuole a me keia aina i ka Akau 41° 15' Kom. 2 kaulahao 24 kapuai. Alaila holo mawaena o ka aina o Naea a me keia aina i ka Akau 53° Hikina 56 kapuai. Alaila holo mawaena o ka aina o Animakalani a me keia aina i ka Hema 45° Hikina 2 kaulahao 21⅓ kapuai. Alaila holo mawaena o ka aina o Kaulahea a me keia aina i ka Hema 57° Kom. 60 kapuai hiki i kahi i hoomaka'i ke ana ana. Eia ka ili o keia aina A 2 Kaulahao 4 Anana Huea

Anaia i Augate 4, 1849 e Irane Richardson.

Apana 2. Aina o Z. Kaauwai ma Papohaku Wailuku, Maui.

E hoomaka ana ma ke kahi kihi iwaena o ka aina o Naea a me keia aina, a holo kekee aku no hoi mawaena o keia aina a me keia aina i ka Akau 49° Kom. 2 Kaulahao 64 kapuai; Akau 73° Kom. 37½ kapuai; Alaila holo kekee mawaena o ka aina o Kaiaiki a me keia aina i ka Akau 27° 30' Kom. 1 Kaulahao 3⅓ kapuai; Hema 87° 45' Kom. 18⅔ kapuai; Akau 24° 40' Kom. 2 Kaulahao; Akau 48° Kom. 3 Kaulahao 51½ kapuai; Akau 51° Hikina 1 Kaulahao 16 kapuai; Alaila holo kekee mawaena o ka aina o Kawahie a me keia aina; Hema 40° 30' Hikina 2 Kaulahao 46⅔ kapuai; Hema 54° 40' Hikina 1 Kaulahao 32 kapuai; Hema 36° Hikina 1 Kaulahao, 54⅔ kapuai; Akau 66° 30' Hikina 20 kapuai; Hema 35° Hikina 1 Kaulahao 18⅔ kapuai; Akau 55° 30' Hikina 1 Kaulahao 8 kapuai; Alaila holo mawaena o ka aina o Ahuole a me keia aina i ka Hema 44° 40' Hikina 4 Kaulahao. Alaila holo kekee mawaena o ka aina o Naea, a me keia aina Hema 53° Kom. 18⅔ kapuai; Akau 38° Kom. 1 Kaulahao 26⅔ kapuai; Hema 35° 45' Kom. 1 Kaulahao 62⅔ kapuai, hiki i kahi i hoomaka'i ke ana ana. Eia ka ili maloko o keia aina 1 Eka 7 Kaulahao Huea.

Anaia i Augate 4, 1849 e Irane Richardson.

Apana 3. Aina o Z. Kaauwai ma Papohaku, Wailuku, Maui.

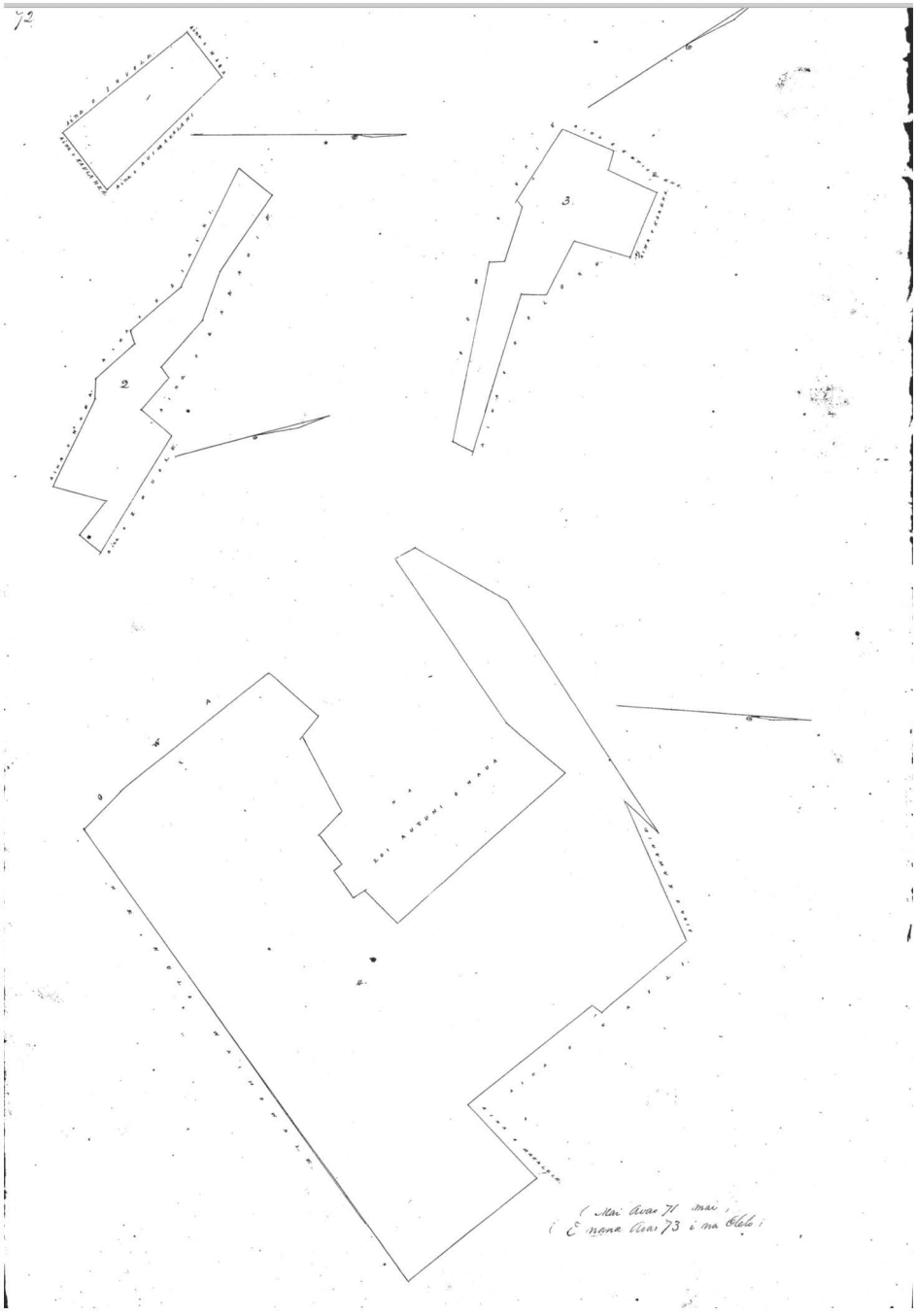
E hoomaka ana i ke ana ana ma kekahi kihi iwaena o ka aina o Moo a me keia aina, a holo kekee aku la mawaena o ia aina a me keia aina i ka Hema 26° Hikina 2 Kaulahao 36 kapuai; Akau 70° 15' Hikina 13⅓ kapuai; Hema 41° 40' Hikina 1 Kaulahao 41⅓ kapuai; Hema 38° Kom. 26⅔ kapuai; Hema 46° Hikina 5 Kaulahao 26⅔ kapuai a hiki i ke kula waihowale. Alaila holo i ka Akau 61° 15' Hikina 44⅓ kapuai a hiki i ka aina o Holoku. Alaila holo kekee mawaena o ia aina a me keia aina i ka Akau 40° 30' Kom. 4 Kaulahao 60 kapuai; Akau 38° Hikina 50⅔ kapuai; Akau 28° Kom. 1 Kaulahao 53⅓ kapuai; Akau 50° 25' Hikina 1 Kaulahao 43⅓ kapuai. Alaila holo mawaena o ka aina o Kaaena a me keia aina i ka Akau 33° 28' Kom. 2 Kaulahao. Alaila holo kekee mawaena o ka aina o Kepio a me ko Ehu a me keia aina hoi i ka Hema 56° Kom. 1 Kaulahao 38 kapuai; Akau 36° 31' Kom. 37⅓ kapuai; Hema 54° 15' Kom. 1 Kaulahao 28⅔ kapuai, hiki i kahi i hoomaka'i ke ana ana. Eia hoi ka ili o keia aina 1½ Eka

Anaia i Augate 4, 1849 e Irane Richardson

Apana 4. Aina o Z. Kaauwai ma Papohaku Wailuku, Maui. Ekolu Apana iloko o keia kii.

E hoomaka ana i ke ana ana ma kekahi mau pohaku e holo ana hoi mawaena o ka aina i kapaia o Owa a me keia aina i ka Akau 37° 20' Kom. 5 Kaulahao 32⅔ kapuai a hiki i na Loi Aupuni i kapaia o Kaua, a malaila aku holo kekee mawaena o ia mau loi a me keia aina i ka Akau 38° Hikina 1 Kaulahao 52½ kapuai; huli i ka Hema 51° 30' Hikina 46⅔ kapuai; huli i ka Akau 55° Hikina 2 Kaulahao 38⅔ kapuai; huli i ka Hema 52° 25' Hikina 64 kapuai; huli i ka Akau 48° Hikina 1 Kaulahao; huli i ka Hema 54° 25' Hikina 15⅓ kapuai; huli i ka Akau 50° 30' Hikina 60 kapuai; huli i ka Akau 33° Kom. 21⅓ kapuai; huli i ka Akau 39° 15' Hikina 1 Kaulahao 22 kapuai; huli i ka Akau 47° Kom. 6 Kaulahao 49⅓ kapuai; huli i ka Hema 31° 30' Kom. 2 Kaulahao 15⅓ kapuai; huli i ka Hema 49° 15' Kom. 5 Kaulahao, 50 kapuai; huli i ka Akau 34° 40' Kom. 46⅔ kapuai a hiki i ka auwai Hema o ka Kahawai nui o Wailuku. A malaila aku holo i ka Akau 22° 30' Hikina 3 Kaulahao 6⅔ kapuai; huli i ka Akau 49° 10' Hikina 8 Kaulahao 6⅔ kapuai; huli i ka Hema 38° Kom. 1 Kaulahao 25½ kapuai a hiki i ka aina o Kawahie; a malaila aku holo mawaena o ia aina a me keia i ka Akau 59° 30' Hikina 4 Kaulahao 37½ kapuai; Alaila holo kekee mawaena o ka aina o Niuli a me keia i ka Hema 41° Hikina 3 Kaulahao 17⅓ kapuai; huli i ka Hema 27° 20' Kom. 11½ kapuai; huli i ka Hema 44° Hikina 4 Kaulahao 37⅓ kapuai; Alaila holo mawaena o ka aina o Makalele a me kekahi aina o ae o Z. Kaauwai a me keia i ka Akau 43° 30' Hikina 2 Kaulahao 60 kapuai; Hema 44° 45' Hikina 4 Kaulahao 11½ kapuai; Hema 48° Kom. 6 Kaulahao 28 kapuai; Hema 51° 30' Kom. 9 Kaulahao 39 kapuai hiki i Owa; huli i ka Akau 49° Kom. 1 Kaulahao 32 kapuai. Eia ka Ili o keia Aina 4 Eka 8 Kaulahao 100 Anana Huea.

Anaia i Augate 4, 1849 e Irane Richardson (E nana Aoao 72 i na kii)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NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

GUY KAULUKUKUI
FIRST DEPUTY

WILLIAM M. TAM
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
601 KAMOKILA BOULEVARD, ROOM 555
KAPOLEI, HAWAII 96707

September 28, 2011

Jeffrey Pantaleo, M.A.
Archaeological Services Hawaii, LLC
1930 A Vineyard Street
Wailuku, Hawaii 96793

LOG NO: 2011.2458
DOC NO: 1108MD28
Archaeology

Dear Mr. Pantaleo:

SUBJECT: **Chapter 6E-8 Historic Preservation Review –**
Archaeological Monitoring Plan for the County of Maui
Wailuku Ahupua'a, Wailuku District, Island of Maui
TMK: (2) 3-8-079:018

This letter summarizes our review of the aforementioned plan (Rotunno-Hazuka and Pantaleo September 2011; *Archaeological Monitoring Plan for the Construction of a Steel Warehouse for County of Maui Water Department, TMK: 3-08-079: 018, Wailuku Ahupua'a and District, Island of Maui/ASH*), which we received on September 15, 2011.

The proposed project will involve ground-altering activities associated with the construction of a steel warehouse and associated utilities on a parcel near the Kahului Airport. While this parcel is improved its location near both the historic Kanaha Pond and the recent inadvertent discovery of human remains in a nearby parcel warrants archaeological monitoring for this project as precautionary mitigation.

This plan is accepted as final pursuant to HAR §13-279-4. Please notify the Maui and Oahu offices via fax at the start and completion of archaeological monitoring. Upon receipt of this letter please submit one paper copy of your report marked Final to our Kapolei office along with a CD containing a searchable pdf version of the final report and a copy of this approval letter, marked to the attention of the Kapolei Library. If you have questions about this letter please contact me at (808) 243-5169 or via email to: morgan.e.davis@hawaii.gov.

Aloha,

Morgan E. Davis
Lead Archaeologist, Maui Island Section
State Historic Preservation Division

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 6TH FLOOR
HONOLULU, HAWAII 96813

MICHAEL D. WILSON, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES

JOHN P. KEPPELER II

AQUACULTURE DEVELOPMENT PROGRAM
AQUATIC RESOURCES
CONSERVATION AND ENVIRONMENTAL AFFAIRS
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION DIVISION
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

September 18, 1995

Mr. Carl K. Takumi
C. Takumi Engineering, Inc.
18 Central Avenue
Wailuku, Maui, Hawaii 96793

LOG NO: 14991
DOC NO: 9509SC08

Dear Mr. Takumi:

SUBJECT: **Historic Preservation Review of the Draft Environmental Assessment for the Airport Bikeways Project**
Kahului, Wailuku District, Maui
TMK: 3-8-01:19 & 122

Thank you for the opportunity to comment on the draft environmental assessment (EA) for the Airport Bikeways Project. Our review comments are late and we apologize.

We believe that two corrections need to be made to the discussion of the archaeology presented on pages 16 and 17. First, we have previously determined that part of a significant historic site is within the project area. This historic site, a buried cultural layer (50-50-04-2849), lies about 0.75 to 1.00 meters below the present ground surface. Secondly, if cutting is to occur in the project area near Site -2849, then we recommend that activities in this locale be monitored on-site by a qualified archaeologist. If the cutting or excavation exceeds 24 inches in depth, then data recovery must be conducted prior to beginning construction work.

In order for the Airport Bikeways project to have "no adverse effect" on this site, no ground disturbance should go below 24 inches in depth.

We request that detailed plans for this project be submitted to our office for review prior to any land alteration work. At that time, we will determine whether the project is likely to have adverse effect on the site.

Should you have any questions, please feel free to call Sara Collins at 587-0013.

Aloha,

DON HIBBARD, Administrator
State Historic Preservation Division

SC:jen

cc: Roger Evans, OCEA

SEP 22 1995

1726

LINDA LINGLE
GOVERNOR OF HAWAII

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
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DEAN NAKANO
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AQUATIC RESOURCES
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CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
601 KAMOKILA BOULEVARD, ROOM 555
KAPOLEI, HAWAII 96707

April 20, 2006

Mr. Michael Foley, Director
County of Maui, Department of Planning
250 South High Street
Wailuku, Hawai'i 96793

LOG NO: 2006.0775
DOC NO: 0603MK29
Archaeology
Architecture

Dear Mr. Foley:

SUBJECT: **Chapter 6E-42 Historic Preservation Review [County/Planning] – Special Management Area Assessment Application for the Proposed Maui District Baseyard (SMX 2005/0658) Wailuku Ahupua'a, Wailuku District, Island of Maui TMK: (2) 3-8-079:018**

The subject application consists of the proposed repair and maintenance of the administration building, repair shop, and maintenance and mechanical building. Renovations will be made to the interior of the structures. Our records indicate that the existing structures are constructed on a fill deposit.

We believe that **no historic properties will be affected** by this undertaking because:

- ☐ a) intensive cultivation has altered the land
- ☐ b) residential development/urbanization has altered the land
- ☒ c) previous grubbing/grading has altered the land
- ☐ d) an acceptable archaeological assessment or inventory survey found no historic properties
- ☐ e) this project has gone through the historic review process, and mitigation has been completed
- ☒ f) other: *The proposed project consists primarily of interior renovations to existing structures. The trench excavation for duct banks will be within the fill layer and previously disturbed footprint of the existing Baseyard structures and parking areas. The structure is less than 50 years old. There are no archaeological or architectural concerns.*

In the event that historic resources, including human skeletal remains, are identified during routine construction activities, all work needs to cease in the immediate vicinity of the find, the find needs to be protected from additional disturbance, and the State Historic Preservation Division, Maui Section, needs to be contacted immediately at (808) 243-5169.

Aloha,

Melanie Chinen, Administrator
State Historic Preservation Division

MK:dlb

APR 24 2006

cc: Bert Ratte, Engineering, DSA, County of Maui, FAX 270-7972
Maui Cultural Resources Commission, Dept. of Planning, 205 S. High Street, Wailuku HI 96793

Ua kuhikuhiia au e na kanaka kahiko ina palena o keia mau aina a‘u e hai ae la. No Kula ku‘u makuakane, ku‘u makuahine no Lanai, kamaaina ko‘u makuakane no Kula. Ua ike au ina palena mamua o ka hiki ana mai o na Missionari. He puni ia makou na palena i ka hele ia i ka pii i ke Kolea. Aole i olelo mai ku‘u mau makua. Ua hala aku ka palena o Kalialinui a Kanaha o Puukoae ka aina e pili ana, hui ae la o Umiomaopio me Pulehunui. He kahawai mai Kalialinui mai a holo i uka ma ka aoao Omaopio a hui ae la me Kalialinui. Aohe kahawai iluna o Puukoae, ma ka hema Kekahi a me ka Akau. Ka inoa ma ka aoao Akau o Kalialinui, Kaapakai ame Keanakalahu ma kaaoao hema o Waiohonu ame Pulehunui. Omaopio, oia mawaena hui ae la me ka Aina o Kalialinui. Aia ma ka aoao akau o Kalialinui o ke kahawai. O Kaakai ka palena nui mai Kai a hiki i uka. Ilaila hui ae la me Wailuku. O Kalialinui ma ka *aoao hema, ma ka aoao Akau o Keahua o ke kahawai, he owawa ma ka Hema o Kalialinui, mai uka mai o Kalapaalii mai, a o ka Waipuilani kekahi inoa ua hai mai iau na kamaaina i keia owawa e hui ana me ke kahawainui. Ua ike no au ina kamaaina, ua make i keia manawa. Hookahi kahawai o mea Kaakakai ame Keanakalahu. Aole kahawai o Puukoae, holo aku ke kahawai o Kaakakai kona inoa a hui ae la me ka aina i kapaia Omaopio a haiki loa, ua ike au i keia mau aina ame ke kahawai mahope o ka hiki ana mai o ka poe Kaleponi oia paha ka M.H.1851 a 1852 paha. A kokoke ana ia wa aole au i ike ia Makaku. Ua ike au i ka loko ia ia Kanaha. Ua kauoha R.H. Stanley i keia hoike e hele mai imua o ke Aha e hai i kana mea apau i ike e pili ana ina palena aina o Wailuku ame Kalialinui. Aole no he mea i hele mai a olelo mai ia‘u e hoike ma ke ano Wahahee imua o ke Aha, oia ka pane a Stanley i kue ai i ka ninau a W.C. Jones, ua hele mai keia hoike e hoike i kana mea i ike, ame kana mea i maopopo e pili ana ina palena o Hamakua, Haliimaile, Kula, ame Pulehu. [page 9]*

Napue hoohikiia a olelo mai.

I Wailuku nei ku‘u wahi i hanau ai. I ka wa o Kamehameha mua. Ua ike no au ina palena o Wailuku e pili ana ia Hamakuapoko, Haliimaile, Kula, ame Pulehu. Ua hele au me kekahi mea ma keia mau wahi i haiia ae la. O wau ame Kaawa. Ua ike no au ia Makalena. Aole nae au i hele pu me ia. Hui o Hamakuapoko me Wailuku i kela wahi i kapaia o Keone Kapoo, mai Keone Kapoo mai hoi, holo aku la a hiki i Puunene. A mai Puunene mai holo aku la no a hiki i Papakaloa. A e pili ana o Hokuula, a o Haliimaile mauka. Mai laila mai hoi holo aku la a loaa o Puukoae, he puu aa nae ma kela wahi i oleloia ae la o Puukoae. He alanui o Puukoae he holoia no e ka lio maluna

oia wahi aa. Aia ma ka aoao makai o ke alanui oia ka Aina o Waiohonu. Haalele iho la ia Puuhinale e holo aku la a hiki i Puukoae, a o Wailuku ka aina makai, a Omaopio hoi ma ka aoao mauka. A holo hou aku la no a hiki i Pohakoi. O Pulehu hoi ka aina mauka iho o Pohakoi, a o Wailuku no makai.

Hiki no ilaila ka pau no ia. Holo no a hiki i Paukukalo. Alaila pili ana o Kahului me ke Ahupuaa o Wailuku. Ua ike au ia Mauoni ame Kanaha. He mau loko ia ia ma Wailuku nei o Maui. Ua hele au ilaila. I kuʻu wa i hele ai ilaila o Auwae, ke Konohiki ia manawa no Wailuku. Apau hoi ka noho Konohiki ana o Auwae noho iho la o Kawailepolepo. Apau no hoi o Kawailepolepo, noho iho la o Kailihiwa i Konohiki. Apau no hoi o Kailihiwa noho iho la o Naea, a o P. Nahaolelua mai ka mea imua o ka Aha (he Lunakanawai). Ua noho au malalo o keia poe Konohiki a hiki wale i keia manawa. Ua ike au ia Kalialinui. Aia ia aina ma Wailuku. Ua ike au ia Kaawa, he kanaka ia no Wailuku. Ua olelo mai oia iaʻu oia wale iho la no ka palena o Kalialinui a hiki i Puukoae. Aole oia i hai mai iaʻu ina palena o Kalialinui. Ua make ke Kanaka o Kaawa. Ua hoi e hiamoe, aole e ala hou mai. Ua ike au ia Makaku, aia mawaena o Wailuku. Aole no i hai mai o Kaawa iaʻu ina palena o Wailuku o Maui, Hawaii Pae Aina.

H. Kuihelani hoohikiia a olelo mai.

I Wailuku kuʻu wahi

i hanau ai, he kanalima paha oʻu M.H. i noho ai ma keia aina o Wailuku nei a keu aku paha. Ua noho kuʻu makua i Konohiki no Wailuku nei. Aole au i noho Konohiki. Aka ua ike nae au ia Mauoni ame Kanaha. He mau loko ia ma Wailuku nei, Mokupuni o Maui. I kuu wa uuku ua hele pu au me kuʻu makuakane ma keia wahi i haiia ae la. He umi paha oʻu makahiki ia manawa no ka Moi. Elua ia mau loko ia. Ua hele au mahope iho o ka manawa o Kamehameha Ekolu. Ia makou nae ka malama oia mau loko. Na makou ao e lawe i ka I-a.[page 10]

Apau o Kamehameha Ekolu, o Kamehameha Eha iho, aole nae ia makou ka malama ia manawa. O P. Nahaolelua ka mea nana e malama nei i keia mau loko ia i ke ahupuaa o Wailuku, Maui. Keahua ka palena o Wailuku ma ke kai. Iaʻu ka malama oia kai mai kuʻu makuakane mai oia ka Aina i oleloia iho nei o Pukaulua. Aia no ia ili aina iaʻu i keia manawa. No ka Moi ke Kai. Aole poe i aeia e kii i kela ia iloko o na loko ia, no ka mea ua kapu loa ke kii i ka ia. Aia no a hu ka i-a mawaho o ka loko alaila hiki i kela mea, keia mea ke kii i ka i-a mawaho wale no o na loko. He paakai no Kolaila. He opeia ka paakai a laweia na na alii. Aole au i ike i ka aina o Kalialinui e oleloia nei. Aole au i hele i Kalialinui e laweia ai. Ua ike au ia

APPENDIX

TRAFFIC IMPACT ANALYSIS REPORT

E

TRAFFIC IMPACT ANALYSIS REPORT
KAHULUI AFFORDABLE HOUSING PROJECT

KAHULUI, MAUI, HAWAII

DRAFT

September 23, 2020

Prepared for:

Catholic Charities Housing Development Corporation
c/o GSF, LLC
1288 Ala Moana Boulevard, Suite 35A
Honolulu, Hawaii 96814

Austin, Tsutsumi & Associates, Inc.
Civil Engineers • Surveyors
501 Sumner Street, Suite 521
Honolulu, Hawaii 96817-5031
Telephone: (808) 533-3646
Facsimile: (808) 526-1267
E-mail: atahnl@atahawaii.com
Honolulu • Wailuku • Hilo, Hawaii

TRAFFIC IMPACT ANALYSIS REPORT
KAHULUI AFFORDABLE HOUSING PROJECT

Kahului, Maui, Hawaii

DRAFT

Prepared for

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Civil Engineers • Surveyors
Honolulu • Wailuku • Hilo, Hawaii

September 23, 2020

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AUSTIN, TSUTSUMI & ASSOCIATES, INC. CIVIL ENGINEERS • SURVEYORS
CONTINUING THE ENGINEERING PRACTICE FOUNDED BY H. A. R. AUSTIN IN 1934

TERRANCE S. ARASHIRO, P.E.
ADRIENNE W.L.H. WONG, P.E., LEED AP
DEANNA M.R. HAYASHI, P.E.
PAUL K. ARITA, P.E.
ERIK S. KANESHIRO, L.P.L.S, LEED AP
MATT K. NAKAMOTO, P.E.
GARRETT K. TOKUOKA, P.E.

ADRIENNE W.L.H. WONG, P.E., LEED AP
Maui Branch Manager

TRAFFIC IMPACT ANALYSIS REPORT

KAHULUI AFFORDABLE HOUSING PROJECT

Kahului, Maui, Hawaii

1. INTRODUCTION

This report documents the findings of a traffic study conducted by Austin, Tsutsumi, and Associates, Inc. (ATA) to evaluate the traffic impacts resulting from the proposed Kahului Affordable Housing Project (hereinafter referred to as the "Project") located in Kahului, Maui, Hawaii.

1.1 Project Location

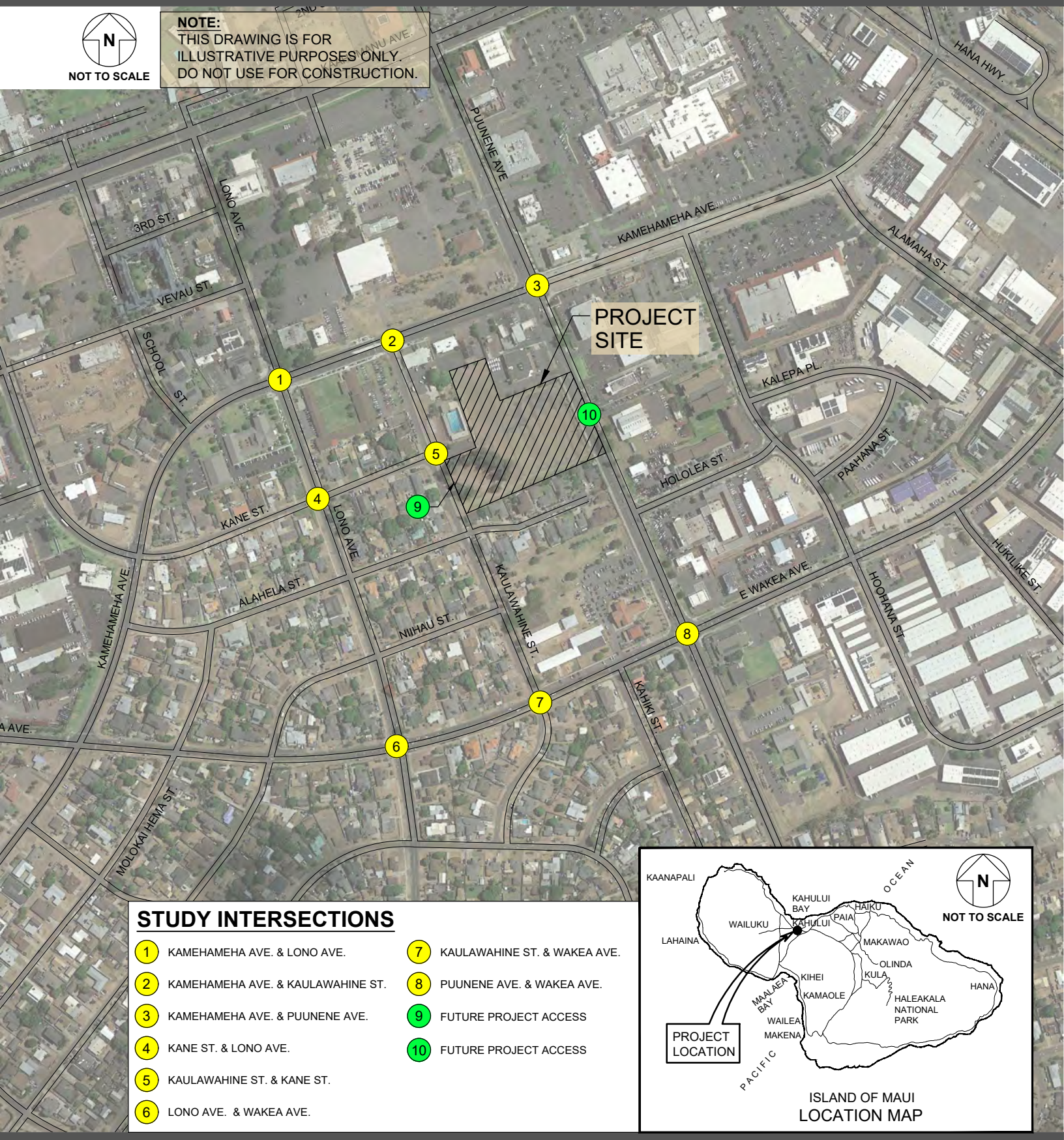
The Project is located in Kahului on the island of Maui on parcels of land more specifically identified as TMK: (2) 3-7-013:026. The Project is bounded by Kaulawahine Street to the west, Alehela Place to the south, and Puunene Avenue to the east.

1.2 Project Description

The Project proposes to develop 178 multi-family residential units on a currently undeveloped lot which previously hosted the Kahului Swap Meet. Access to the Project will be provided by a new full access driveway along Kaulawahine Street and a new right-in/right-out (RIRO) driveway along Puunene Avenue. See Figure 1.2 for Project Site Plan.

KAHULUI AFFORDABLE HOUSING

Austin Tsutsumi & Associates, Inc.
Engineers & Surveyors



STUDY INTERSECTIONS

1. KAMEHAMEHA AVE. & LONO AVE.
2. KAMEHAMEHA AVE. & KAULAWAHINE ST.
3. KAMEHAMEHA AVE. & PUUNENE AVE.
4. KANE ST. & LONO AVE.
5. KAULAWAHINE ST. & KANE ST.
6. LONO AVE. & WAKEA AVE.
7. KAULAWAHINE ST. & WAKEA AVE.
8. PUUNENE AVE. & WAKEA AVE.
9. FUTURE PROJECT ACCESS
10. FUTURE PROJECT ACCESS

ISLAND OF MAUI
LOCATION MAP

FIGURE 1.1

LOCATION MAP

KAHULUI AFFORDABLE HOUSING

AustinTsutsumi & ASSOCIATES, INC.
Engineers & Surveyors

CONCEPT SCOPE:

BUILDING A: 3 STORIES - 43 UNITS
(WITH 1 - TWO BEDROOM MANAGER'S UNIT & MULTI-PURPOSE ROOM)
BUILDING B: 3 STORIES - 45 UNITS
BUILDING C: 3 STORIES - 45 UNITS
BUILDING D: 3 STORIES - 45 UNITS

TOTAL NO. OF UNITS: 178 UNITS
RESIDENT MANAGER UNIT: 1 UNIT

UNIT MIX:
TWO BEDROOM UNITS: 70 (40%)
ONE BEDROOM UNITS: 108 (60%)

PARKING PROVIDED: 268 STALLS
4 LOADING STALLS

FIGURE 1.2

SITE PLAN

2. METHODOLOGY

2.1 Study Methodology

This study will address the following:

- Assess existing traffic operating conditions at key intersections during the weekday morning (AM) and afternoon (PM) peak hours of traffic within the study area.
- Traffic projections for Base Year 2025 (without the Project) including traffic generated by other known developments in the vicinity of the Project in addition to an ambient growth rate. These other known developments are projects that are currently under construction or known new/future developments that are anticipated to affect traffic demand and operations within the study area.
- Trip generation and traffic assignment characteristics for the proposed Project.
- Traffic projections for Future Year 2025 (with the Project), which includes Base Year traffic volumes in addition to traffic volumes generated by the Project.
- Recommendations for Base Year and Future Year roadway improvements or other mitigative measures, as appropriate, to reduce or eliminate the adverse impacts resulting from traffic generated by known developments in the region or the Project.

2.2 Intersection Analysis

Level of Service (LOS) is a qualitative measure used to describe the conditions of traffic flow at intersections, with values ranging from free-flow conditions at LOS A to congested conditions at LOS F. The Highway Capacity Manual (HCM), 6th Edition, includes methods for calculating volume to capacity ratios, delays, and corresponding Levels of Service that were utilized in this study. LOS definitions for signalized and unsignalized intersections are provided in Appendix B.

Analyses for the study intersections were performed using the traffic analysis software Synchro, which is able to prepare reports based on the methodologies described in the HCM. These reports contain control delay results as based on intersection lane geometry, signal timing, and hourly traffic volumes. Based on the vehicular delay at each intersection, a LOS is assigned to each approach and intersection movement as a qualitative measure of performance. These results, as confirmed or refined by field observations, constitute the technical analysis that will form the basis of the recommendations outlined in this report.

2.3 Study Area Intersection Analysis

Analysis within the Project's study area was performed at the following intersections:

- Kamehameha Avenue/Lono Avenue (March 2017 - Signalized)
- Kamehameha Avenue/Kaulawahine Street (August 2020 - Unsignalized)
- Kamehameha Avenue/Puunene Avenue (May 2018 - Signalized)
- Kane Street/Lono Avenue (August 2020 - Unsignalized)
- Kaulawahine Street/Kane Street (August 2020 - Unsignalized)
- Lono Avenue/Wakea Avenue (February 2018 - Signalized)
- Kaulawahine Street/Wakea Avenue (August 2020 - Unsignalized)
- Puunene Avenue/Wakea Avenue May 2018 - Signalized)

3. EXISTING TRAFFIC CONDITIONS

The existing conditions scenario represents the traffic conditions within the Project area as it currently stands, with no build-out of the Project.

3.1 Roadway System

The following are brief descriptions of the existing roadways studied within the vicinity of the Project:

Kamehameha Avenue is generally a north-south, two-way, two-lane, undivided County roadway which provides connectivity within the Kahului area. Kamehameha Ave begins to the north with its intersection with Hana Highway near the Kanaha Pond, extends westward and then curves southward where it eventually terminates at the Central Maui Regional Park. The posted speed limit along this roadway is 30 mph in the Project vicinity.

Puunene Avenue is generally a north-south, two-way, four-lane, County roadway which provides access to destinations throughout Kahului. Puunene Avenue begins to the north at its intersection with Kaahumanu Avenue and transitions into Mokulele Highway to the south near its intersection with Hansen Road. The posted speed limit along this roadway is 30 mph in the Project vicinity.

Wakea Avenue is generally an east-west, two-way, two-lane undivided roadway which serves the adjacent residential and commercial land uses along its alignment. Wakea Avenue begins to the east at its intersection with Hana Highway and terminates to the west at Kaahumanu Avenue. The posted speed limit along this roadway is 30 mph in the Project vicinity.

Lono Avenue is generally a north-south, two-way, two-lane undivided roadway with a posted speed limit of 30 mph in the Project vicinity. Lono Avenue begins to the north at its intersection with Kaahumanu Avenue and terminates to the south at Makalii Street.

Kaulawahine Street is generally a north-south, two-way, two-lane undivided roadway which primarily serves the adjacent residential neighborhood. Kaulawahine Street begins to the north at its intersection with Kamehameha Avenue and terminates to the south at Lanai Street. The posted speed limit along this roadway is 20 mph in the Project vicinity.

3.2 Existing Traffic Volumes

The hourly traffic volume data utilized in this report were collected during various years in 2017, 2018 and 2020 as shown in Section 2.3. Existing traffic volumes at the intersections collected in 2017 and 2018 were increased using an annual growth rate between 1.0% and 1.8% along the Kamehameha Avenue, Puunene Avenue and Wakea Avenue corridors to forecast current 2020 traffic levels.

The three (3) intersections along Kaulawahine Street and the Lono Avenue/Kane Street intersection were collected in August 2020, which resulted in significantly lower traffic volumes due to COVID-19 impacts. These four (4) intersections were adjusted using the following measures:

- Annual growth of 1.0% to 1.8% generated from the 2017 and 2018 intersections were carried through the applicable intersections along the Wakea Avenue and Kamehameha Avenue approaches.

- Turning movements onto and off of Kaulawahine Street and Kane Street approaches were increased by 9%(19%) for entering AM(PM) volumes and 65%(20%) for exiting AM(PM) volumes. These growth increases were calculated based on a comparison of pre-COVID-19 (2019) and current COVID-19 (2020) volumes along Kuikahi Drive, generated by the residential traffic from Wailuku Heights and Kehalani subdivisions. These growth increases should be applicable to Kaulawahine Street and Kane Street volumes since they similarly service residential traffic.
- Through volumes along the major corridors at the following three intersections were increased to account for regional traffic reductions from COVID-19:
    - Kane Street/Lono Avenue intersection – Lono Avenue approaches increased variably by 40-215 vehicles to match the in/out volumes at the adjacent Kamehameha Avenue/Lono Avenue intersection.
    - Kamehameha Avenue/Kaulawahine Street intersection – Kamehameha Avenue approaches increased variably by 50-225 vehicles to match the in/out volumes at the adjacent Kamehameha Avenue/Lono Avenue intersection and Puunene Avenue/Kamehameha Avenue intersection.
    - Wakea Avenue/Kaulawahine Street intersection – Wakea Avenue approaches increased variably by 80-175 vehicles to match the in/out volumes at the adjacent Wakea Avenue/Lono Street intersection and Puunene Avenue/Wakea Avenue intersection.

3.3 Existing Observations and Intersection Analysis

Kamehameha Avenue & Lono Avenue – This signalized intersection operates at overall LOS B during both the AM and PM peak hours of traffic, with all movements operating at LOS C or better. In addition, observations prior to COVID-19 indicate that traffic queues at this intersection are minimal and all queues are able to clear within a single traffic signal cycle.

Kamehameha Avenue & Kaulawahine Street – This T-intersection provides stop-control for the northbound approach with all movements currently operating at LOS B or better during the AM and PM peak hours of traffic.

Based on the Manual on Uniform Traffic Control Devices (MUTCD), Federal Highway Administration, dated 2009, a signal is currently not warranted at the Kamehameha Avenue/ Kaulawahine Street intersection based on the 4-hour and 8-hour warrants. See Appendix D.

Kamehameha Avenue & Puunene Avenue – This signalized intersection operates at overall LOS C(D) during the AM(PM) peak hours of traffic, respectively. Several minor through movements and all left-turn movements operate at LOS E due to coordinated signal timing and long fixed signal cycles, with the mainline through movements of Puunene Avenue operating at LOS C or better during the AM and PM peak hours of traffic. Observations prior to COVID-19 indicate that although traffic queues were observed along all approaches at this location, these queues typically required a single traffic signal cycle to clear the intersection.

Lono Avenue & Kane Street – This unsignalized intersection provides stop-control for the eastbound/westbound approaches with all movements currently operating at LOS B or better during the AM and PM peak hours of traffic.

Kaulawahine Street & Kane Street – This unsignalized intersection provides stop-control for the eastbound/westbound approaches with all movements currently operating at LOS A during the AM and PM peak hours of traffic.

Wakea Avenue and Lono Avenue – This signalized intersection operates at overall LOS C(B) during the AM(PM) peak hours of traffic, respectively, with all movements operating at LOS C or better.

Wakea Avenue & Kaulawahine Street – This unsignalized intersection provides stop-control for the northbound/southbound approaches with all movements currently operating at LOS C or better during the AM peak hour of traffic and LOS D or better during the PM peak hour of traffic.

Based on the Manual on Uniform Traffic Control Devices (MUTCD), Federal Highway Administration, dated 2009, a signal is currently not warranted at the Wakea Avenue/ Kaulawahine Street intersection based on the 4-hour and 8-hour warrants. See Appendix D.

Puunene Avenue & Wakea Avenue – This signalized intersection operates at overall LOS C(D) during the AM(PM) peak hours of traffic, respectively. Several minor through movements and all left-turn movements operate at LOS E/F due to coordinated signal timing and long fixed signal cycles, with the mainline through movements of Puunene Avenue operating at LOS C or better during the AM and PM peak hours of traffic. In addition, observations prior to COVID-19 indicate that although traffic queues were observed along all approaches at this location, these queues typically required a single traffic signal cycle to clear the intersection, with the exception of southbound traffic that spills back from the Puunene Avenue/Papa Avenue intersection that impedes southbound flows from around 3:50 PM to 4:20 PM.

Figure 3.1 illustrates the existing lane configuration, existing traffic volumes, and LOS for each study intersection. Table 3.1 summarizes the existing LOS at the study intersections. LOS worksheets are provided in Appendix C.

KAHULUI AFFORDABLE HOUSING

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NOTES:

1) THIS DRAWING IS FOR ILLUSTRATIVE PURPOSES ONLY. DO NOT USE FOR CONSTRUCTION.

2) VOLUMES SHOWN IN FIGURE 3.1 REFLECT FORECAST TRAFFIC THAT ACCOUNTS FOR GROWTH TO CURRENT YEAR 2020 AND ADDITIONAL TRAFFIC INCREASES TO ADJUST FOR COVID-19 IMPACTS AT SELECT INTERSECTIONS COUNTED IN AUGUST 2020.

DATE OF COUNTS:
MARCH, 08, 2017
MAY, 10, 2018
AUGUST, 19, 2020

AM PEAK HOUR:
7:15 AM - 8:15 AM

PM PEAK HOUR:
3:30 PM - 4:30 PM

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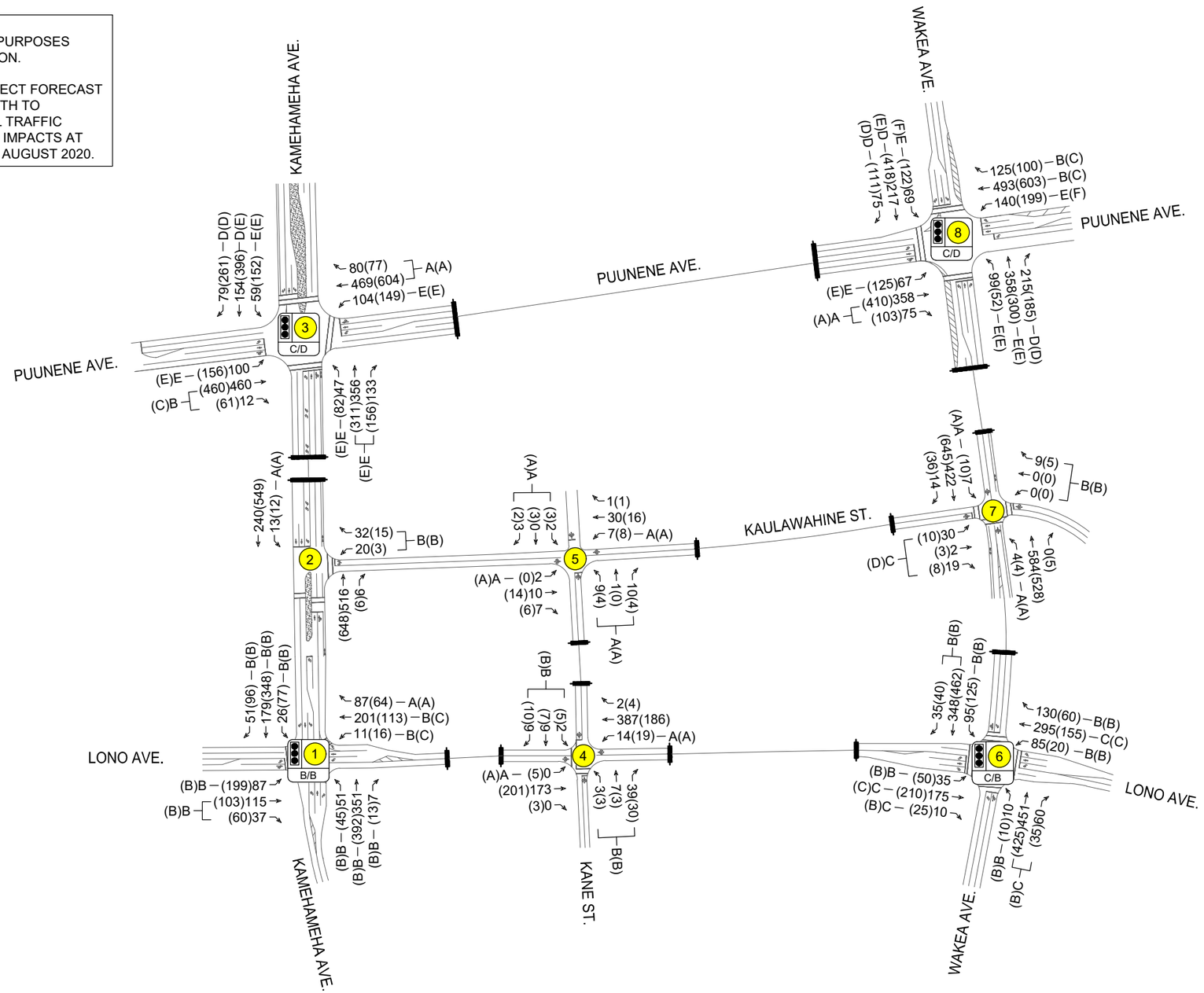

LEGEND

##(##)	-	AM(PM) VEHICLE VOLUMES
X	-	UNSIGNALIZED INTERSECTION X
Y / X/X	-	SIGNALIZED INTERSECTION Y, OVERALL AM/PM LOS
X(X)	-	AM(PM) LOS

FIGURE 3.1

EXISTING YEAR 2020 (PROJECTED) CONDITION
LANEAGE, VOLUMES AND LOS

Table 3.1: Existing 2020 (Projected) Level of Service Summary

Intersection	Existing Year 2020 Conditions*					
	AM			PM		
	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS
1: Lono Ave & Kamehameha Ave						
NB LT	15.3	0.03	B	20.0	0.05	C
NB TH	19.8	0.64	B	24.8	0.59	C
NB RT	0.0	0.00	A	0.0	0.00	A
EB LT	11.6	0.12	B	12.1	0.13	B
EB TH	17.0	0.72	B	18.4	0.74	B
EB RT	12.1	0.00	B	12.7	0.01	B
WB LT	12.7	0.09	B	12.4	0.24	B
WB TH	14.8	0.40	B	16.1	0.62	B
WB RT	12.9	0.03	B	12.3	0.05	B
SB LT	14.3	0.25	B	16.5	0.49	B
SB TH/RT	15.2	0.35	B	18.0	0.40	B
Overall	16.3	-	B	17.3	-	B
2: Kaulawahine St & Kamehameha Ave						
NB LT/RT	12.9	0.11	B	12.7	0.04	B
WB LT	8.7	0.01	A	9.1	0.02	A
Overall	0.9	-	-	0.3	-	-
3: Puunene Ave & Kamehameha Ave						
NB LT	58.8	0.83	E	64.4	0.89	E
NB TH/RT	0.8	0.31	A	6.9	0.47	A
EB LT	69.0	0.77	E	74.8	0.81	E
EB TH/RT	60.6	0.81	E	57.1	0.66	E
WB LT	67.1	0.78	E	76.7	0.88	E
WB TH	48.3	0.48	D	77.7	0.93	E
WB RT	43.4	0.04	D	45.4	0.23	D
SB LT	63.8	0.82	E	74.0	0.88	E
SB TH/RT	16.8	0.26	B	28.3	0.35	C
Overall	32.5	-	C	44.3	-	D
4: Lono Ave & Kane St						
NB LT	7.6	0.01	A	7.7	0.02	A
EB LT/TH/RT	10.8	0.08	B	10.2	0.05	B
WB LT/TH/RT	13.2	0.05	B	11.4	0.04	B
SB LT	0.0	0.00	A	7.6	0.00	A
Overall	1.4	-	-	1.7	-	-
5: Kaulawahine St & Kane St						
NB LT	7.3	0.01	A	7.3	0.01	A
EB LT/TH/RT	8.8	0.02	A	8.7	0.01	A
WB LT/TH/RT	8.7	0.01	A	9.0	0.01	A
SB LT	7.3	0.00	A	0.0	0.00	A
Overall	3.5	-	-	3.3	-	-

* LOS reflects forecast traffic that accounts for growth to current Year 2020 and additional traffic increaes to adjust for COVID-19 impacts at select intersections counted in August 2020.

Table 3.1: Existing 2020 (Projected) Level of Service Summary Cont'd

Intersection	Existing Year 2020 Conditions*					
	AM			PM		
	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS
6: Lono Ave & Wakea Ave						
NB LT	18.5	0.26	B	18.4	0.09	B
NB TH	25.6	0.77	C	22.8	0.59	C
NB RT	19.2	0.08	B	19.1	0.03	B
EB LT	13.2	0.03	B	12.2	0.04	B
EB TH/RT	26.1	0.86	C	18.6	0.80	B
WB LT	14.6	0.35	B	12.0	0.37	B
WB TH/RT	15.0	0.56	B	15.2	0.73	B
SB LT	19.4	0.15	B	17.7	0.17	B
SB TH	23.3	0.51	C	22.8	0.69	C
SB RT	20.0	0.01	C	17.9	0.01	B
Overall	21.7	-	C	17.9	-	B
7: Kaulawahine St & Wakea Ave						
NB LT/TH/RT	12.8	0.02	B	12.1	0.01	B
EB LT	8.3	0.00	A	9.2	0.01	A
WB LT	8.9	0.01	A	8.7	0.01	A
SB LT/TH/RT	24.6	0.23	C	28.2	0.13	D
Overall	1.4	-	-	0.6	-	-
8: Puunene Ave & Wakea Ave						
NB LT	61.9	0.85	E	81.9	0.90	F
NB TH	19.9	0.30	B	27.0	0.40	C
NB RT	17.6	0.09	B	22.4	0.07	C
EB LT	63.9	0.82	E	77.8	0.78	E
EB TH	55.3	0.88	E	59.5	0.80	E
EB RT	41.6	0.34	D	49.7	0.32	D
WB LT	66.0	0.79	E	81.5	0.86	F
WB TH	47.0	0.58	D	69.4	0.92	E
WB RT	40.3	0.04	D	41.8	0.10	D
SB LT	62.9	0.79	E	65.7	0.87	E
SB TH/RT	4.8	0.29	A	8.7	0.37	A
Overall	35.0	-	C	45.3	-	D

* LOS reflects forecast traffic that accounts for growth to current Year 2020 and additional traffic increaes to adjust for COVID-19 impacts at select intersections counted in August 2020.

4. BASE YEAR 2025 TRAFFIC CONDITIONS

The Year 2025 was selected to reflect the Project completion year. The Base Year 2025 scenario represents the traffic conditions within the study area without the Project. Traffic projections were formulated by applying a defacto growth rate to the traffic count volumes as well as trips generated by known future developments in the vicinity of the Project.

4.1 Defacto Growth Rate

Projections for Base Year 2025 traffic were based upon the Maui Regional Travel Demand Model (MRTDM) growth for forecast years between 2007 and 2035, and nearby developments in the immediate vicinity of the Project. The annual growth rate used along the studied roadways varied from approximately 1.0% to 1.8% per year.

4.2 Traffic Forecasts for Known Developments

By the Year 2025, numerous developments are forecast to be completed within the Project study area.

4.2.1 Known Kahului Developments

The known Kahului developments that are projected to be complete by Year 2025 and generate traffic within the Project study area is illustrated in Figure 4.1 and are listed below based on the available information:

- Keolani Triangle Retail Center is planned to be located on the vacant parcel of land bound by Keolani Place to the north, Haleakala Highway to the south and the existing Courtyard Marriott Hotel to the east. The Keolani Triangle Retail Center proposes an approximate 1,800 square foot drive-through restaurant and approximately 3,000 square feet of retail space. The SMA permit for the Keolani Triangle Retail Center was approved by the Maui Planning Commission in January 2019. Projected trips from Keolani Triangle Retail Center are shown in Table 4.1 below.
- Maui Business Park North Project Area (MBP NPA) is an approximately 33.5 acre site bound by Hana Highway to the south, AAR to the east, Haleakala Highway to the north, and the existing Costco Wholesale warehouse to the west. Of the site, only the Costco gas station and Costco store have been built. Several other developments within MBP NPA are in the planning stages, including the proposed Windward Hotel, a four (4) story hotel with 200 guest rooms, Skyline Eco-Adventures, consisting of a corporate office building, vehicle maintenance building and baseyard and the Costco Gas Expansion, which will add 10 more fueling positions.
- Maui Business Park South Project Area (MBP SPA) is a 121.2 acre site which is located in the vicinity of Hookele Street to the south of Hana Highway and to the east of Dairy Road. At the time existing traffic counts were taken, several developments within MBP SPA were not constructed, including the new Kahului Safeway and Gas Station, American Savings Bank, Servco Lexus Dealership and the BMW Dealership. In addition, numerous pads for Phase II of Puunene Shopping Center are occupied and include Planet Fitness, Ulta Beauty, Petco,

HMSA, Massage Envy, Oshima Surf & Skate, Jersey Mike's, Fork and Salad, Starbucks and Domino's Pizza.

Two (2) future developments will be developed in MBP SPA including Maui County Service Center (MCSC) and Kihei Auto Sales. Construction on MCSC is currently ongoing and should be completed by Year 2020-2021. For purposes of this traffic study, all developments mentioned above were included in this TIAR. It was also conservatively assumed that Puunene Shopping Center would be fully occupied by Year 2025.

- Maui Palms Hotel Redevelopment is a planned redevelopment of the old Maui Palms Hotel site. This site is adjacent to the Maui Beach Hotel and is currently vacant. Current plans propose a 136-room hotel spread across three buildings. Access to the site will likely be provided from the existing Maui Beach Hotel accesses via School Street and Lono Avenue. This TIAR assumes that the Maui Palms Redevelopment project will be completed and occupied before Year 2025.
- Kahului Lani Senior Affordable Housing proposes to construct 164 senior rental units, 1 managers unit, approximately 2,500 square feet of recreational space for the residents of the Project, 5,000 square feet of office type space for Catholic Charities of Hawaii, and park space. Access will be provided via Project driveways from School Street, Vevau Street and Kane Street. The Kane Street access is proposed as a right-in right-out access only.
- Kahului Transit Hub proposes to relocate the Maui Bus Transit hub from its existing location at Queen Kaahumanu Center (QKC) to a portion of land fronting Vevau Street, on the northwest quadrant of the Vevau Street/School Street intersection. The Vevau Street Bus Hub location will provide a canopy for shade, ticket booth, restrooms, storage of six (6) buses and six (6) parking stalls for the transit hub employees.
- Wahinepio Affordable Housing proposes to replace the existing University of Hawaii Maui College dormitory facilities along Wahinepio Avenue with 12 transitional housing units for homeless families, as well as, 40 new affordable housing dwelling units. It was conservatively assumed that this development would be fully occupied by Year 2025.

Table 4.1: Known Kahului Developments Trip Generation

Kahului Development	AM			PM		
	Enter	Exit	Total	Enter	Exit	Total
Maui Palms Hotel	43	30	72	42	40	82
Keolani Triangle Retail Center	54	47	101	59	58	117
Skyline Eco-Adventures	33	10	43	10	39	49
Costco Gas Expansion	12	12	24	17	17	34
Windward Hotel	63	43	106	61	59	120
MBP SPA	494	270	764	686	903	1589
Kahului Lani Senior Affordable Housing	39	24	63	29	52	81
Kahului Transit Hub	15	15	30	18	18	36
Wahinepio Affordable Housing	21	5	26	22	12	34

Notes:
1. Table 4.1 shows total trips generated by known developments in the vicinity of the Project. Not all traffic generated by these developments travel through the study area of this TIAR, since some traffic will be routed to various roadways and intersections that were not included in this TIAR.

Overall, traffic generated by other known Kahului developments resulted in an additional increase of approximately 50-100 vehicles per peak per direction along Puunene Avenue and approximately 15-25 vehicles per peak per direction along Kamehameha Avenue, Wakea Avenue, and Lono Avenue.

4.3 Base Year 2025 Analysis

At the Puunene Avenue/Kamehameha Avenue intersection, various movements are expected to continue operating at LOS E conditions due to coordinated signal timing and long signal cycles which favors the through movements along Puunene Avenue. As such, minor streets and mainline left-turn movements typically operate with longer delays and LOS E/F conditions. However, all movements will continue operating below capacity.

Similarly, at the Puunene Avenue/Wakea Avenue intersection, various movements are expected to continue operating at LOS E conditions also due to coordinated signal timing and long signal cycles which favors the through movements along Puunene Avenue. Similar to the Punene Avenue/Kamehameha Avenue intersection, minor streets and mainline left-turn movements typically operate with longer delays and LOS E/F conditions. However, all movements will continue operating below capacity.

Movements at all other study intersections should operate adequately at LOS D or better during the AM and PM peak hours of traffic by Year 2025.

Figure 4.2 illustrates the Base Year 2025 forecast traffic volumes and LOS for all study intersections. Table 4.2 summarizes the Base Year 2025 LOS at the study intersections. LOS worksheets are provided in Appendix C.

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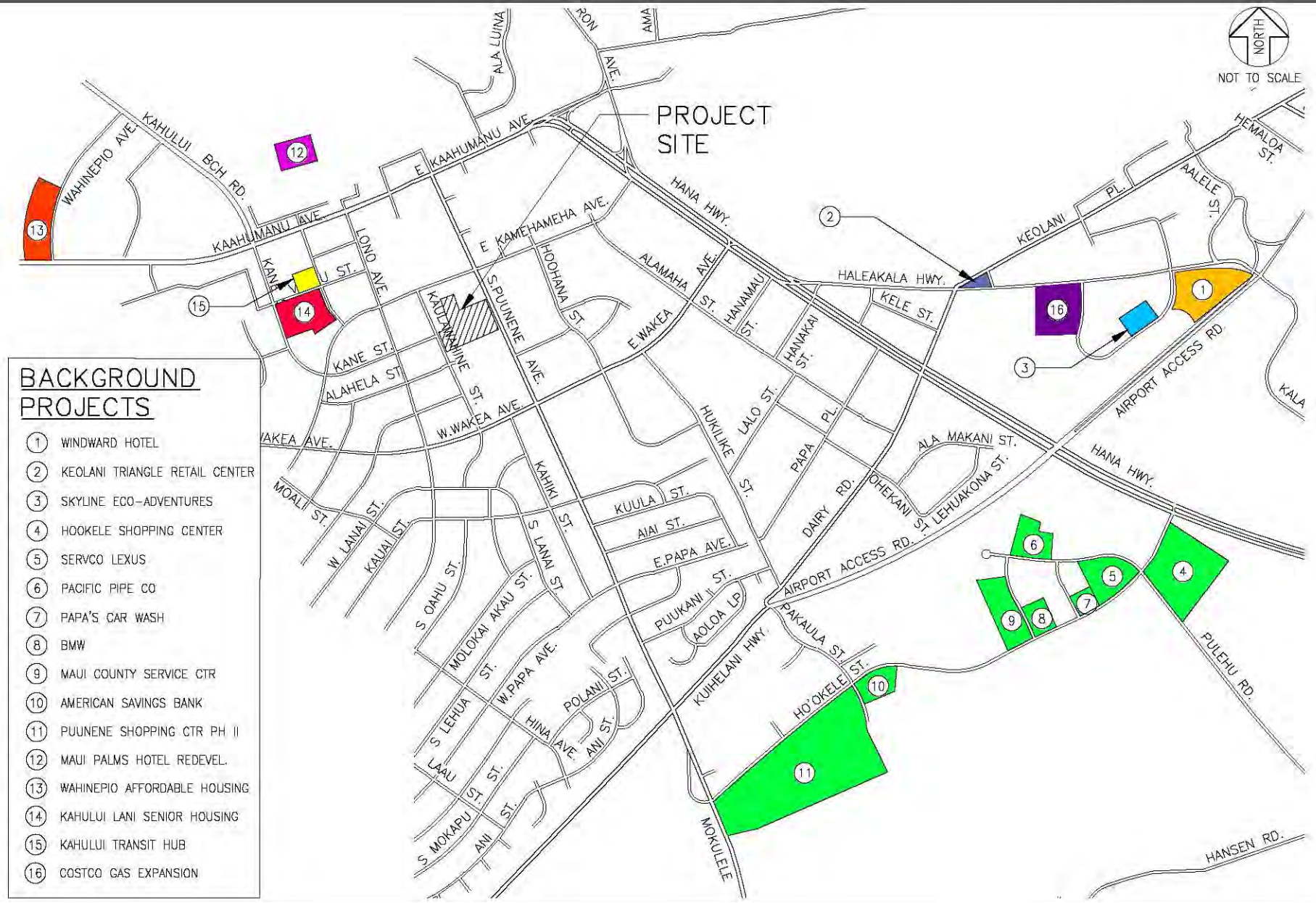

FIGURE 4.1

KAHULUI BACKGROUND DEVELOPMENTS

KAHULUI AFFORDABLE HOUSING

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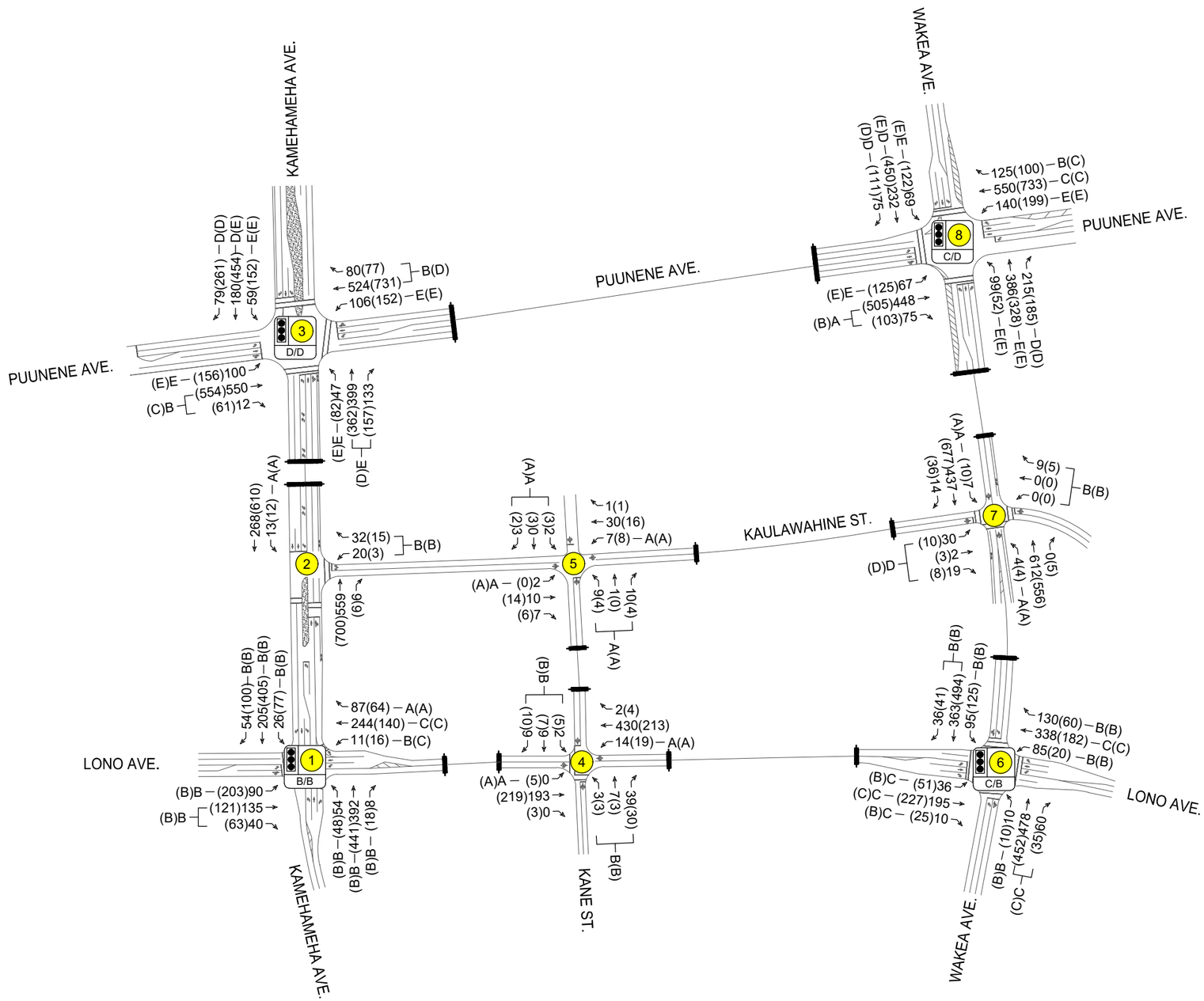

LEGEND

##(##)	-	AM(PM) VEHICLE VOLUMES
X	-	UNSIGNALIZED INTERSECTION X
Y / X/X	-	SIGNALIZED INTERSECTION Y, OVERALL AM/PM LOS
X(X)	-	AM(PM) LOS

FIGURE 4.2

BASE YEAR 2025 CONDITION LANEAGE, VOLUMES AND LOS

Table 4.2: Existing and Base Year 2025 Level of Service Summary

Intersection	Existing Year 2020 Conditions*						Base Year 2025					
	AM			PM			AM			PM		
	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS
1: Lono Ave & Kamehameha Ave												
NB LT	15.3	0.03	B	20.0	0.05	C	15.9	0.03	B	21.3	0.05	C
NB TH	19.8	0.64	B	24.8	0.59	C	21.2	0.69	C	26.9	0.64	C
NB RT	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A
EB LT	11.6	0.12	B	12.1	0.13	B	12.2	0.13	B	12.8	0.15	B
EB TH	17.0	0.72	B	18.4	0.74	B	18.3	0.75	B	19.6	0.78	B
EB RT	12.1	0.00	B	12.7	0.01	B	12.6	0.00	B	13.0	0.01	B
WB LT	12.7	0.09	B	12.4	0.24	B	13.5	0.10	B	13.2	0.26	B
WB TH	14.8	0.40	B	16.1	0.62	B	15.8	0.43	B	17.5	0.68	B
WB RT	12.9	0.03	B	12.3	0.05	B	13.6	0.03	B	12.7	0.06	B
SB LT	14.3	0.25	B	16.5	0.49	B	15.2	0.28	B	17.8	0.52	B
SB TH/RT	15.2	0.35	B	18.0	0.40	B	16.1	0.38	B	19.3	0.43	B
Overall	16.3	-	B	17.3	-	B	17.5	-	B	18.8	-	B
2: Kaulawahine St & Kamehameha Ave												
NB LT/RT	12.9	0.11	B	12.7	0.04	B	13.5	0.12	B	13.3	0.04	B
WB LT	8.7	0.01	A	9.1	0.02	A	8.8	0.02	A	9.3	0.02	A
Overall	0.9	-	-	0.3	-	-	0.9	-	-	0.3	-	-
3: Puunene Ave & Kamehameha Ave												
NB LT	58.8	0.83	E	64.4	0.89	E	62.0	0.82	E	72.7	0.88	E
NB TH/RT	0.8	0.31	A	6.9	0.47	A	11.6	0.35	B	37.6	0.59	D
EB LT	69.0	0.77	E	74.8	0.81	E	69.0	0.77	E	74.8	0.81	E
EB TH/RT	60.6	0.81	E	57.1	0.66	E	62.7	0.83	E	54.8	0.66	D
WB LT	67.1	0.78	E	76.7	0.88	E	67.1	0.78	E	74.6	0.88	E
WB TH	48.3	0.48	D	77.7	0.93	E	47.7	0.53	D	79.7	0.95	E
WB RT	43.4	0.04	D	45.4	0.23	D	42.1	0.04	D	42.6	0.27	D
SB LT	63.8	0.82	E	74.0	0.88	E	63.8	0.82	E	74.0	0.88	E
SB TH/RT	16.8	0.26	B	28.3	0.35	C	18.6	0.32	B	33.4	0.45	C
Overall	32.5	-	C	44.3	-	D	36.0	-	D	52.6	-	D
4: Lono Ave & Kane St												
NB LT	7.6	0.01	A	7.7	0.02	A	7.7	0.01	A	7.8	0.02	A
EB LT/TH/RT	10.8	0.08	B	10.2	0.05	B	11.1	0.08	B	10.4	0.06	B
WB LT/TH/RT	13.2	0.05	B	11.4	0.04	B	14.0	0.05	B	11.8	0.04	B
SB LT	0.0	0.00	A	7.6	0.00	A	0.0	0.00	A	7.7	0.00	A
Overall	1.4	-	-	1.7	-	-	1.3	-	-	1.6	-	-

* LOS reflects forecast traffic that accounts for growth to current Year 2020 and additional traffic increaes to adjust for COVID-19 impacts at select intersections counted in August 2020.

Table 4.2: Existing and Base Year 2025 Level of Service Summary Cont'd

Intersection	Existing Year 2020 Conditions*						Base Year 2025					
	AM			PM			AM			PM		
	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS
5: Kaulawahine St & Kane St												
NB LT	7.3	0.01	A	7.3	0.01	A	7.3	0.01	A	7.3	0.01	A
EB LT/TH/RT	8.8	0.02	A	8.7	0.01	A	8.8	0.02	A	8.7	0.01	A
WB LT/TH/RT	8.7	0.01	A	9.0	0.01	A	8.7	0.01	A	9.0	0.01	A
SB LT	7.3	0.00	A	0.0	0.00	A	7.3	0.00	A	0.0	0.00	A
Overall	3.5	-	-	3.3	-	-	3.5	-	-	3.3	-	-
6: Lono Ave & Wakea Ave												
NB LT	18.5	0.26	B	18.4	0.09	B	19.0	0.26	B	18.9	0.09	B
NB TH	25.6	0.77	C	22.8	0.59	C	27.5	0.80	C	24.2	0.66	C
NB RT	19.2	0.08	B	19.1	0.03	B	19.6	0.07	B	19.6	0.03	B
EB LT	13.2	0.03	B	12.2	0.04	B	14.0	0.03	B	12.6	0.04	B
EB TH/RT	26.1	0.86	C	18.6	0.80	B	31.5	0.89	C	20.4	0.82	C
WB LT	14.6	0.35	B	12.0	0.37	B	16.2	0.38	B	12.6	0.39	B
WB TH/RT	15.0	0.56	B	15.2	0.73	B	16.5	0.58	B	16.9	0.76	B
SB LT	19.4	0.15	B	17.7	0.17	B	20.1	0.17	C	18.3	0.19	B
SB TH	23.3	0.51	C	22.8	0.69	C	24.0	0.51	C	23.8	0.71	C
SB RT	20.0	0.01	C	17.9	0.01	B	20.4	0.01	C	18.4	0.01	B
Overall	21.7	-	C	17.9	-	B	24.4	-	C	19.4	-	B
7: Kaulawahine St & Wakea Ave												
NB LT/TH/RT	12.8	0.02	B	12.1	0.01	B	13.1	0.02	B	12.3	0.01	B
EB LT	8.3	0.00	A	9.2	0.01	A	8.4	0.00	A	9.3	0.01	A
WB LT	8.9	0.01	A	8.7	0.01	A	9.0	0.01	A	8.8	0.01	A
SB LT/TH/RT	24.6	0.23	C	28.2	0.13	D	26.4	0.25	D	30.8	0.14	D
Overall	1.4	-	-	0.6	-	-	1.4	-	-	0.6	-	-
8: Puunene Ave & Wakea Ave												
NB LT	61.9	0.85	E	81.9	0.90	F	61.9	0.85	E	76.9	0.90	E
NB TH	19.9	0.30	B	27.0	0.40	C	21.8	0.35	C	30.6	0.50	C
NB RT	17.6	0.09	B	22.4	0.07	C	18.8	0.10	B	23.8	0.07	C
EB LT	63.9	0.82	E	77.8	0.78	E	63.9	0.82	E	77.8	0.78	E
EB TH	55.3	0.88	E	59.5	0.80	E	55.6	0.88	E	59.3	0.81	E
EB RT	41.6	0.34	D	49.7	0.32	D	40.1	0.34	D	47.7	0.32	D
WB LT	66.0	0.79	E	81.5	0.86	F	66.0	0.79	E	78.7	0.86	E
WB TH	47.0	0.58	D	69.4	0.92	E	45.3	0.58	D	70.2	0.92	E
WB RT	40.3	0.04	D	41.8	0.10	D	38.6	0.04	D	39.9	0.11	D
SB LT	62.9	0.79	E	65.7	0.87	E	63.1	0.79	E	66.3	0.87	E
SB TH/RT	4.8	0.29	A	8.7	0.37	A	6.8	0.37	A	11.8	0.46	B
Overall	35.0	-	C	45.3	-	D	34.5	-	C	44.8	-	D

* LOS reflects forecast traffic that accounts for growth to current Year 2020 and additional traffic increaes to adjust for COVID-19 impacts at select intersections counted in August 2020.

5. FUTURE YEAR 2025 TRAFFIC CONDITIONS

The Future Year 2025 scenario represents the traffic conditions within the Project study area with the full build-out and occupancy of the Project.

5.1 Background

The Project proposes to develop 178 multi-family residential units on a currently undeveloped lot which previously hosted the Kahului Swap Meet. Access to the Project will be provided by a new full access driveway along Kaulawahine Street and a new right-in/right-out (RIRO) driveway along Puunene Avenue.

5.2 Travel Demand Estimations

5.2.1 Trip Generation

The Institute of Transportation Engineers (ITE) publishes a book based on empirical data compiled from a body of more than 4,250 trip generation studies submitted by public agencies, developers, consulting firms, and associations. This publication, titled Trip Generation Manual, 10th Edition, provides trip rates and/or formulae based on graphs that correlate vehicular trips with independent variables.

The Project is forecast to generate approximately 83(99) trips during the AM(PM) peak hours of traffic.

See Tables 5.1 and 5.2 for Trip Generation formulae and projections for the Project.

Table 5.1: Project Trip Generation Rates

Land Use (ITE Code)	Independent Variable	Weekday AM Peak Hour		Weekday PM Peak Hour	
		Trip Rate	% Enter	Trip Rate	% Enter
Multi-Family Low-Rise Housing (220)	DU	[a]	23%	[b]	63%

Notes
DU= Dwelling Units
[a] Ln(T) = 0.95 Ln(X) – 0.51
[b] Ln(T) = 0.89 Ln(X) – 0.02

Table 5.2: Project-Generated Trips

Land Use Type (ITE Code)	Independent Variable	Weekday AM Peak Hour			Weekday PM Peak Hour		
		Enter (vph)	Exit (vph)	Total (vph)	Enter (vph)	Exit (vph)	Total (vph)
Multi-Family Low-Rise Housing (220)	178 DU	19	64	83	62	37	99

5.2.2 Trip Distribution & Assignment

Trips generated by the Project were assigned throughout the study area generally based upon existing and projected Base Year 2025 travel patterns. The traffic generated by the Project was added to the forecast Base Year 2025 traffic volumes within the vicinity of the Project to constitute the traffic volumes for the Future Year 2025 traffic conditions. Figure 5.1 illustrates the Project-generated trip distribution.

5.3 Future Year 2025 Analysis

The Project is forecast to generate approximately 83(99) new vehicle trips during the AM(PM) peak hours of traffic, respectively. Upon completion of the Project, all study intersections are forecast to operate with similar LOS as Base Year 2025 traffic conditions. Regionally, along Puunene Avenue, traffic generated by the Project will increase by approximately 15-25 vehicles in each direction per peak hour, which translates to a 1.9% increase in traffic. Similarly along Wakea Avenue and Kamehameha Avenue, traffic will only increase by approximately 10-15 vehicles in each direction per peak hour, which translates to a 1.3% and 1.6% increase in traffic, respectively. Due to generally low traffic increases as a result of the Project the majority of movement vehicular delays generally increased minimally by 1-4 seconds. All movements that operated at LOS E with Base Year 2025 conditions will continue operating at LOS E for Future Year 2025.

In addition, Future Year 2025 with Project volumes at the Kamehameha Avenue/ Kaulawahine Street and Wakea Avenue/ Kaulawahine Street intersections are not anticipated to meet the warrant thresholds based on the MUTCD Eight-Hour and Four-Hour Vehicular Volume traffic signal warrants. Signal warrant figures are shown in Appendix D. No roadway improvements are recommended.

See Figure 5.2 for the Future Year 2025 with Project traffic volumes and LOS. Table 5.3 summarizes the Existing, Base Year 2025, and Future Year 2025 with Project LOS at the study intersections. LOS worksheets are provided in Appendix C.

KAHULUI AFFORDABLE HOUSING

AustinTsutsumi & ASSOCIATES, INC.
Engineers & Surveyors

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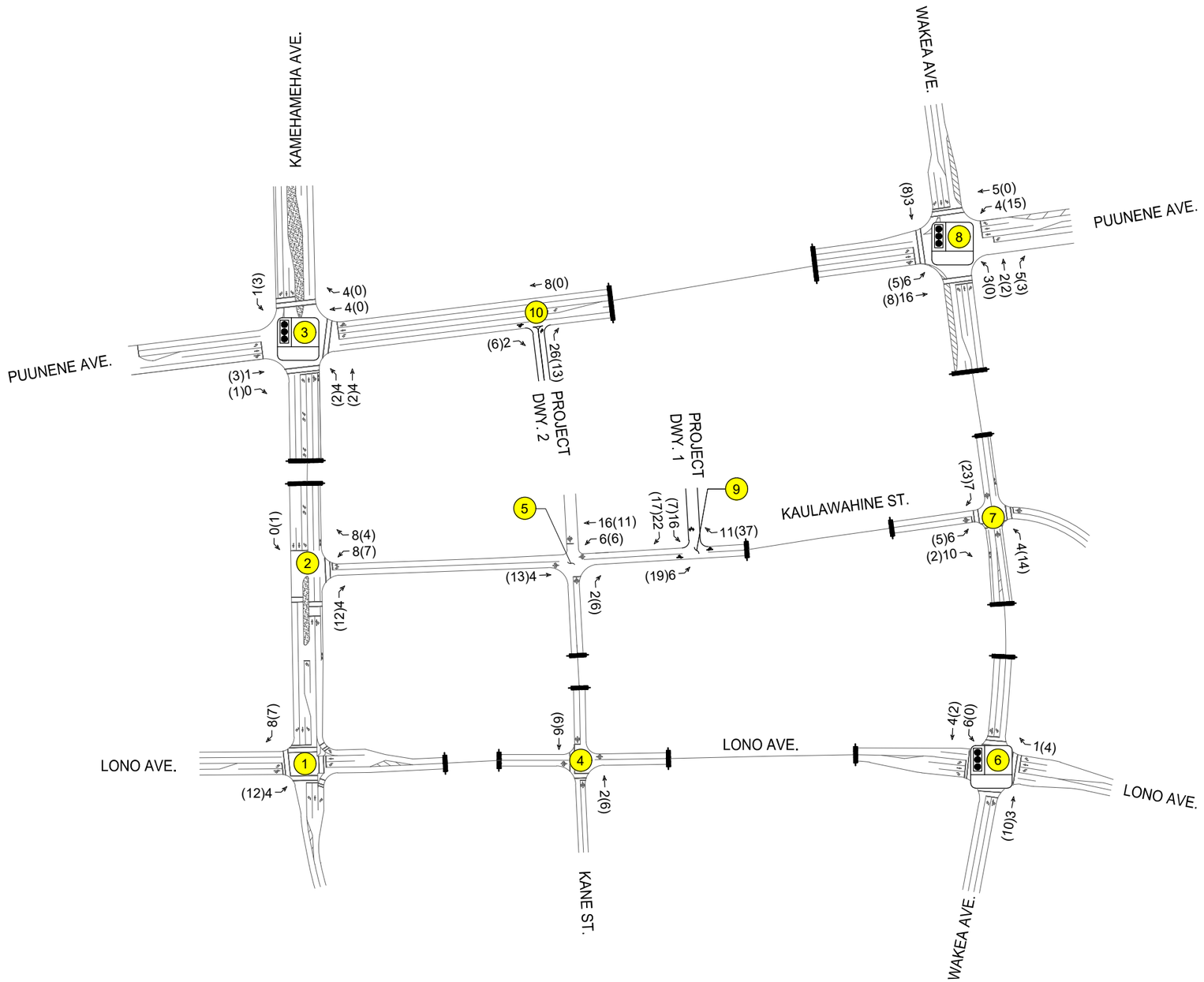

LEGEND

##(##)	-	AM(PM) VEHICLE VOLUMES
X	-	UNSIGNALIZED INTERSECTION X
Y	-	SIGNALIZED INTERSECTION Y

FIGURE 5.1

PROJECT-GENERAL TRIPS

KAHULUI AFFORDABLE HOUSING

AustinTsutsumi & ASSOCIATES, INC.
Engineers & Surveyors

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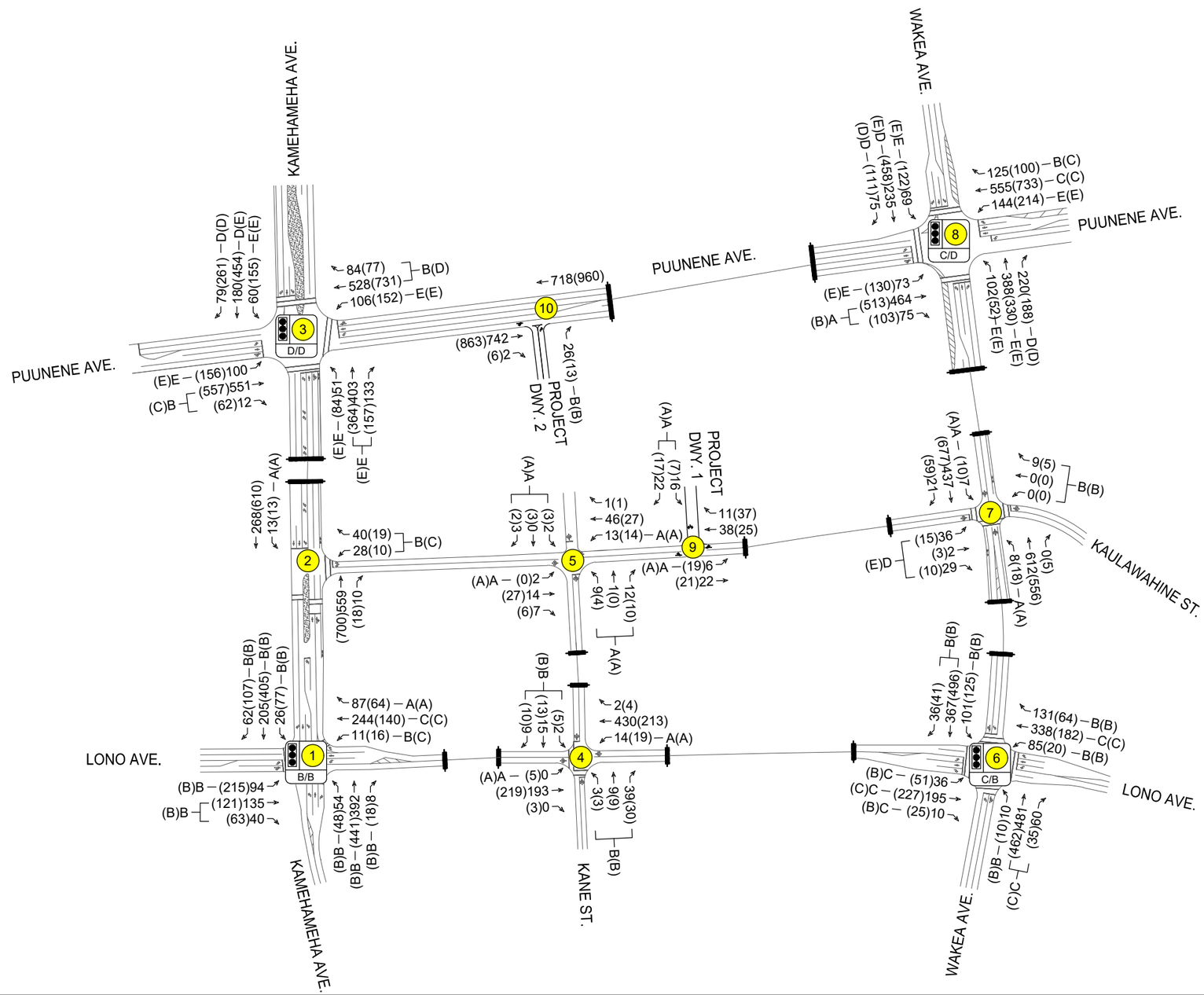

LEGEND

##(##)	-	AM(PM) VEHICLE VOLUMES
X	-	UNSIGNALIZED INTERSECTION X
Y / X/X	-	SIGNALIZED INTERSECTION Y, OVERALL AM/PM LOS
X(X)	-	AM(PM) LOS

FIGURE 5.2

FUTURE YEAR 2025 CONDITION LANEAGE, VOLUMES AND LOS

Table 5.3: Existing, Base Year 2025 and Future Year 2025 with Project Level of Service Summary

Intersection	Existing Year 2020 Conditions*						Base Year 2025						Future Year 2025					
	AM			PM			AM			PM			AM			PM		
	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS
1: Lono Ave & Kamehameha Ave																		
NB LT	15.3	0.03	B	20.0	0.05	C	15.9	0.03	B	21.3	0.05	C	15.9	0.03	B	21.6	0.05	C
NB TH	19.8	0.64	B	24.8	0.59	C	21.2	0.69	C	26.9	0.64	C	21.3	0.69	C	27.3	0.65	C
NB RT	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A
EB LT	11.6	0.12	B	12.1	0.13	B	12.2	0.13	B	12.8	0.15	B	12.3	0.13	B	13.0	0.15	B
EB TH	17.0	0.72	B	18.4	0.74	B	18.3	0.75	B	19.6	0.78	B	18.4	0.75	B	19.9	0.78	B
EB RT	12.1	0.00	B	12.7	0.01	B	12.6	0.00	B	13.0	0.01	B	12.6	0.00	B	13.2	0.01	B
WB LT	12.7	0.09	B	12.4	0.24	B	13.5	0.10	B	13.2	0.26	B	13.5	0.10	B	13.5	0.26	B
WB TH	14.8	0.40	B	16.1	0.62	B	15.8	0.43	B	17.5	0.68	B	15.9	0.43	B	17.8	0.69	B
WB RT	12.9	0.03	B	12.3	0.05	B	13.6	0.03	B	12.7	0.06	B	13.7	0.04	B	12.9	0.06	B
SB LT	14.3	0.25	B	16.5	0.49	B	15.2	0.28	B	17.8	0.52	B	15.2	0.29	B	18.0	0.54	B
SB TH/RT	15.2	0.35	B	18.0	0.40	B	16.1	0.38	B	19.3	0.43	B	16.1	0.38	B	19.2	0.42	B
Overall	16.3	-	B	17.3	-	B	17.5	-	B	18.8	-	B	17.5	-	B	19.0	-	B
2: Kaulawahine St & Kamehameha Ave																		
NB LT/RT	12.9	0.11	B	12.7	0.04	B	13.5	0.12	B	13.3	0.04	B	14.1	0.16	B	16.3	0.09	C
WB LT	8.7	0.01	A	9.1	0.02	A	8.8	0.02	A	9.3	0.02	A	8.8	0.02	A	9.4	0.02	A
Overall	0.9	-	-	0.3	-	-	0.9	-	-	0.3	-	-	1.2	-	-	0.4	-	-
3: Puunene Ave & Kamehameha Ave																		
NB LT	58.8	0.83	E	64.4	0.89	E	62.0	0.82	E	72.7	0.88	E	62.0	0.82	E	72.7	0.88	E
NB TH/RT	0.8	0.31	A	6.9	0.47	A	11.6	0.35	B	37.6	0.59	D	11.8	0.35	B	37.8	0.59	D
EB LT	69.0	0.77	E	74.8	0.81	E	69.0	0.77	E	74.8	0.81	E	68.3	0.77	E	74.7	0.81	E
EB TH/RT	60.6	0.81	E	57.1	0.66	E	62.7	0.83	E	54.8	0.66	D	63.0	0.84	E	55.0	0.66	E
WB LT	67.1	0.78	E	76.7	0.88	E	67.1	0.78	E	74.6	0.88	E	67.0	0.78	E	75.4	0.88	E
WB TH	48.3	0.48	D	77.7	0.93	E	47.7	0.53	D	79.7	0.95	E	47.9	0.53	D	79.7	0.95	E
WB RT	43.4	0.04	D	45.4	0.23	D	42.1	0.04	D	42.6	0.27	D	42.2	0.04	D	42.6	0.27	D
SB LT	63.8	0.82	E	74.0	0.88	E	63.8	0.82	E	74.0	0.88	E	63.8	0.82	E	74.0	0.88	E
SB TH/RT	16.8	0.26	B	28.3	0.35	C	18.6	0.32	B	33.4	0.45	C	18.7	0.32	B	33.6	0.45	C
Overall	32.5	-	C	44.3	-	D	36.0	-	D	52.6	-	D	36.1	-	D	52.8	-	D
4: Lono Ave & Kane St																		
NB LT	7.6	0.01	A	7.7	0.02	A	7.7	0.01	A	7.8	0.02	A	7.7	0.01	A	7.8	0.02	A
EB LT/TH/RT	10.8	0.08	B	10.2	0.05	B	11.1	0.08	B	10.4	0.06	B	11.4	0.09	B	11.0	0.07	B
WB LT/TH/RT	13.2	0.05	B	11.4	0.04	B	14.0	0.05	B	11.8	0.04	B	14.6	0.07	B	12.3	0.06	B
SB LT	0.0	0.00	A	7.6	0.00	A	0.0	0.00	A	7.7	0.00	A	0.0	0.00	A	7.7	0.00	A
Overall	1.4	-	-	1.7	-	-	1.3	-	-	1.6	-	-	1.5	-	-	1.9	-	-
5: Kaulawahine St & Kane St																		
NB LT	7.3	0.01	A	7.3	0.01	A	7.3	0.01	A	7.3	0.01	A	7.3	0.01	A	7.3	0.01	A
EB LT/TH/RT	8.8	0.02	A	8.7	0.01	A	8.8	0.02	A	8.7	0.01	A	8.9	0.03	A	8.7	0.02	A
WB LT/TH/RT	8.7	0.01	A	9.0	0.01	A	8.7	0.01	A	9.0	0.01	A	8.9	0.01	A	9.2	0.01	A
SB LT	7.3	0.00	A	0.0	0.00	A	7.3	0.00	A	0.0	0.00	A	7.3	0.00	A	0.0	0.00	A
Overall	3.5	-	-	3.3	-	-	3.5	-	-	3.3	-	-	3.2	-	-	3.1	-	-

* LOS reflects forecast traffic that accounts for growth to current Year 2020 and additional traffic increaes to adjust for COVID-19 impacts at select intersections counted in August 2020.

Table 5.3: Existing, Base Year 2025 and Future Year 2025 with Project Level of Service Summary Cont'd

Intersection	Existing Year 2020 Conditions*						Base Year 2025						Future Year 2025					
	AM			PM			AM			PM			AM			PM		
	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS
6: Lono Ave & Wakea Ave																		
NB LT	18.5	0.26	B	18.4	0.09	B	19.0	0.26	B	18.9	0.09	B	19.1	0.26	B	19.2	0.09	B
NB TH	25.6	0.77	C	22.8	0.59	C	27.5	0.80	C	24.2	0.66	C	27.7	0.81	C	24.5	0.66	C
NB RT	19.2	0.08	B	19.1	0.03	B	19.6	0.07	B	19.6	0.03	B	19.8	0.07	B	19.9	0.04	B
EB LT	13.2	0.03	B	12.2	0.04	B	14.0	0.03	B	12.6	0.04	B	14.1	0.03	B	12.5	0.04	B
EB TH/RT	26.1	0.86	C	18.6	0.80	B	31.5	0.89	C	20.4	0.82	C	31.9	0.89	C	20.9	0.83	C
WB LT	14.6	0.35	B	12.0	0.37	B	16.2	0.38	B	12.6	0.39	B	16.4	0.41	B	12.7	0.40	B
WB TH/RT	15.0	0.56	B	15.2	0.73	B	16.5	0.58	B	16.9	0.76	B	16.5	0.58	B	16.8	0.76	B
SB LT	19.4	0.15	B	17.7	0.17	B	20.1	0.17	C	18.3	0.19	B	20.2	0.17	C	18.5	0.19	B
SB TH	23.3	0.51	C	22.8	0.69	C	24.0	0.51	C	23.8	0.71	C	24.1	0.51	C	24.0	0.71	C
SB RT	20.0	0.01	C	17.9	0.01	B	20.4	0.01	C	18.4	0.01	B	20.5	0.01	C	18.6	0.01	B
Overall	21.7	-	C	17.9	-	B	24.4	-	C	19.4	-	B	24.6	-	C	19.6	-	B
7: Kaulawahine St & Wakea Ave																		
NB LT/TH/RT	12.8	0.02	B	12.1	0.01	B	13.1	0.02	B	12.3	0.01	B	13.1	0.02	B	12.3	0.01	B
EB LT	8.3	0.00	A	9.2	0.01	A	8.4	0.00	A	9.3	0.01	A	8.4	0.01	A	9.5	0.02	A
WB LT	8.9	0.01	A	8.7	0.01	A	9.0	0.01	A	8.8	0.01	A	9.0	0.01	A	8.8	0.01	A
SB LT/TH/RT	24.6	0.23	C	28.2	0.13	D	26.4	0.25	D	30.8	0.14	D	27.6	0.32	D	36.3	0.21	E
Overall	1.4	-	-	0.6	-	-	1.4	-	-	0.6	-	-	1.8	-	-	1.0	-	-
8: Puunene Ave & Wakea Ave																		
NB LT	61.9	0.85	E	81.9	0.90	F	61.9	0.85	E	76.9	0.90	E	61.7	0.86	E	79.7	0.91	E
NB TH	19.9	0.30	B	27.0	0.40	C	21.8	0.35	C	30.6	0.50	C	22.3	0.36	C	31.4	0.51	C
NB RT	17.6	0.09	B	22.4	0.07	C	18.8	0.10	B	23.8	0.07	C	19.1	0.10	B	24.4	0.07	C
EB LT	63.9	0.82	E	77.8	0.78	E	63.9	0.82	E	77.8	0.78	E	63.8	0.82	E	77.8	0.78	E
EB TH	55.3	0.88	E	59.5	0.80	E	55.6	0.88	E	59.3	0.81	E	55.6	0.88	E	58.4	0.80	E
EB RT	41.6	0.34	D	49.7	0.32	D	40.1	0.34	D	47.7	0.32	D	40.1	0.35	D	47.3	0.32	D
WB LT	66.0	0.79	E	81.5	0.86	F	66.0	0.79	E	78.7	0.86	E	66.0	0.79	E	78.7	0.86	E
WB TH	47.0	0.58	D	69.4	0.92	E	45.3	0.58	D	70.2	0.92	E	45.5	0.59	D	70.5	0.93	E
WB RT	40.3	0.04	D	41.8	0.10	D	38.6	0.04	D	39.9	0.11	D	38.7	0.04	D	39.4	0.11	D
SB LT	62.9	0.79	E	65.7	0.87	E	63.1	0.79	E	66.3	0.87	E	62.4	0.80	E	65.9	0.87	E
SB TH/RT	4.8	0.29	A	8.7	0.37	A	6.8	0.37	A	11.8	0.46	B	7.3	0.38	A	13.8	0.48	B
Overall	35.0	-	C	45.3	-	D	34.5	-	C	44.8	-	D	34.7	-	C	45.8	-	D
9: Kaluwahine St & Project Drwy																		
WB LT/RT	-	-	-	-	-	-	-	-	-	-	-	-	8.9	0.04	A	8.8	0.03	A
SB LT	-	-	-	-	-	-	-	-	-	-	-	-	7.3	0.00	A	7.4	0.01	A
Overall	-	-	-	-	-	-	-	-	-	-	-	-	3.3	-	-	2.8	-	-
10: Puunene Ave & Project Drwy																		
EB RT	-	-	-	-	-	-	-	-	-	-	-	-	11.4	0.05	B	11.9	0.03	B
Overall	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	0.1	-	-

* LOS reflects forecast traffic that accounts for growth to current Year 2020 and additional traffic increaes to adjust for COVID-19 impacts at select intersections counted in August 2020.

6. CONCLUSION

The Project proposes to develop 178 multi-family residential units on a currently undeveloped lot which previously hosted the Kahului Swap Meet. Access to the Project will be provided by a new full access driveway along Kaulawahine Street and a new right-in/right-out (RIRO) driveway along Puunene Avenue.

6.1 Existing Conditions

6.1.1 Existing Traffic Volumes

The hourly traffic volume data utilized in this report were collected during various years in 2017, 2018 and 2020 as shown in Section 2.3. Existing traffic volumes at the intersections collected in 2017 and 2018 were increased using an annual growth rate between 1.0% and 1.8% along the Kamehameha Avenue, Puunene Avenue and Wakea Avenue corridors to forecast current 2020 traffic levels.

The three (3) intersections along Kaulawahine Street and the Lono Avenue/Kane Street intersection were collected in August 2020, which resulted in significantly lower traffic volumes due to COVID-19 impacts. These four (4) intersections were adjusted using the following measures:

- Annual growth of 1.0% to 1.8% generated from the 2017 and 2018 intersections were carried through the applicable intersections along the Wakea Avenue and Kamehameha Avenue approaches.
- Turning movements onto and off of Kaulawahine Street and Kane Street approaches were increased by 9%(19%) for entering AM(PM) volumes and 65%(20%) for exiting AM(PM) volumes. These growth increases were calculated based on a comparison of pre-COVID-19 (2019) and current COVID-19 (2020) volumes along Kuikahi Drive, generated by the residential traffic from Wailuku Heights and Kehalani subdivisions. These growth increases should be applicable to Kaulawahine Street and Kane Street volumes since they similarly service residential traffic.
- Through volumes along the major corridors at the following three intersections were increased to account for regional traffic reductions from COVID-19:
    - Kane Street/Lono Avenue intersection – Lono Avenue approaches increased variably by 40-215 vehicles to match the in/out volumes at the adjacent Kamehameha Avenue/Lono Avenue intersection.
    - Kamehameha Avenue/Kaulawahine Street intersection – Kamehameha Avenue approaches increased variably by 50-225 vehicles to match the in/out volumes at the adjacent Kamehameha Avenue/Lono Avenue intersection and Puunene Avenue/Kamehameha Avenue intersection.

Wakea Avenue/Kaulawahine Street intersection – Wakea Avenue approaches increased variably by 80-175 vehicles to match the in/out volumes at the adjacent Wakea Avenue/Lono Street intersection and Puunene Avenue/Wakea Avenue intersection.

6.1.2 Existing Observations and Intersection Analysis

Kamehameha Avenue & Lono Avenue – This signalized intersection operates at overall LOS B during both the AM and PM peak hours of traffic, with all movements operating at LOS C or better. In addition, observations prior to COVID-19 indicate that traffic queues at this intersection are minimal and all queues are able to clear within a single traffic signal cycle.

Kamehameha Avenue & Kaulawahine Street – This T-intersection provides stop-control for the northbound approach with all movements currently operating at LOS B or better during the AM and PM peak hours of traffic.

Based on the Manual on Uniform Traffic Control Devices (MUTCD), Federal Highway Administration, dated 2009, a signal is currently not warranted at the Kamehameha Avenue/ Kaulawahine Street intersection based on the 4-hour and 8-hour warrants. See Appendix D.

Kamehameha Avenue & Puunene Avenue – This signalized intersection operates at overall LOS C(D) during the AM(PM) peak hours of traffic, respectively. Several minor through movements and all left-turn movements operate at LOS E due to coordinated signal timing and long fixed signal cycles, with the mainline through movements of Puunene Avenue operating at LOS C or better during the AM and PM peak hours of traffic. Observations prior to COVID-19 indicate that although traffic queues were observed along all approaches at this location, these queues typically required a single traffic signal cycle to clear the intersection.

Lono Avenue & Kane Street – This unsignalized intersection provides stop-control for the eastbound/westbound approaches with all movements currently operating at LOS B or better during the AM and PM peak hours of traffic.

Kaulawahine Street & Kane Street – This unsignalized intersection provides stop-control for the eastbound/westbound approaches with all movements currently operating at LOS A during the AM and PM peak hours of traffic.

Wakea Avenue and Lono Avenue – This signalized intersection operates at overall LOS C(B) during the AM(PM) peak hours of traffic, respectively, with all movements operating at LOS C or better.

Wakea Avenue & Kaulawahine Street – This unsignalized intersection provides stop-control for the northbound/southbound approaches with all movements currently operating at LOS C or better during the AM peak hour of traffic and LOS D or better during the PM peak hour of traffic.

Based on the Manual on Uniform Traffic Control Devices (MUTCD), Federal Highway Administration, dated 2009, a signal is currently not warranted at the Wakea Avenue/ Kaulawahine Street intersection based on the 4-hour and 8-hour warrants. See Appendix D.

Puunene Avenue & Wakea Avenue – This signalized intersection operates at overall LOS C(D) during the AM(PM) peak hours of traffic, respectively. Several minor through movements and all left-turn movements operate at LOS E/F due to coordinated signal timing and long fixed signal cycles, with the mainline through movements of Puunene Avenue operating at LOS C or better during the AM and PM peak hours of traffic. In addition, observations prior to COVID-19 indicate that although traffic queues were observed along all approaches at this location, these queues typically required a single traffic signal cycle to clear the intersection, with the exception of southbound traffic that spills back from the Puunene Avenue/Papa Avenue intersection that impedes southbound flows from around 3:50 PM to 4:20 PM.

6.2 Base Year 2025

At the Puunene Avenue/Kamehameha Avenue intersection, various movements are expected to continue operating at LOS E conditions due to coordinated signal timing and long signal cycles which favors the through movements along Puunene Avenue. As such, minor streets and mainline left-turn movements typically operate with longer delays and LOS E/F conditions. However, all movements will continue operating below capacity.

Similarly, at the Puunene Avenue/Wakea Avenue intersection, various movements are expected to continue operating at LOS E conditions also due to coordinated signal timing and long signal cycles which favors the through movements along Puunene Avenue. Similar to the Punene Avenue/Kamehameha Avenue intersection, minor streets and mainline left-turn movements typically operate with longer delays and LOS E/F conditions. However, all movements will continue operating below capacity.

Movements at all other study intersections should operate adequately at LOS D or better during the AM and PM peak hours of traffic by Year 2025.

6.3 Future Year 2025

The Project is forecast to generate approximately 83(99) new vehicle trips during the AM(PM) peak hours of traffic, respectively. Upon completion of the Project, all study intersections are forecast to operate with similar LOS as Base Year 2025 traffic conditions. Regionally, along Puunene Avenue, traffic generated by the Project will increase by approximately 15-25 vehicles in each direction per peak hour, which translates to a 1.9% increase in traffic. Similarly along Wakea Avenue and Kamehameha Avenue, traffic will only increase by approximately 10-15 vehicles in each direction per peak hour, which translates to a 1.3% and 1.6% increase in traffic, respectively. Due to generally low traffic increases as a result of the Project the majority of movement vehicular delays generally increased minimally by 1-4 seconds. All movements that operated at LOS E with Base Year 2025 conditions will continue operating at LOS E for Future Year 2025.

In addition, Future Year 2025 with Project volumes at the Kamehameha Avenue/ Kaulawahine Street and Wakea Avenue/ Kaulawahine Street intersections are not anticipated to meet the warrant thresholds based on the MUTCD Eight-Hour and Four-Hour Vehicular Volume traffic signal warrants. Signal warrant figures are shown in Appendix D. No roadway improvements are recommended.

7. REFERENCES

1. American Association of State Highway and Transportation Officials, A Policy Geometric Design of Highway and Streets, 2011.
2. Federal Highway Administration, Manual on Uniform Traffic Control Devices, 2009.
3. Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017.
4. Transportation Research Board, Highway Capacity Manual, 6th Edition, 2016.

APPENDICES

APPENDIX A

TRAFFIC COUNT DATA

AUSTIN TSUTSUMI & ASSOCIATES

501 Sumner Street, Suite 521

Honolulu, HI 96817-5031

Phone: (808) 533-3646 Fax: (808) 526-1267

File Name : AM_Lono Ave - Kamehameha Ave
Site Code : 00000000
Start Date : 3/8/2017
Page No : 1

Groups Printed- Unshifted - Bank 1

	LONO AVE Southbound				KAMEHAMEHA AVE Westbound				LONO AVE Northbound				KAMEHAMEHA AVE Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
06:45 AM	18	25	10	0	1	30	6	0	4	36	12	0	17	38	3	1	201
Total	18	25	10	0	1	30	6	0	4	36	12	0	17	38	3	1	201
07:00 AM	17	19	3	2	2	30	9	0	2	36	10	0	11	38	0	1	180
07:15 AM	14	32	12	0	7	35	3	0	3	57	12	0	7	74	0	1	257
07:30 AM	23	30	5	0	9	41	12	0	4	58	25	0	10	78	3	0	298
07:45 AM	26	30	13	0	6	38	17	0	2	47	29	0	22	118	3	0	351
Total	80	111	33	2	24	144	41	0	11	198	76	0	50	308	6	2	1086
08:00 AM	24	23	7	1	4	59	19	0	2	39	21	0	12	70	1	0	282
08:15 AM	15	13	6	0	5	56	17	0	1	21	13	1	13	51	1	0	213
08:30 AM	29	21	15	1	5	44	14	0	2	21	17	0	11	58	1	0	239
Grand Total	166	193	71	4	39	333	97	0	20	315	139	1	103	525	12	3	2021
Apprch %	38.2	44.5	16.4	0.9	8.3	71	20.7	0	4.2	66.3	29.3	0.2	16	81.6	1.9	0.5	
Total %	8.2	9.5	3.5	0.2	1.9	16.5	4.8	0	1	15.6	6.9	0	5.1	26	0.6	0.1	
Unshifted	166	193	71	4	39	333	97	0	20	315	139	1	103	525	12	3	2021
% Unshifted	100	100	100	100	100	100	100	0	100	100	100	100	100	100	100	100	100
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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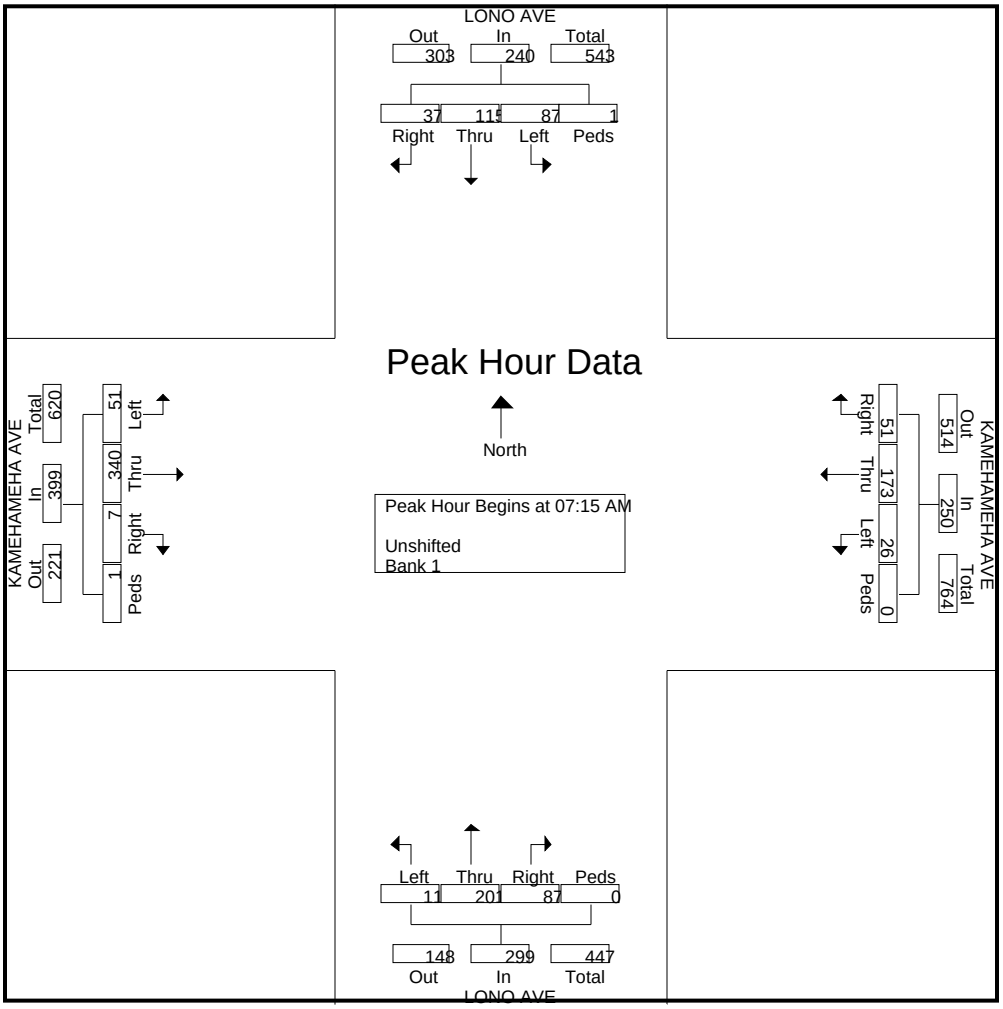
File Name : AM_Lono Ave - Kamehameha Ave
Site Code : 00000000
Start Date : 3/8/2017
Page No : 2

	LONO AVE Southbound					KAMEHAMEHA AVE Westbound					LONO AVE Northbound					KAMEHAMEHA AVE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	14	**32**	12	0	58	7	35	3	0	45	3	57	12	0	72	7	74	0	**1**	82	257
07:30 AM	23	30	5	0	58	**9**	41	12	0	62	**4**	**58**	25	0	**87**	10	78	**3**	0	91	298
07:45 AM	**26**	30	**13**	0	**69**	6	38	17	0	61	2	47	**29**	0	78	**22**	**118**	3	0	**143**	**351**
08:00 AM	24	23	7	**1**	55	4	**59**	**19**	0	**82**	2	39	21	0	62	12	70	1	0	83	282
Total Volume	87	115	37	1	240	26	173	51	0	250	11	201	87	0	299	51	340	7	1	399	1188
% App. Total	36.2	47.9	15.4	0.4		10.4	69.2	20.4	0		3.7	67.2	29.1	0		12.8	85.2	1.8	0.3		
PHF	.837	.898	.712	.250	.870	.722	.733	.671	.000	.762	.688	.866	.750	.000	.859	.580	.720	.583	.250	.698	.846



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File Name : PM_Lono Ave - Kamehameha Ave
Site Code : 00000000
Start Date : 3/8/2017
Page No : 1

Groups Printed- Unshifted - Bank 1

	LONO AVE Southbound				KAMEHAMEHA AVE Westbound				LONO AVE Northbound				KAMEHAMEHA AVE Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
03:15 PM	43	26	16	0	11	69	24	1	1	28	23	0	12	73	5	0	332
03:30 PM	59	25	16	1	18	82	21	0	4	32	18	0	12	99	4	0	391
03:45 PM	50	29	16	0	13	81	25	0	1	30	18	0	13	109	4	0	389
Total	152	80	48	1	42	232	70	1	6	90	59	0	37	281	13	0	1112
04:00 PM	42	25	13	1	25	76	24	0	6	24	19	0	11	85	2	0	353
04:15 PM	48	24	15	0	21	98	26	0	5	27	9	0	9	87	3	0	372
04:30 PM	36	31	19	0	26	123	16	0	0	21	14	0	8	80	2	1	377
04:45 PM	37	28	11	1	17	91	18	0	11	30	21	0	6	80	3	0	354
Total	163	108	58	2	89	388	84	0	22	102	63	0	34	332	10	1	1456
05:00 PM	36	28	17	0	19	110	27	0	5	33	12	0	10	79	3	0	379
Grand Total	351	216	123	3	150	730	181	1	33	225	134	0	81	692	26	1	2947
Apprch %	50.6	31.2	17.7	0.4	14.1	68.7	17	0.1	8.4	57.4	34.2	0	10.1	86.5	3.2	0.1	
Total %	11.9	7.3	4.2	0.1	5.1	24.8	6.1	0	1.1	7.6	4.5	0	2.7	23.5	0.9	0	
Unshifted	351	216	123	3	150	730	181	1	33	225	134	0	81	692	26	1	2947
% Unshifted	100	100	100	100	100	100	100	100	100	100	100	0	100	100	100	100	100
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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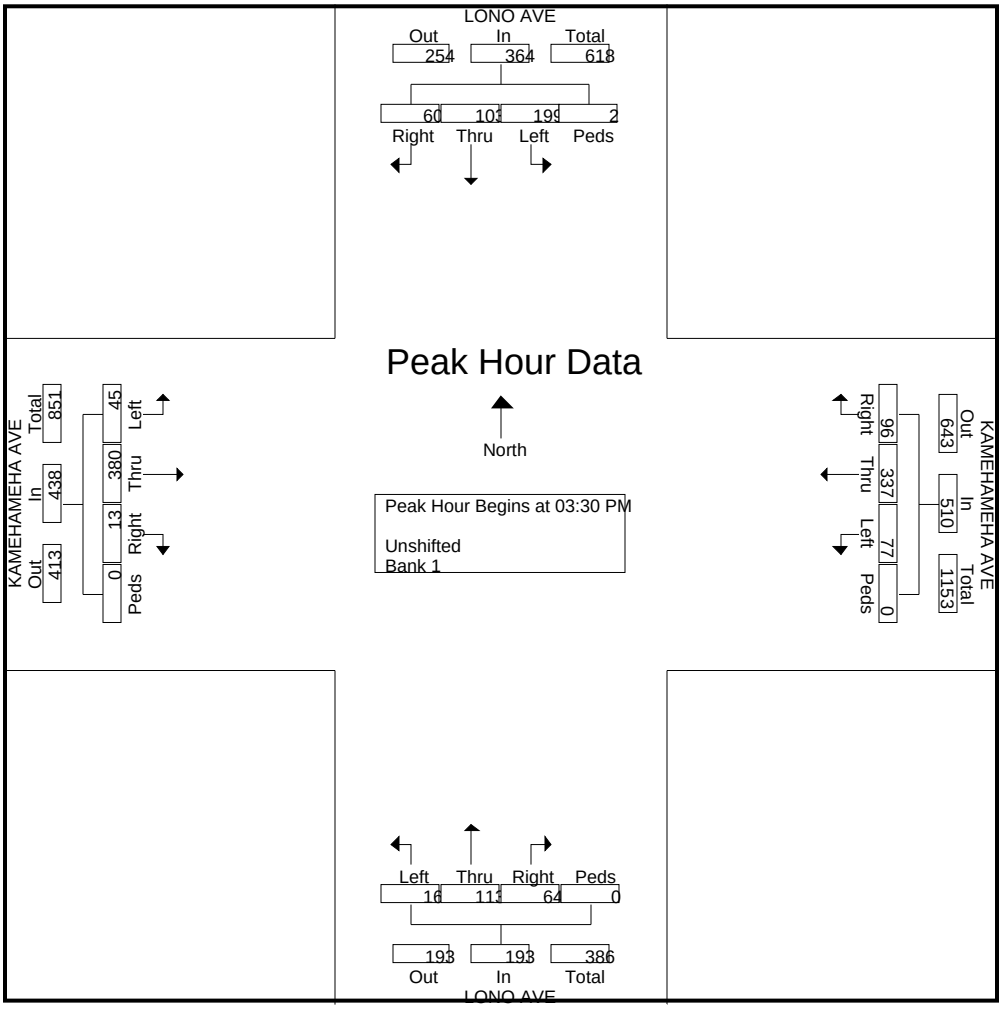
File Name : PM_Lono Ave - Kamehameha Ave
Site Code : 00000000
Start Date : 3/8/2017
Page No : 2

	LONO AVE Southbound					KAMEHAMEHA AVE Westbound					LONO AVE Northbound					KAMEHAMEHA AVE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:15 PM to 05:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:30 PM																					
03:30 PM	**59**	25	**16**	**1**	**101**	18	82	21	0	121	4	**32**	18	0	**54**	12	99	**4**	0	115	**391**
03:45 PM	50	**29**	16	0	95	13	81	25	0	119	1	30	18	0	49	**13**	**109**	4	0	**126**	389
04:00 PM	42	25	13	1	81	**25**	76	24	0	125	**6**	24	**19**	0	49	11	85	2	0	98	353
04:15 PM	48	24	15	0	87	21	**98**	**26**	0	**145**	5	27	9	0	41	9	87	3	0	99	372
Total Volume	199	103	60	2	364	77	337	96	0	510	16	113	64	0	193	45	380	13	0	438	1505
% App. Total	54.7	28.3	16.5	0.5		15.1	66.1	18.8	0		8.3	58.5	33.2	0		10.3	86.8	3	0		
PHF	.843	.888	.938	.500	.901	.770	.860	.923	.000	.879	.667	.883	.842	.000	.894	.865	.872	.813	.000	.869	.962



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File Name : Kaulawahine St - W. Kamehameha Ave
Site Code : 00000000
Start Date : 8/19/2020
Page No : 1

Groups Printed- Class 1

	SOUTHBOUND				W. KAMEHAMEHA AVE WESTBOUND				KAULAWAHINE ST NORTHBOUND				W. KAMEHAMEHA AVE EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
06:45 AM	0	0	0	0	2	27	0	0	0	0	2	0	0	53	1	0	85
Total	0	0	0	0	2	27	0	0	0	0	2	0	0	53	1	0	85
07:00 AM	0	0	0	0	0	33	0	0	0	0	2	0	0	68	2	0	105
07:15 AM	0	0	0	0	3	30	0	0	1	0	1	0	0	76	0	0	111
07:30 AM	0	0	0	0	4	43	0	0	1	0	7	0	0	66	1	0	122
07:45 AM	0	0	0	0	1	65	0	0	3	0	5	0	0	74	4	0	152
Total	0	0	0	0	8	171	0	0	5	0	15	0	0	284	7	0	490
08:00 AM	0	0	0	0	3	43	0	0	7	0	6	0	0	64	0	0	123
08:15 AM	0	0	0	0	1	51	0	0	0	0	3	0	0	54	1	0	110
08:30 AM	0	0	0	0	3	55	0	0	0	0	7	0	0	74	2	0	141
Grand Total	0	0	0	0	17	347	0	0	12	0	33	0	0	529	11	0	949
Apprch %	0	0	0	0	4.7	95.3	0	0	26.7	0	73.3	0	0	98	2	0	
Total %	0	0	0	0	1.8	36.6	0	0	1.3	0	3.5	0	0	55.7	1.2	0	

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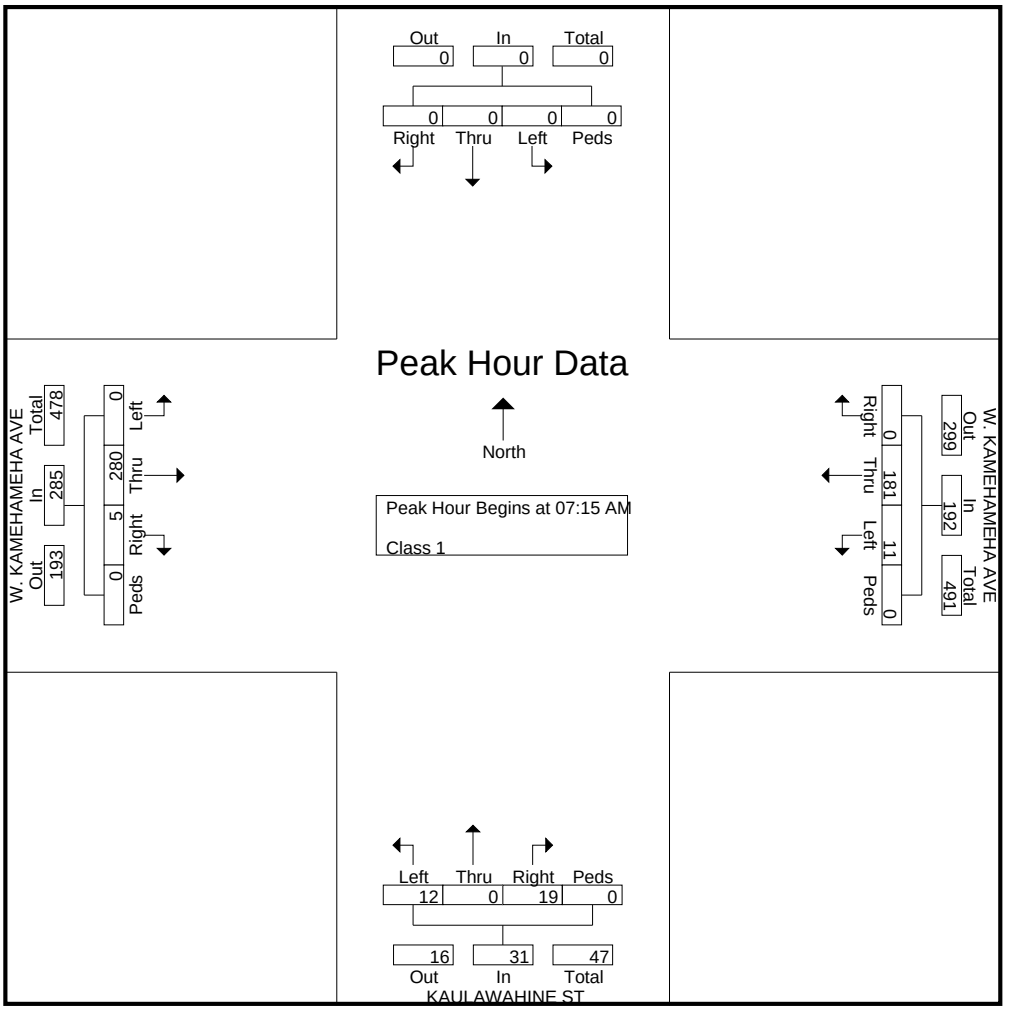
File Name : Kaulawahine St - W. Kamehameha Ave
Site Code : 00000000
Start Date : 8/19/2020
Page No : 2

	SOUTHBOUND					W. KAMEHAMEHA AVE WESTBOUND					KAULAWAHINE ST NORTHBOUND					W. KAMEHAMEHA AVE EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	0	0	0	3	30	0	0	33	1	0	1	0	2	0	**76**	0	0	76	111
07:30 AM	0	0	0	0	0	**4**	43	0	0	47	1	0	**7**	0	8	0	66	1	0	67	122
07:45 AM	0	0	0	0	0	1	**65**	0	0	**66**	3	0	5	0	8	0	74	**4**	0	**78**	**152**
08:00 AM	0	0	0	0	0	3	43	0	0	46	**7**	0	6	0	**13**	0	64	0	0	64	123
Total Volume	0	0	0	0	0	11	181	0	0	192	12	0	19	0	31	0	280	5	0	285	508
% App. Total																					
PHF	.000	.000	.000	.000	.000	.688	.696	.000	.000	.727	.429	.000	.679	.000	.596	.000	.921	.313	.000	.913	.836



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File Name : Kaulawahine St - W. Kamehameha Ave
Site Code : 00000000
Start Date : 8/19/2020
Page No : 1

Groups Printed- Class 1

	SOUTHBOUND				W. KAMEHAMEHA AVE WESTBOUND				KAULAWAHINE ST NORTHBOUND				W. KAMEHAMEHA AVE EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
03:15 PM	0	0	0	0	4	93	0	0	0	0	2	0	0	91	1	0	191
03:30 PM	0	0	0	0	3	98	0	0	0	0	5	0	0	112	0	0	218
03:45 PM	0	0	0	0	2	92	0	0	0	0	3	0	0	81	1	0	179
Total	0	0	0	0	9	283	0	0	0	0	10	0	0	284	2	0	588
04:00 PM	0	0	0	0	3	109	0	0	2	0	2	0	0	96	2	0	214
04:15 PM	0	0	0	0	2	112	0	0	0	0	2	0	0	128	2	0	246
04:30 PM	0	0	0	0	0	108	0	0	0	0	0	0	0	77	0	0	185
04:45 PM	0	0	0	0	0	88	0	0	0	0	2	0	0	82	2	0	174
Total	0	0	0	0	5	417	0	0	2	0	6	0	0	383	6	0	819
05:00 PM	0	0	0	0	5	98	0	0	1	0	2	0	0	79	4	0	189
Grand Total	0	0	0	0	19	798	0	0	3	0	18	0	0	746	12	0	1596
Apprch %	0	0	0	0	2.3	97.7	0	0	14.3	0	85.7	0	0	98.4	1.6	0	
Total %	0	0	0	0	1.2	50	0	0	0.2	0	1.1	0	0	46.7	0.8	0	

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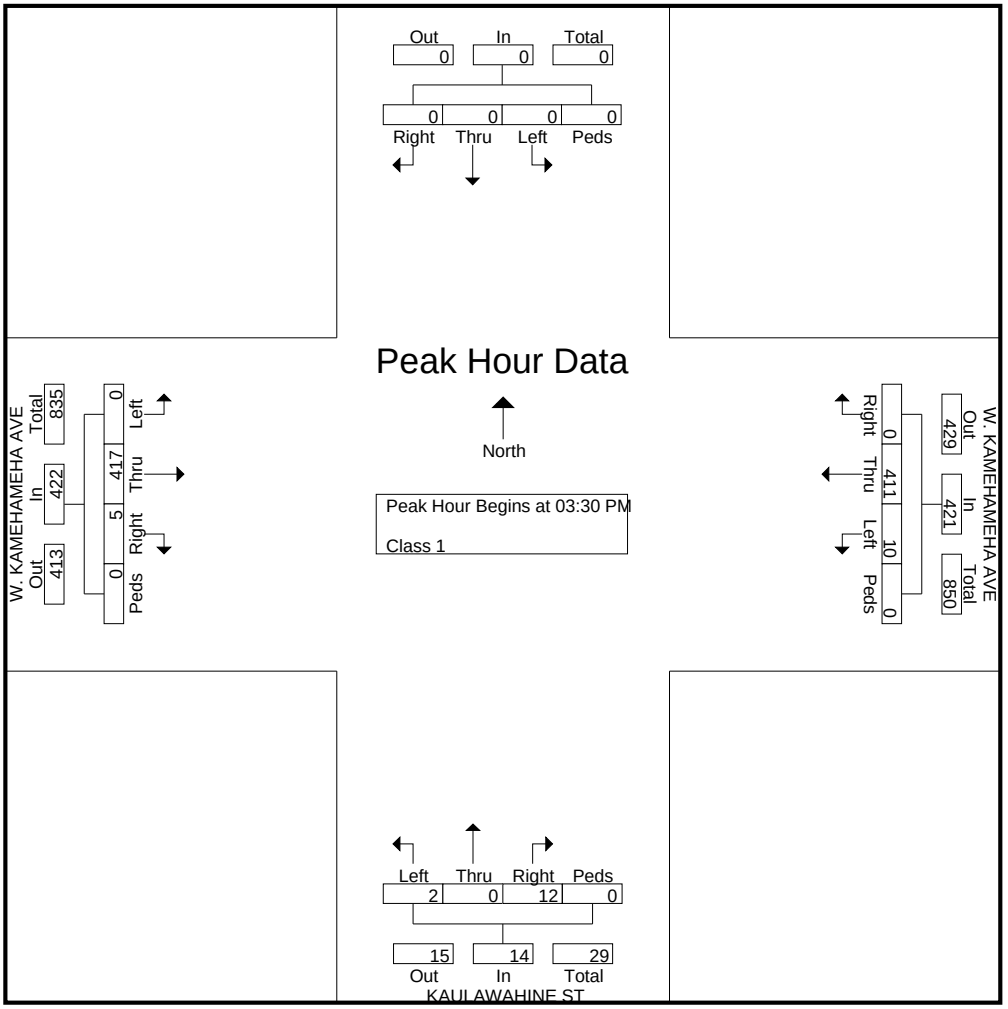
File Name : Kaulawahine St - W. Kamehameha Ave
Site Code : 00000000
Start Date : 8/19/2020
Page No : 2

	SOUTHBOUND					W. KAMEHAMEHA AVE WESTBOUND					KAULAWAHINE ST NORTHBOUND					W. KAMEHAMEHA AVE EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:15 PM to 05:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:30 PM																					
03:30 PM	0	0	0	0	0	**3**	98	0	0	101	0	0	**5**	0	**5**	0	112	0	0	112	218
03:45 PM	0	0	0	0	0	2	92	0	0	94	0	0	3	0	3	0	81	1	0	82	179
04:00 PM	0	0	0	0	0	3	109	0	0	112	**2**	0	2	0	4	0	96	**2**	0	98	214
04:15 PM	0	0	0	0	0	2	**112**	0	0	**114**	0	0	2	0	2	0	**128**	2	0	**130**	**246**
Total Volume	0	0	0	0	0	10	411	0	0	421	2	0	12	0	14	0	417	5	0	422	857
% App. Total	0	0	0	0		2.4	97.6	0	0		14.3	0	85.7	0		0	98.8	1.2	0		
PHF	.000	.000	.000	.000	.000	.833	.917	.000	.000	.923	.250	.000	.600	.000	.700	.000	.814	.625	.000	.812	.871



Austin Tsutsumi & Associates

1871 Wili Pa Loop STE.A
Wailuku, HI 96793
Phone: (808) 244-8044 Fax: (808) 242-9163

File Name : Kaulawahine St - W. Kamehameha Ave
Site Code : 00000000
Start Date : 8/19/2020
Page No : 1

Groups Printed- Class 1

	SOUTHBOUND				W. KAMEHAMEHA AVE WESTBOUND				KAULAWAHINE ST NORTHBOUND				W. KAMEHAMEHA AVE EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
06:00 AM	0	0	0	0	0	26	0	0	0	0	0	0	0	24	2	0	52
06:15 AM	0	0	0	0	0	30	0	0	1	0	0	0	0	38	1	0	70
06:30 AM	0	0	0	0	5	19	0	0	1	0	1	0	0	65	0	0	91
06:45 AM	0	0	0	0	2	27	0	0	0	0	2	0	0	53	1	0	85
Total	0	0	0	0	7	102	0	0	2	0	3	0	0	180	4	0	298
07:00 AM	0	0	0	0	0	33	0	0	0	0	2	0	0	68	2	0	105
07:15 AM	0	0	0	0	3	30	0	0	1	0	1	0	0	76	0	0	111
07:30 AM	0	0	0	0	4	43	0	0	1	0	7	0	0	66	1	0	122
07:45 AM	0	0	0	0	1	65	0	0	3	0	5	0	0	74	4	0	152
Total	0	0	0	0	8	171	0	0	5	0	15	0	0	284	7	0	490
08:00 AM	0	0	0	0	3	43	0	0	7	0	6	0	0	64	0	0	123
08:15 AM	0	0	0	0	1	51	0	0	0	0	3	0	0	54	1	0	110
08:30 AM	0	0	0	0	3	55	0	0	0	0	7	0	0	74	2	0	141
08:45 AM	0	0	7	0	2	73	0	0	0	0	4	0	0	80	3	0	169
Total	0	0	7	0	9	222	0	0	7	0	20	0	0	272	6	0	543
09:00 AM	0	0	0	0	2	56	0	0	2	0	6	0	0	65	0	0	131
09:15 AM	0	0	0	0	0	74	0	0	1	0	0	0	0	82	1	0	158
09:30 AM	0	0	0	0	3	63	0	0	1	0	9	0	0	83	1	0	160
09:45 AM	0	0	0	0	3	69	0	0	1	0	4	0	0	101	1	0	179
Total	0	0	0	0	8	262	0	0	5	0	19	0	0	331	3	0	628
10:00 AM	0	0	0	0	3	82	0	0	0	0	4	0	0	84	2	0	175
10:15 AM	0	0	0	0	2	69	0	0	3	0	4	0	0	89	3	0	170
10:30 AM	0	0	0	0	0	71	0	0	2	0	3	0	0	88	1	0	165
10:45 AM	0	0	0	0	4	87	0	0	1	0	6	0	0	80	3	0	181
Total	0	0	0	0	9	309	0	0	6	0	17	0	0	341	9	0	691
11:00 AM	0	0	0	0	0	85	0	0	0	0	2	0	0	86	3	0	176
11:15 AM	0	0	0	0	0	87	0	0	0	0	5	0	0	112	1	0	205
11:30 AM	0	0	0	0	3	108	0	0	2	0	8	0	0	102	2	0	225
11:45 AM	0	0	0	0	3	112	0	0	2	0	2	0	0	100	5	0	224
Total	0	0	0	0	6	392	0	0	4	0	17	0	0	400	11	0	830
12:00 PM	0	0	0	0	5	115	0	0	4	0	4	0	0	126	4	0	258
12:15 PM	0	0	0	0	6	104	0	0	1	0	4	0	0	102	2	0	219
12:30 PM	0	0	0	0	5	90	0	0	0	0	3	0	0	116	1	0	215
12:45 PM	0	0	0	0	2	80	0	0	1	0	5	0	0	78	0	0	166
Total	0	0	0	0	18	389	0	0	6	0	16	0	0	422	7	0	858
01:00 PM	0	0	0	0	9	91	0	0	3	0	2	0	0	89	0	0	194
01:15 PM	0	0	0	0	1	101	0	0	0	0	3	0	0	78	0	0	183
01:30 PM	0	0	0	0	3	94	0	0	0	0	4	0	0	103	0	0	204
01:45 PM	0	0	0	0	3	86	0	0	3	0	6	0	0	109	2	0	209
Total	0	0	0	0	16	372	0	0	6	0	15	0	0	379	2	0	790
02:00 PM	0	0	0	0	3	108	0	0	0	0	7	0	0	113	4	0	235
02:15 PM	0	0	0	0	4	106	0	0	0	0	4	0	0	86	1	0	201
02:30 PM	0	0	0	0	1	83	0	0	0	0	6	0	0	99	4	0	193
02:45 PM	0	0	0	0	5	91	0	0	1	0	9	0	0	103	0	0	209
Total	0	0	0	0	13	388	0	0	1	0	26	0	0	401	9	0	838

Austin Tsutsumi & Associates

1871 Wili Pa Loop STE.A
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File Name : Kaulawahine St - W. Kamehameha Ave
Site Code : 00000000
Start Date : 8/19/2020
Page No : 2

Groups Printed- Class 1

	SOUTHBOUND				W. KAMEHAMEHA AVE WESTBOUND				KAULAWAHINE ST NORTHBOUND				W. KAMEHAMEHA AVE EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
03:00 PM	0	0	0	0	1	90	0	0	0	0	0	0	0	104	0	0	195
03:15 PM	0	0	0	0	4	93	0	0	0	0	2	0	0	91	1	0	191
03:30 PM	0	0	0	0	3	98	0	0	0	0	5	0	0	112	0	0	218
03:45 PM	0	0	0	0	2	92	0	0	0	0	3	0	0	81	1	0	179
Total	0	0	0	0	10	373	0	0	0	0	10	0	0	388	2	0	783
04:00 PM	0	0	0	0	3	109	0	0	2	0	2	0	0	96	2	0	214
04:15 PM	0	0	0	0	2	112	0	0	0	0	2	0	0	128	2	0	246
04:30 PM	0	0	0	0	0	108	0	0	0	0	0	0	0	77	0	0	185
04:45 PM	0	0	0	0	0	88	0	0	0	0	2	0	0	82	2	0	174
Total	0	0	0	0	5	417	0	0	2	0	6	0	0	383	6	0	819
05:00 PM	0	0	0	0	5	98	0	0	1	0	2	0	0	79	4	0	189
05:15 PM	0	0	0	0	1	66	0	0	0	0	4	0	0	63	5	0	139
05:30 PM	0	0	0	0	3	70	0	0	2	0	5	0	0	56	3	0	139
05:45 PM	0	0	0	0	2	55	0	0	1	0	0	0	0	48	1	0	107
Total	0	0	0	0	11	289	0	0	4	0	11	0	0	246	13	0	574
Grand Total	0	0	7	0	120	3686	0	0	48	0	175	0	0	4027	79	0	8142
Apprch %	0	0	100	0	3.2	96.8	0	0	21.5	0	78.5	0	0	98.1	1.9	0	
Total %	0	0	0.1	0	1.5	45.3	0	0	0.6	0	2.1	0	0	49.5	1	0	

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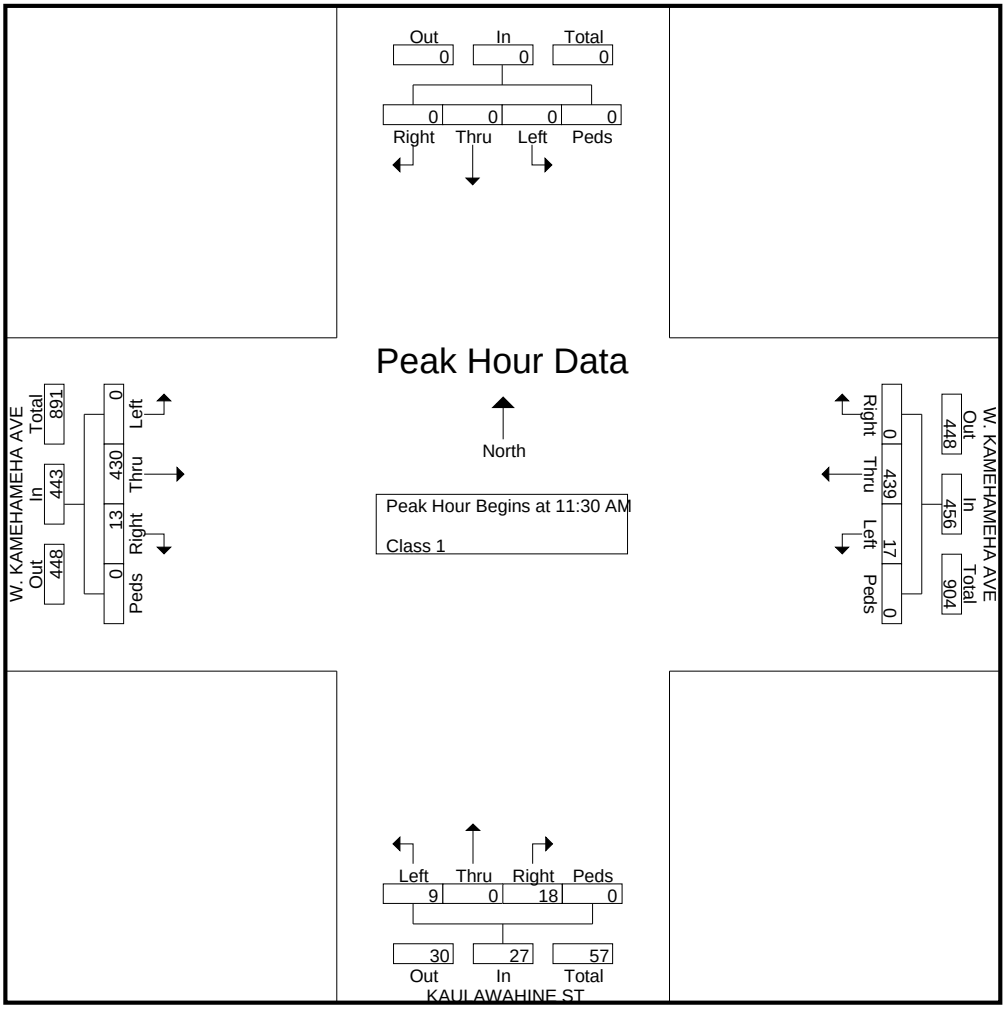
File Name : Kaulawahine St - W. Kamehameha Ave
Site Code : 00000000
Start Date : 8/19/2020
Page No : 3

	SOUTHBOUND					W. KAMEHAMEHA AVE WESTBOUND					KAULAWAHINE ST NORTHBOUND					W. KAMEHAMEHA AVE EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:30 AM																					
11:30 AM	0	0	0	0	0	3	108	0	0	111	2	0	**8**	0	**10**	0	102	2	0	104	225
11:45 AM	0	0	0	0	0	3	112	0	0	115	2	0	2	0	4	0	100	**5**	0	105	224
12:00 PM	0	0	0	0	0	5	**115**	0	0	**120**	**4**	0	4	0	8	0	**126**	4	0	**130**	**258**
12:15 PM	0	0	0	0	0	**6**	104	0	0	110	1	0	4	0	5	0	102	2	0	104	219
Total Volume	0	0	0	0	0	17	439	0	0	456	9	0	18	0	27	0	430	13	0	443	926
% App. Total	0	0	0	0		3.7	96.3	0	0		33.3	0	66.7	0		0	97.1	2.9	0		
PHF	.000	.000	.000	.000	.000	.708	.954	.000	.000	.950	.563	.000	.563	.000	.675	.000	.853	.650	.000	.852	.897



Austin Tsutsumi & Associates

501 Sumner Street, Suite 521
Honolulu, HI 96817-5031
Phone: 533-3646 Fax: 526-1267

File Name : Puunene Ave - Kamehameha Ave
Site Code : 16-014.07 Maui DOT Signal Optimization
Start Date : 5/10/2018
Page No : 1

Groups Printed- Motorcycles - Cars & Light Goods - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	PUUNENE AVE SOUTHBOUND				KAMEHAMEHA AVE WESTBOUND				PUUNENE AVE NORTHBOUND				KAMEHAMEHA AVE EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
06:45	3	90	3	0	7	35	11	0	14	71	14	2	4	55	28	0	337
Total	3	90	3	0	7	35	11	0	14	71	14	2	4	55	28	0	337
07:00	23	102	1	0	7	37	17	0	18	106	9	2	5	39	19	2	387
07:15	26	110	3	0	15	23	18	0	25	129	20	5	5	83	30	6	498
07:30	22	116	2	0	9	43	15	0	32	110	19	2	11	81	36	3	501
07:45	27	115	2	0	17	42	21	1	26	116	16	0	15	93	30	2	523
Total	98	443	8	0	48	145	71	1	101	461	64	9	36	296	115	13	1909
08:00	22	108	4	0	16	42	23	0	18	103	23	0	15	91	34	2	501
08:15	23	87	6	0	20	39	22	0	21	98	21	0	13	60	19	3	432
08:30	28	115	4	0	16	45	33	2	28	122	17	0	7	54	18	3	492
Grand Total	174	843	25	0	107	306	160	3	182	855	139	11	75	556	214	21	3671
Apprch %	16.7	80.9	2.4	0	18.6	53.1	27.8	0.5	15.3	72	11.7	0.9	8.7	64.2	24.7	2.4	
Total %	4.7	23	0.7	0	2.9	8.3	4.4	0.1	5	23.3	3.8	0.3	2	15.1	5.8	0.6	
Motorcycles	1	4	0	0	0	0	0	0	0	1	0	0	0	1	0	0	7
% Motorcycles	0.6	0.5	0	0	0	0	0	0	0	0.1	0	0	0	0.2	0	0	0.2
Cars & Light Goods	166	801	24	0	103	295	153	0	179	836	134	0	75	530	205	0	3501
% Cars & Light Goods	95.4	95	96	0	96.3	96.4	95.6	0	98.4	97.8	96.4	0	100	95.3	95.8	0	95.4
Buses	3	12	0	0	1	6	2	0	2	7	0	0	0	7	5	0	45
% Buses	1.7	1.4	0	0	0.9	2	1.2	0	1.1	0.8	0	0	0	1.3	2.3	0	1.2
Single-Unit Trucks	3	14	0	0	3	3	3	0	0	10	0	0	0	14	4	0	54
% Single-Unit Trucks	1.7	1.7	0	0	2.8	1	1.9	0	0	1.2	0	0	0	2.5	1.9	0	1.5
Articulated Trucks	1	11	0	0	0	2	0	0	1	1	5	0	0	4	0	0	25
% Articulated Trucks	0.6	1.3	0	0	0	0.7	0	0	0.5	0.1	3.6	0	0	0.7	0	0	0.7
Bicycles on Road	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	4
% Bicycles on Road	0	0.1	4	0	0	0	1.2	0	0	0	0	0	0	0	0	0	0.1
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	3	0	0	0	11	0	0	0	21	35
% Pedestrians	0	0	0	0	0	0	0	100	0	0	0	100	0	0	0	100	1

Austin Tsutsumi & Associates

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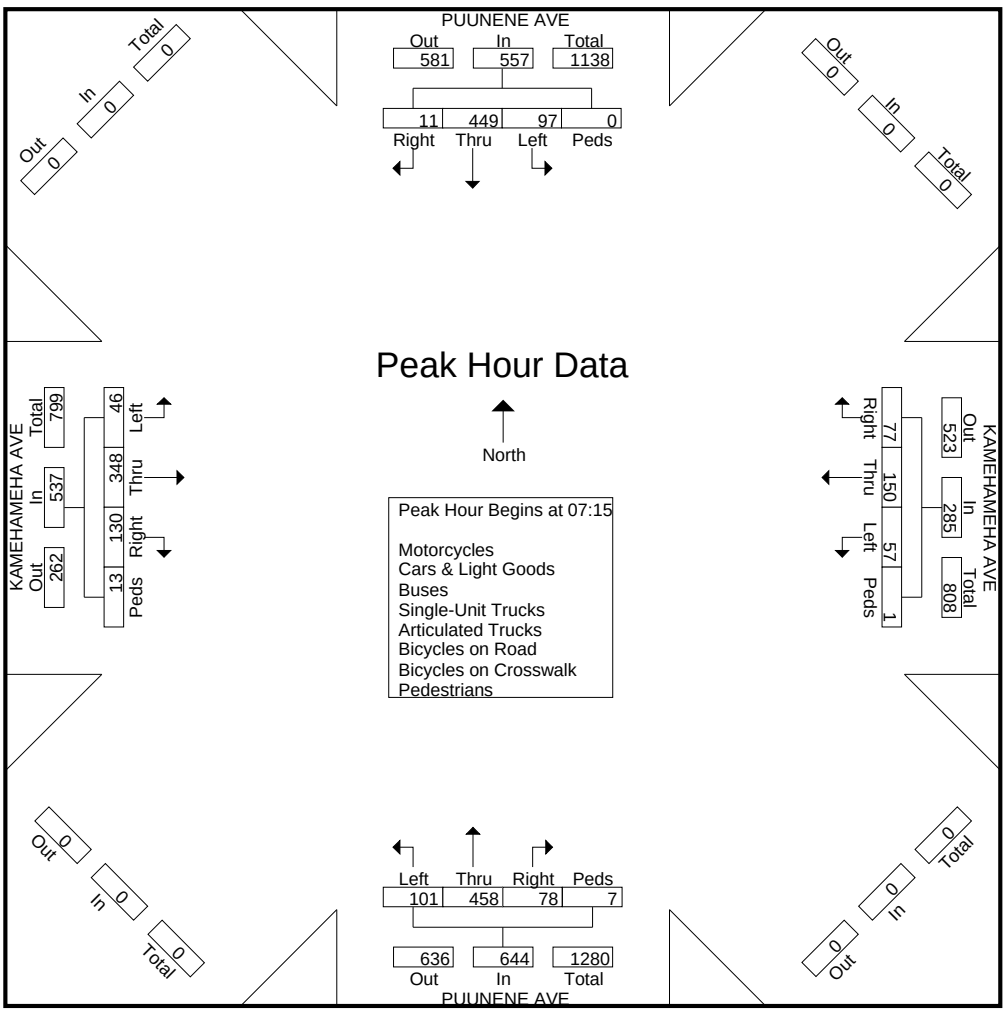
Phone: 533-3646 Fax: 526-1267

File Name : Puunene Ave - Kamehameha Ave
Site Code : 16-014.07 Maui DOT Signal Optimization
Start Date : 5/10/2018
Page No : 2

	PUUNENE AVE SOUTHBOUND					KAMEHAMEHA AVE WESTBOUND					PUUNENE AVE NORTHBOUND					KAMEHAMEHA AVE EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:45 to 08:30 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	26	110	3	0	139	15	23	18	0	56	25	**129**	20	**5**	**179**	5	83	30	**6**	124	498
07:30	22	**116**	2	0	140	9	**43**	15	0	67	**32**	110	19	2	163	11	81	**36**	3	131	501
07:45	**27**	115	2	0	**144**	**17**	42	21	**1**	**81**	26	116	16	0	158	**15**	**93**	30	2	140	**523**
08:00	22	108	**4**	0	134	16	42	**23**	0	81	18	103	**23**	0	144	15	91	34	2	**142**	501
Total Volume	97	449	11	0	557	57	150	77	1	285	101	458	78	7	644	46	348	130	13	537	2023
% App. Total	17.4	80.6	2	0		20	52.6	27	0.4		15.7	71.1	12.1	1.1		8.6	64.8	24.2	2.4		
PHF	.898	.968	.688	.000	.967	.838	.872	.837	.250	.880	.789	.888	.848	.350	.899	.767	.935	.903	.542	.945	.967



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File Name : Puunene Ave - Kamehameha Ave
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Start Date : 5/10/2018
Page No : 1

Groups Printed- Motorcycles - Cars & Light Goods - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	PUUNENE AVE SOUTHBOUND				KAMEHAMEHA AVE WESTBOUND				PUUNENE AVE NORTHBOUND				KAMEHAMEHA AVE EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
15:30	34	109	16	0	41	106	66	0	28	129	14	5	12	86	38	1	685
15:45	32	112	10	0	44	82	56	0	36	177	10	0	26	76	42	0	703
Total	66	221	26	0	85	188	122	0	64	306	24	5	38	162	80	1	1388
16:00	39	115	20	0	33	98	80	0	30	173	20	3	21	67	30	1	730
16:15	47	113	13	0	30	101	53	0	51	110	31	10	21	75	42	2	699
Grand Total	152	449	59	0	148	387	255	0	145	589	75	18	80	304	152	4	2817
Apprch %	23	68	8.9	0	18.7	49	32.3	0	17.5	71.2	9.1	2.2	14.8	56.3	28.1	0.7	
Total %	5.4	15.9	2.1	0	5.3	13.7	9.1	0	5.1	20.9	2.7	0.6	2.8	10.8	5.4	0.1	
Motorcycles	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	3
% Motorcycles	0	0	0	0	0	0	0.4	0	0.7	0.2	0	0	0	0	0	0	0.1
Cars & Light Goods	151	443	59	0	147	381	253	0	142	578	75	0	80	303	149	0	2761
% Cars & Light Goods	99.3	98.7	100	0	99.3	98.4	99.2	0	97.9	98.1	100	0	100	99.7	98	0	98
Buses	1	3	0	0	1	4	1	0	1	4	0	0	0	1	1	0	17
% Buses	0.7	0.7	0	0	0.7	1	0.4	0	0.7	0.7	0	0	0	0.3	0.7	0	0.6
Single-Unit Trucks	0	2	0	0	0	2	0	0	1	4	0	0	0	0	2	0	11
% Single-Unit Trucks	0	0.4	0	0	0	0.5	0	0	0.7	0.7	0	0	0	0	1.3	0	0.4
Articulated Trucks	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
% Articulated Trucks	0	0	0	0	0	0	0	0	0	0.3	0	0	0	0	0	0	0.1
Bicycles on Road	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Bicycles on Road	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	18	0	0	0	4	22
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	100	0.8

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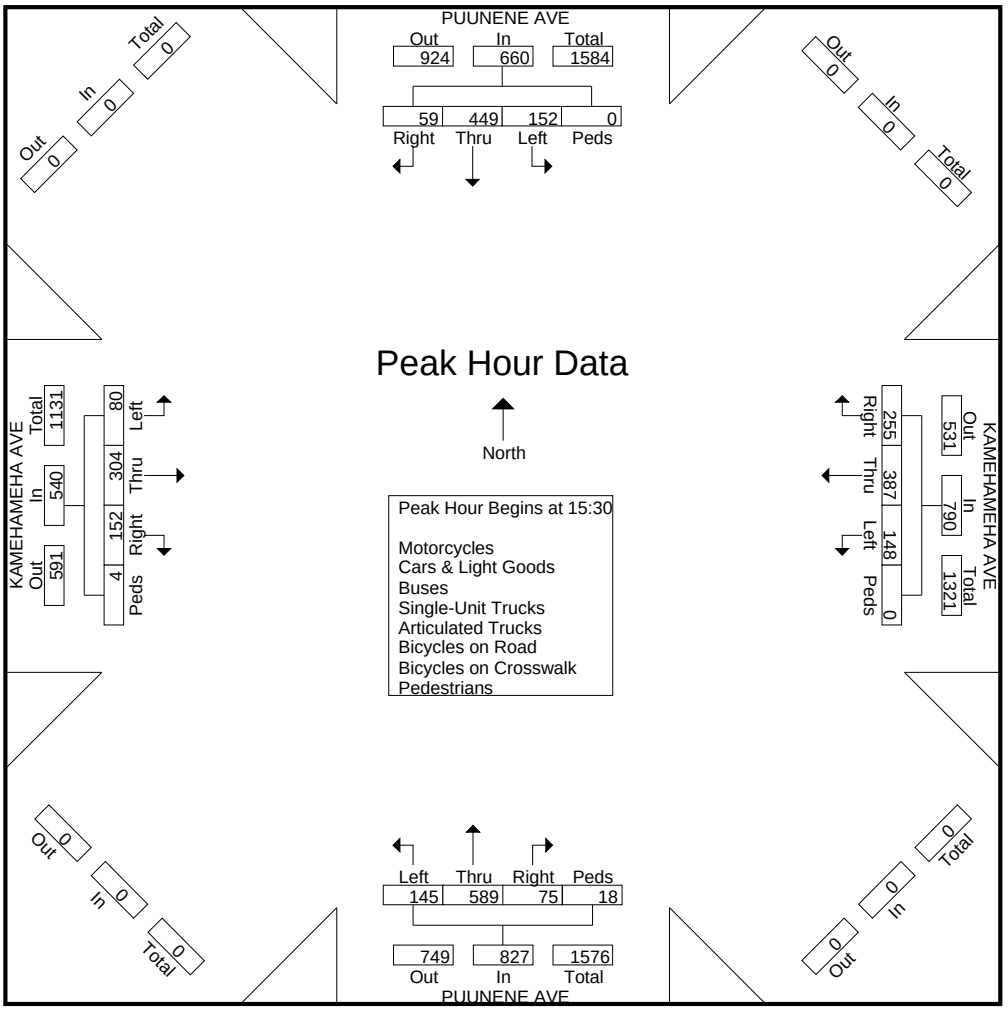
File Name : Puunene Ave - Kamehameha Ave
Site Code : 16-014.07 Maui DOT Signal Optimization
Start Date : 5/10/2018
Page No : 2

	PUUNENE AVE SOUTHBOUND					KAMEHAMEHA AVE WESTBOUND					PUUNENE AVE NORTHBOUND					KAMEHAMEHA AVE EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 15:30 to 16:15 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 15:30																					
15:30	34	109	16	0	159	41	**106**	66	0	**213**	28	129	14	5	176	12	**86**	38	1	137	685
15:45	32	112	10	0	154	**44**	82	56	0	182	36	**177**	10	0	223	**26**	76	**42**	0	**144**	703
16:00	39	**115**	**20**	0	**174**	33	98	**80**	0	211	30	173	20	3	**226**	21	67	30	1	119	**730**
16:15	**47**	113	13	0	173	30	101	53	0	184	**51**	110	**31**	**10**	202	21	75	42	**2**	140	699
Total Volume	152	449	59	0	660	148	387	255	0	790	145	589	75	18	827	80	304	152	4	540	2817
% App. Total	23	68	8.9	0		18.7	49	32.3	0		17.5	71.2	9.1	2.2		14.8	56.3	28.1	0.7		
PHF	.809	.976	.738	.000	.948	.841	.913	.797	.000	.927	.711	.832	.605	.450	.915	.769	.884	.905	.500	.938	.965



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1871 Wili Pa Loop STE.A
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File Name : Lono Ave - W. Kane St
Site Code : 20-526 Kahului Affordable Housing Project TIAR
Start Date : 8/19/2020
Page No : 1

Groups Printed- Motorcycles - Cars & Light Goods - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	LONO AVE SOUTHBOUND				W. KANE ST WESTBOUND				LONO AVE NORTHBOUND				W. KANE ST EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
06:45 AM	1	17	0	1	0	1	2	0	0	42	0	0	0	0	3	1	68
Total	1	17	0	1	0	1	2	0	0	42	0	0	0	0	3	1	68
07:00 AM	1	12	0	0	0	2	1	0	0	31	0	0	1	2	2	0	52
07:15 AM	0	17	0	0	1	0	1	0	1	41	1	0	0	0	5	3	70
07:30 AM	0	22	0	1	0	1	2	0	0	50	0	0	0	2	4	0	82
07:45 AM	0	21	0	2	0	0	2	0	3	45	0	0	0	3	2	0	78
Total	1	72	0	3	1	3	6	0	4	167	1	0	1	7	13	3	282
08:00 AM	0	16	0	0	0	4	0	1	2	32	0	0	1	1	6	0	63
08:15 AM	1	17	0	0	0	1	1	0	2	27	2	0	0	4	2	1	58
08:30 AM	0	19	1	0	0	1	0	0	1	35	0	0	1	0	2	0	60
Grand Total	3	141	1	4	1	10	9	1	9	303	3	0	3	12	26	5	531
Apprch %	2	94.6	0.7	2.7	4.8	47.6	42.9	4.8	2.9	96.2	1	0	6.5	26.1	56.5	10.9	
Total %	0.6	26.6	0.2	0.8	0.2	1.9	1.7	0.2	1.7	57.1	0.6	0	0.6	2.3	4.9	0.9	
Motorcycles	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3
% Motorcycles	0	1.4	0	0	0	0	0	0	0	0.3	0	0	0	0	0	0	0.6
Cars & Light Goods	3	136	0	0	1	10	7	0	9	297	3	0	3	12	24	0	505
% Cars & Light Goods	100	96.5	0	0	100	100	77.8	0	100	98	100	0	100	100	92.3	0	95.1
Buses	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
% Buses	0	0	0	0	0	0	0	0	0	0.7	0	0	0	0	0	0	0.4
Single-Unit Trucks	0	1	1	0	0	0	1	0	0	3	0	0	0	0	2	0	8
% Single-Unit Trucks	0	0.7	100	0	0	0	11.1	0	0	1	0	0	0	0	7.7	0	1.5
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Road	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3
% Bicycles on Road	0	1.4	0	0	0	0	11.1	0	0	0	0	0	0	0	0	0	0.6
Bicycles on Crosswalk	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% Bicycles on Crosswalk	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0.2
Pedestrians	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	5	9
% Pedestrians	0	0	0	75	0	0	0	100	0	0	0	0	0	0	0	100	1.7

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File Name : Lono Ave - W. Kane St
Site Code : 20-526 Kahului Affordable Housing Project TIAR
Start Date : 8/19/2020
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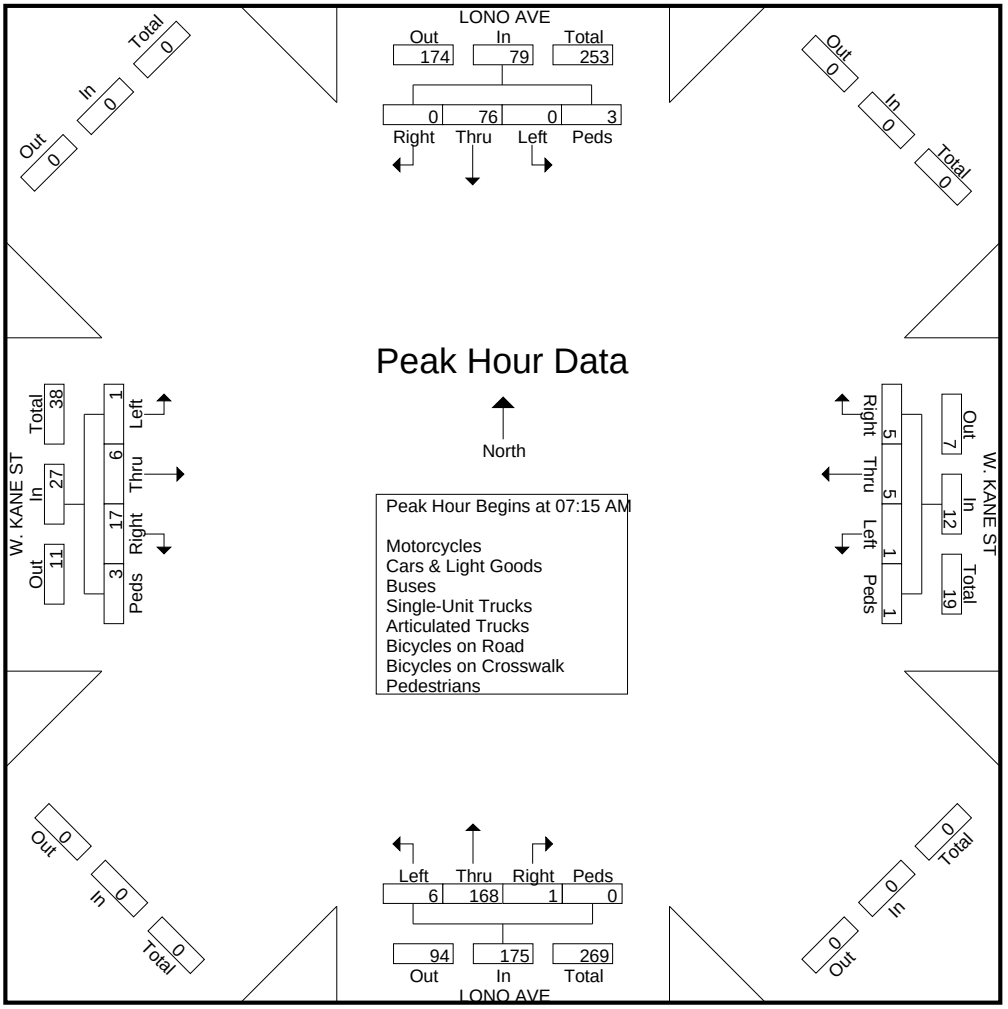
	LONO AVE SOUTHBOUND					W. KANE ST WESTBOUND					LONO AVE NORTHBOUND					W. KANE ST EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	17	0	0	17	**1**	0	1	0	2	1	41	**1**	0	43	0	0	5	**3**	**8**	70
07:30 AM	0	**22**	0	1	**23**	0	1	**2**	0	3	0	**50**	0	0	**50**	0	2	4	0	6	**82**
07:45 AM	0	21	0	**2**	23	0	0	2	0	2	**3**	45	0	0	48	0	**3**	2	0	5	78
08:00 AM	0	16	0	0	16	0	**4**	0	**1**	**5**	2	32	0	0	34	**1**	1	**6**	0	8	63
Total Volume	0	76	0	3	79	1	5	5	1	12	6	168	1	0	175	1	6	17	3	27	293
% App. Total	0	96.2	0	3.8		8.3	41.7	41.7	8.3		3.4	96	0.6	0		3.7	22.2	63	11.1		
PHF	.000	.864	.000	.375	.859	.250	.313	.625	.250	.600	.500	.840	.250	.000	.875	.250	.500	.708	.250	.844	.893



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File Name : Lono Ave - W. Kane St
Site Code : 20-526 Kahului Affordable Housing Project TIAR
Start Date : 8/19/2020
Page No : 1

Groups Printed- Motorcycles - Cars & Light Goods - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	LONO AVE SOUTHBOUND				W. KANE ST WESTBOUND				LONO AVE NORTHBOUND				W. KANE ST EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
03:15 PM	0	36	0	1	0	0	0	0	4	38	0	0	0	0	5	2	86
03:30 PM	0	34	0	0	1	1	0	0	3	36	0	0	0	0	5	0	80
03:45 PM	1	29	1	0	0	2	2	0	4	40	1	0	0	0	4	1	85
Total	1	99	1	1	1	3	2	0	11	114	1	0	0	0	14	3	251
04:00 PM	2	44	1	1	2	0	2	0	4	29	2	0	1	1	9	0	98
04:15 PM	1	49	0	0	1	2	4	0	3	39	0	0	1	1	5	0	106
04:30 PM	3	34	0	1	1	1	4	0	7	30	0	0	0	3	7	0	91
04:45 PM	2	39	0	0	0	4	7	1	1	34	2	0	0	5	3	0	98
Total	8	166	1	2	4	7	17	1	15	132	4	0	2	10	24	0	393
05:00 PM	0	43	1	0	1	0	4	0	6	23	0	0	0	0	8	1	87
Grand Total	9	308	3	3	6	10	23	1	32	269	5	0	2	10	46	4	731
Apprch %	2.8	95.4	0.9	0.9	15	25	57.5	2.5	10.5	87.9	1.6	0	3.2	16.1	74.2	6.5	
Total %	1.2	42.1	0.4	0.4	0.8	1.4	3.1	0.1	4.4	36.8	0.7	0	0.3	1.4	6.3	0.5	
Motorcycles	0	2	0	0	0	1	0	0	0	3	0	0	0	0	1	0	7
% Motorcycles	0	0.6	0	0	0	10	0	0	0	1.1	0	0	0	0	2.2	0	1
Cars & Light Goods	9	303	3	0	6	9	21	0	32	262	5	0	2	10	44	0	706
% Cars & Light Goods	100	98.4	100	0	100	90	91.3	0	100	97.4	100	0	100	100	95.7	0	96.6
Buses	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
% Buses	0	0.3	0	0	0	0	0	0	0	0.4	0	0	0	0	0	0	0.3
Single-Unit Trucks	0	2	0	0	0	0	2	0	0	3	0	0	0	0	1	0	8
% Single-Unit Trucks	0	0.6	0	0	0	0	8.7	0	0	1.1	0	0	0	0	2.2	0	1.1
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Crosswalk	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	3
% Bicycles on Crosswalk	0	0	0	66.7	0	0	0	0	0	0	0	0	0	0	0	25	0.4
Pedestrians	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	3	5
% Pedestrians	0	0	0	33.3	0	0	0	100	0	0	0	0	0	0	0	75	0.7

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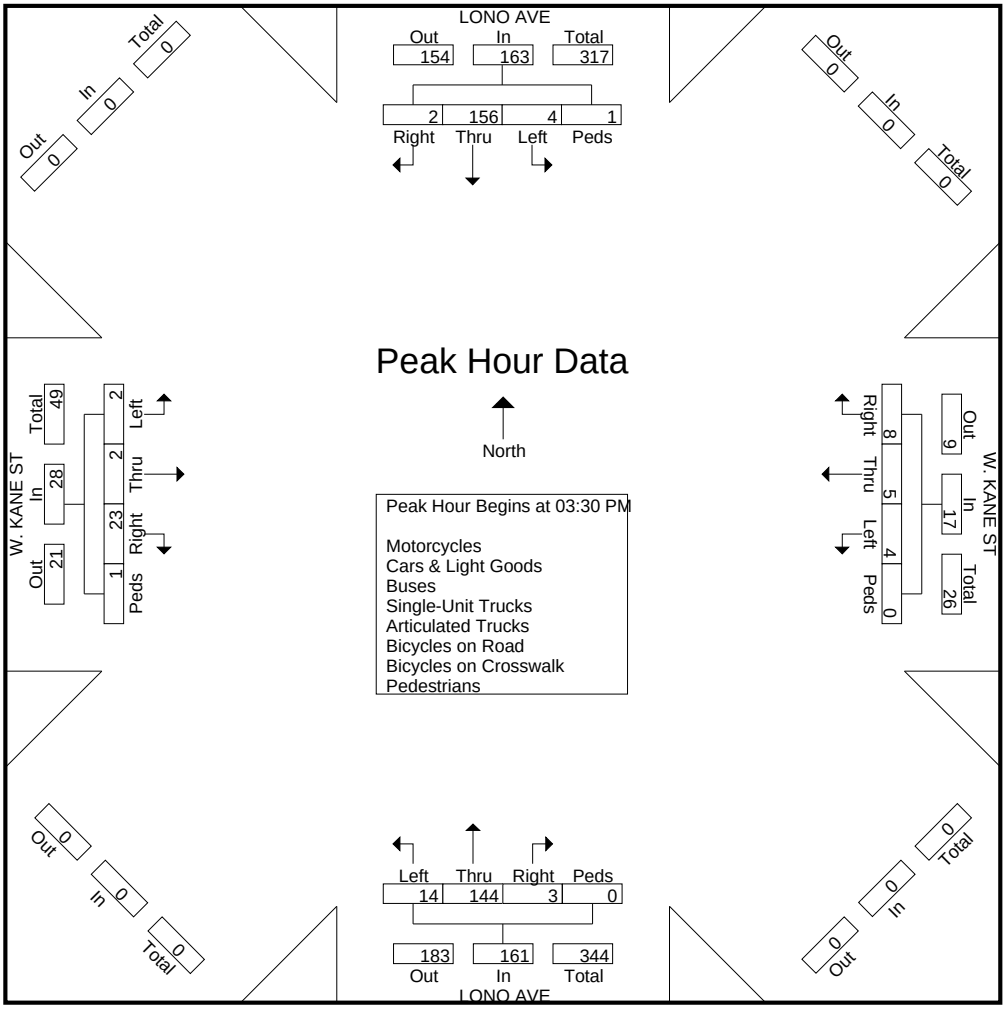
File Name : Lono Ave - W. Kane St
Site Code : 20-526 Kahului Affordable Housing Project TIAR
Start Date : 8/19/2020
Page No : 2

	LONO AVE SOUTHBOUND					W. KANE ST WESTBOUND					LONO AVE NORTHBOUND					W. KANE ST EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:30 PM to 04:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:30 PM																					
03:30 PM	0	34	0	0	34	1	1	0	0	2	3	36	0	0	39	0	0	5	0	5	80
03:45 PM	1	29	**1**	0	31	0	**2**	2	0	4	**4**	**40**	1	0	**45**	0	0	4	**1**	5	85
04:00 PM	**2**	44	1	**1**	48	**2**	0	2	0	4	4	29	**2**	0	35	**1**	**1**	**9**	0	**11**	98
04:15 PM	1	**49**	0	0	**50**	1	2	**4**	0	**7**	3	39	0	0	42	1	1	5	0	7	**106**
Total Volume	4	156	2	1	163	4	5	8	0	17	14	144	3	0	161	2	2	23	1	28	369
% App. Total	2.5	95.7	1.2	0.6		23.5	29.4	47.1	0		8.7	89.4	1.9	0		7.1	7.1	82.1	3.6		
PHF	.500	.796	.500	.250	.815	.500	.625	.500	.000	.607	.875	.900	.375	.000	.894	.500	.500	.639	.250	.636	.870



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File Name : Kaulawahine St - W. Kane St
Site Code : 20-526 Kahului Affordable Housing Project TIAR
Start Date : 8/19/2020
Page No : 1

Groups Printed- Motorcycles - Cars & Light Goods - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	KAULAWAHINE ST SOUTHBOUND				KAHULUI POOL DWY WESTBOUND				KAULAWAHINE ST NORTHBOUND				W. KANE ST EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
06:45 AM	2	2	2	13	0	0	0	7	0	2	0	3	2	0	1	1	35
Total	2	2	2	13	0	0	0	7	0	2	0	3	2	0	1	1	35
07:00 AM	0	0	2	0	0	0	0	0	0	0	2	0	1	1	1	0	7
07:15 AM	0	1	0	0	1	0	0	0	0	3	1	1	1	0	0	0	8
07:30 AM	1	3	2	2	0	0	0	0	0	6	0	0	1	0	0	1	16
07:45 AM	0	2	3	0	0	0	0	0	0	6	0	0	0	1	2	0	14
Total	1	6	7	2	1	0	0	0	0	15	3	1	3	2	3	1	45
08:00 AM	1	3	1	5	1	0	3	0	4	3	0	0	3	0	4	0	28
08:15 AM	1	3	0	0	0	0	1	0	0	2	1	0	0	1	2	0	11
08:30 AM	0	2	0	0	0	0	3	0	1	5	0	0	0	0	1	0	12
Grand Total	5	16	10	20	2	0	7	7	5	27	4	4	8	3	11	2	131
Apprch %	9.8	31.4	19.6	39.2	12.5	0	43.8	43.8	12.5	67.5	10	10	33.3	12.5	45.8	8.3	
Total %	3.8	12.2	7.6	15.3	1.5	0	5.3	5.3	3.8	20.6	3.1	3.1	6.1	2.3	8.4	1.5	
Motorcycles	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	3
% Motorcycles	0	6.2	0	0	0	0	14.3	0	0	0	25	0	0	0	0	0	2.3
Cars & Light Goods	5	13	8	0	2	0	5	0	5	25	2	0	8	3	11	0	87
% Cars & Light Goods	100	81.2	80	0	100	0	71.4	0	100	92.6	50	0	100	100	100	0	66.4
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single-Unit Trucks	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Single-Unit Trucks	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Road	0	2	1	0	0	0	1	0	0	2	1	0	0	0	0	0	7
% Bicycles on Road	0	12.5	10	0	0	0	14.3	0	0	7.4	25	0	0	0	0	0	5.3
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	20	0	0	0	7	0	0	0	4	0	0	0	2	33
% Pedestrians	0	0	0	100	0	0	0	100	0	0	0	100	0	0	0	100	25.2

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File Name : Kaulawahine St - W. Kane St
Site Code : 20-526 Kahului Affordable Housing Project TIAR
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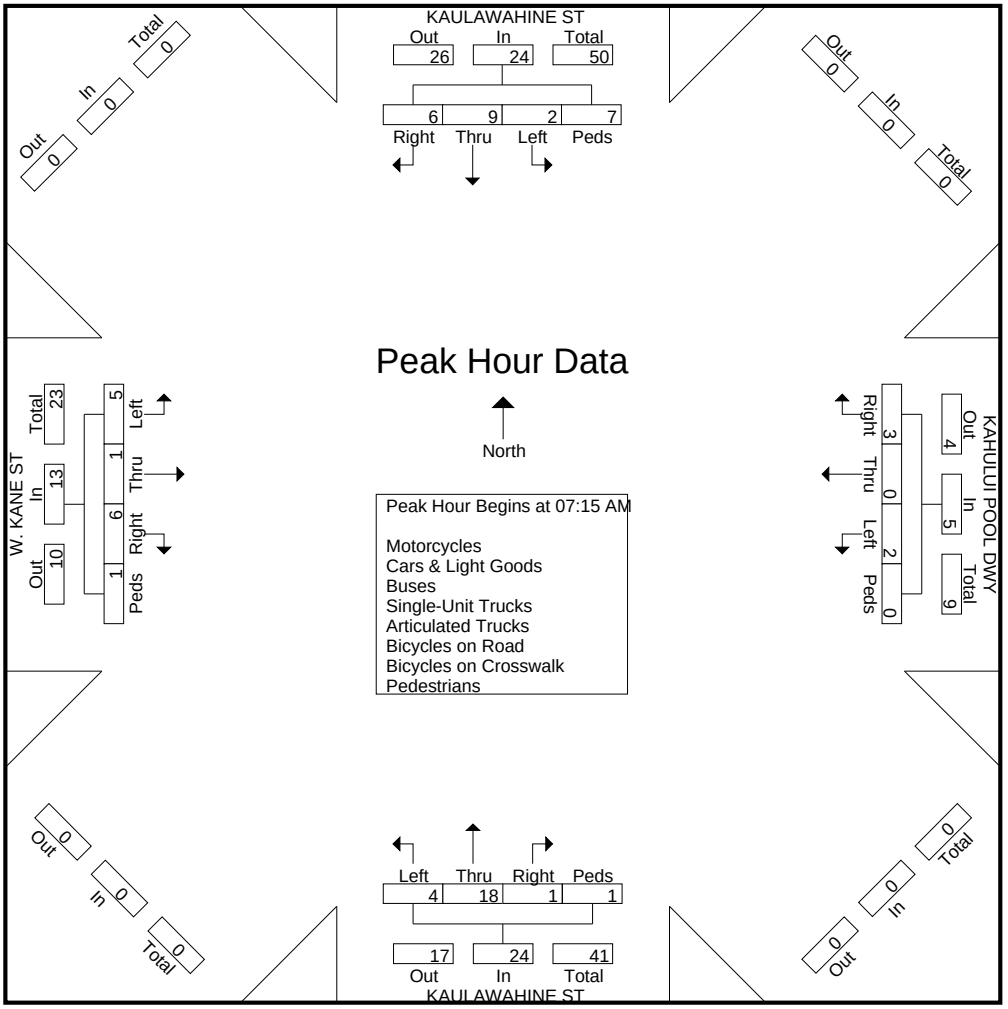
	KAULAWAHINE ST SOUTHBOUND					KAHULUI POOL DWY WESTBOUND					KAULAWAHINE ST NORTHBOUND					W. KANE ST EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	1	0	0	1	**1**	0	0	0	1	0	3	**1**	**1**	5	1	0	0	0	1	8
07:30 AM	**1**	**3**	2	2	8	0	0	0	0	0	0	**6**	0	0	6	1	0	0	**1**	2	16
07:45 AM	0	2	**3**	0	5	0	0	0	0	0	0	6	0	0	6	0	**1**	2	0	3	14
08:00 AM	1	3	1	**5**	**10**	1	0	**3**	0	**4**	**4**	3	0	0	**7**	**3**	0	**4**	0	**7**	**28**
Total Volume	2	9	6	7	24	2	0	3	0	5	4	18	1	1	24	5	1	6	1	13	66
% App. Total	8.3	37.5	25	29.2		40	0	60	0		16.7	75	4.2	4.2		38.5	7.7	46.2	7.7		
PHF	.500	.750	.500	.350	.600	.500	.000	.250	.000	.313	.250	.750	.250	.250	.857	.417	.250	.375	.250	.464	.589



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Groups Printed- Motorcycles - Cars & Light Goods - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	KAULAWAHINE ST SOUTHBOUND				KAHULUI POOL DWY WESTBOUND				KAULAWAHINE ST NORTHBOUND				W. KANE ST EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
03:15 PM	0	4	0	0	0	0	0	0	1	2	0	0	0	0	1	0	8
03:30 PM	0	2	0	0	0	0	0	0	3	5	0	0	0	0	0	0	10
03:45 PM	0	3	1	0	2	2	1	0	1	2	0	0	0	0	0	0	12
Total	0	9	1	0	2	2	1	0	5	9	0	0	0	0	1	0	30
04:00 PM	0	3	2	0	1	0	1	0	0	5	1	0	3	0	1	0	17
04:15 PM	0	3	2	0	0	1	0	0	2	1	0	0	0	0	2	0	11
04:30 PM	0	0	1	0	1	0	0	4	7	2	1	0	1	0	3	2	22
04:45 PM	0	1	1	0	5	3	1	4	6	3	0	0	1	5	1	0	31
Total	0	7	6	0	7	4	2	8	15	11	2	0	5	5	7	2	81
05:00 PM	0	5	5	0	0	0	0	0	1	3	0	2	0	0	1	0	17
Grand Total	0	21	12	0	9	6	3	8	21	23	2	2	5	5	9	2	128
Apprch %	0	63.6	36.4	0	34.6	23.1	11.5	30.8	43.8	47.9	4.2	4.2	23.8	23.8	42.9	9.5	
Total %	0	16.4	9.4	0	7	4.7	2.3	6.2	16.4	18	1.6	1.6	3.9	3.9	7	1.6	
Motorcycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Motorcycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars & Light Goods	0	19	10	0	9	6	3	0	21	22	2	0	4	5	9	0	110
% Cars & Light Goods	0	90.5	83.3	0	100	100	100	0	100	95.7	100	0	80	100	100	0	85.9
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single-Unit Trucks	0	1	2	0	0	0	0	0	0	1	0	0	0	0	0	0	4
% Single-Unit Trucks	0	4.8	16.7	0	0	0	0	0	0	4.3	0	0	0	0	0	0	3.1
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Road	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
% Bicycles on Road	0	4.8	0	0	0	0	0	0	0	0	0	0	20	0	0	0	1.6
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	8	0	0	0	2	0	0	0	2	12
% Pedestrians	0	0	0	0	0	0	0	100	0	0	0	100	0	0	0	100	9.4

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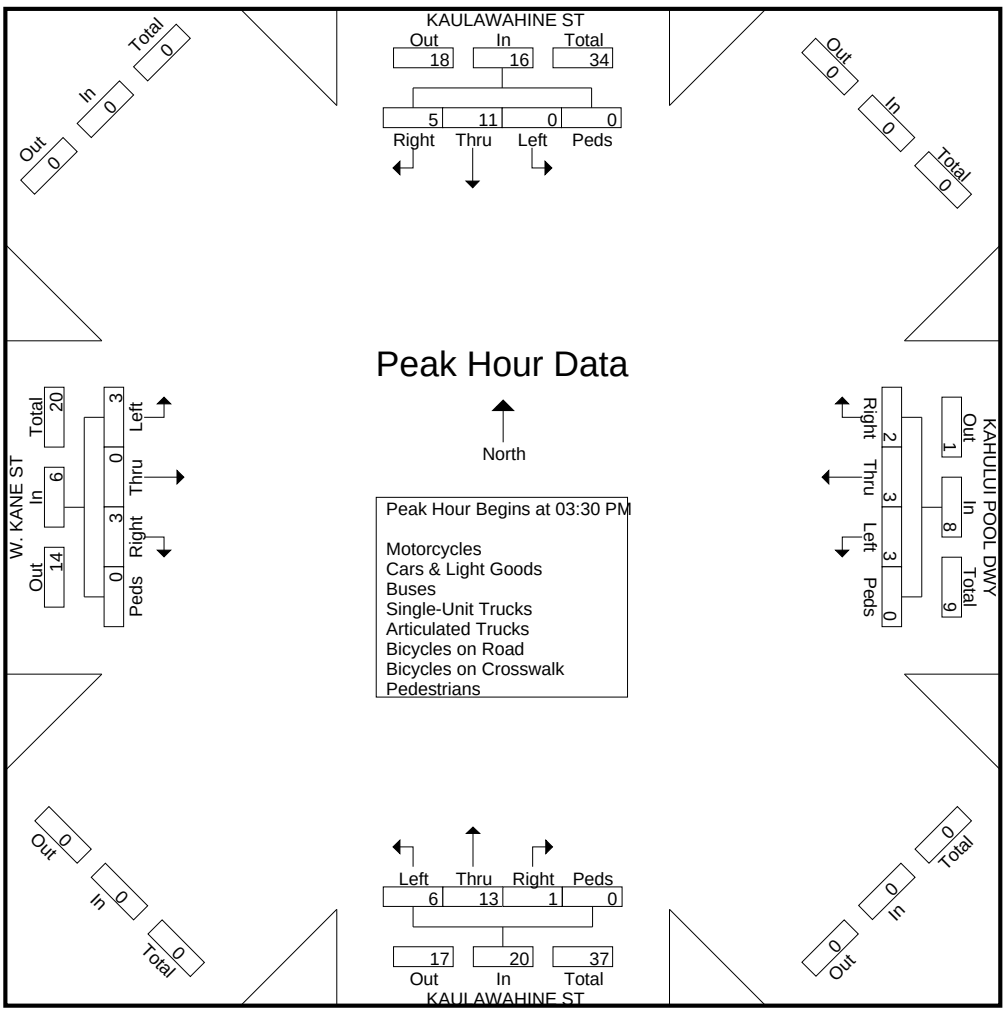
File Name : Kaulawahine St - W. Kane St
Site Code : 20-526 Kahului Affordable Housing Project TIAR
Start Date : 8/19/2020
Page No : 2

	KAULAWAHINE ST SOUTHBOUND					KAHULUI POOL DWY WESTBOUND					KAULAWAHINE ST NORTHBOUND					W. KANE ST EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:30 PM to 04:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:30 PM																					
03:30 PM	0	2	0	0	2	0	0	0	0	0	**3**	**5**	0	0	**8**	0	0	0	0	0	10
03:45 PM	0	**3**	1	0	4	**2**	**2**	**1**	0	**5**	1	2	0	0	3	0	0	0	0	0	12
04:00 PM	0	3	**2**	0	**5**	1	0	1	0	2	0	5	**1**	0	6	**3**	0	1	0	**4**	**17**
04:15 PM	0	3	2	0	5	0	1	0	0	1	2	1	0	0	3	0	0	**2**	0	2	11
Total Volume	0	11	5	0	16	3	3	2	0	8	6	13	1	0	20	3	0	3	0	6	50
% App. Total	0	68.8	31.2	0		37.5	37.5	25	0		30	65	5	0		50	0	50	0		
PHF	.000	.917	.625	.000	.800	.375	.375	.500	.000	.400	.500	.650	.250	.000	.625	.250	.000	.375	.000	.375	.735



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File Name : Lono Ave - W. Wakea Ave
Site Code : 20-526 Kahului Affordable Housing Project TIAR
Start Date : 8/19/2020
Page No : 1

Groups Printed- Motorcycles - Cars & Light Goods - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	LONO AVE SOUTHBOUND				W. WAKEA AVE WESTBOUND				LONO AVE NORTHBOUND				W. WAKEA AVE EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
06:45 AM	7	16	0	4	9	39	5	0	6	37	22	4	1	93	7	0	250
Total	7	16	0	4	9	39	5	0	6	37	22	4	1	93	7	0	250
07:00 AM	7	12	1	1	8	35	0	0	9	28	13	0	1	51	2	0	168
07:15 AM	6	19	1	0	13	53	3	0	4	37	15	0	3	69	3	1	227
07:30 AM	6	17	1	0	18	68	5	0	18	35	17	0	3	67	4	1	260
07:45 AM	5	21	1	0	12	50	5	0	4	39	14	0	1	96	6	0	254
Total	24	69	4	1	51	206	13	0	35	139	59	0	8	283	15	2	909
08:00 AM	10	16	0	1	8	62	2	1	5	26	14	1	1	71	4	0	222
08:15 AM	8	15	4	0	6	35	8	0	2	18	11	0	6	56	2	0	171
08:30 AM	7	12	0	1	12	56	3	0	3	30	17	1	1	73	4	1	221
Grand Total	56	128	8	7	86	398	31	1	51	250	123	6	17	576	32	3	1773
Apprch %	28.1	64.3	4	3.5	16.7	77.1	6	0.2	11.9	58.1	28.6	1.4	2.7	91.7	5.1	0.5	
Total %	3.2	7.2	0.5	0.4	4.9	22.4	1.7	0.1	2.9	14.1	6.9	0.3	1	32.5	1.8	0.2	
Motorcycles	0	2	0	0	0	0	0	0	0	1	0	0	0	2	0	0	5
% Motorcycles	0	1.6	0	0	0	0	0	0	0	0.4	0	0	0	0.3	0	0	0.3
Cars & Light Goods	52	124	8	0	85	377	30	0	51	245	118	0	17	552	30	0	1689
% Cars & Light Goods	92.9	96.9	100	0	98.8	94.7	96.8	0	100	98	95.9	0	100	95.8	93.8	0	95.3
Buses	1	0	0	0	0	5	0	0	0	2	2	0	0	6	2	0	18
% Buses	1.8	0	0	0	0	1.3	0	0	0	0.8	1.6	0	0	1	6.2	0	1
Single-Unit Trucks	3	1	0	0	1	11	1	0	0	2	2	0	0	14	0	0	35
% Single-Unit Trucks	5.4	0.8	0	0	1.2	2.8	3.2	0	0	0.8	1.6	0	0	2.4	0	0	2
Articulated Trucks	0	0	0	0	0	5	0	0	0	0	1	0	0	0	0	0	6
% Articulated Trucks	0	0	0	0	0	1.3	0	0	0	0	0.8	0	0	0	0	0	0.3
Bicycles on Road	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	3
% Bicycles on Road	0	0.8	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0	0.2
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0.2
Pedestrians	0	0	0	7	0	0	0	1	0	0	0	3	0	0	0	3	14
% Pedestrians	0	0	0	100	0	0	0	100	0	0	0	50	0	0	0	100	0.8

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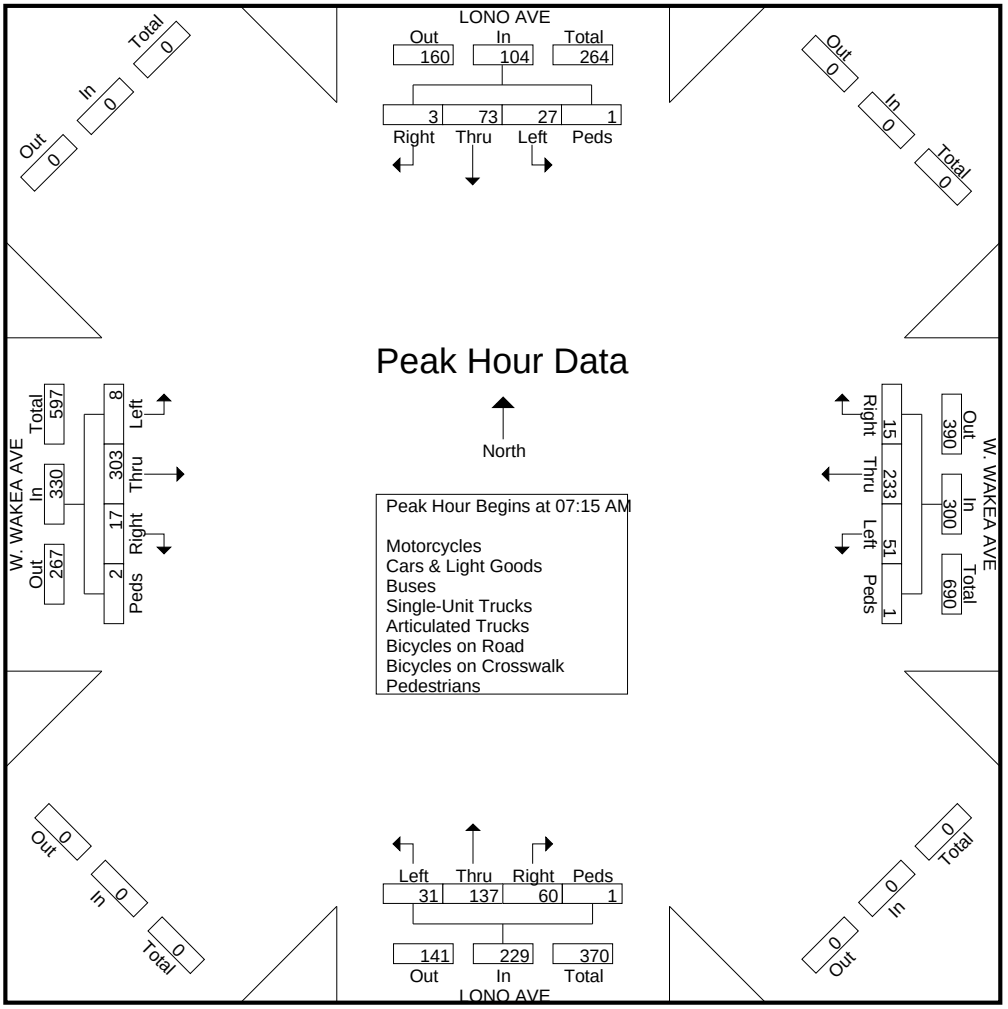
File Name : Lono Ave - W. Wakea Ave
Site Code : 20-526 Kahului Affordable Housing Project TIAR
Start Date : 8/19/2020
Page No : 2

	LONO AVE SOUTHBOUND					W. WAKEA AVE WESTBOUND					LONO AVE NORTHBOUND					W. WAKEA AVE EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	6	19	**1**	0	26	13	53	3	0	69	4	37	15	0	56	**3**	69	3	**1**	76	227
07:30 AM	6	17	1	0	24	**18**	**68**	**5**	0	**91**	**18**	35	**17**	0	**70**	3	67	4	1	75	**260**
07:45 AM	5	**21**	1	0	**27**	12	50	5	0	67	4	**39**	14	0	57	1	**96**	**6**	0	**103**	254
08:00 AM	**10**	16	0	**1**	27	8	62	2	**1**	73	5	26	14	**1**	46	1	71	4	0	76	222
Total Volume	27	73	3	1	104	51	233	15	1	300	31	137	60	1	229	8	303	17	2	330	963
% App. Total	26	70.2	2.9	1		17	77.7	5	0.3		13.5	59.8	26.2	0.4		2.4	91.8	5.2	0.6		
PHF	.675	.869	.750	.250	.963	.708	.857	.750	.250	.824	.431	.878	.882	.250	.818	.667	.789	.708	.500	.801	.926



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File Name : Lono Ave - W. Wakea Ave
Site Code : 20-526 Kahului Affordable Housing Project TIAR
Start Date : 8/19/2020
Page No : 1

Groups Printed- Motorcycles - Cars & Light Goods - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	LONO AVE SOUTHBOUND				W. WAKEA AVE WESTBOUND				LONO AVE NORTHBOUND				W. WAKEA AVE EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
03:15 PM	9	35	2	0	22	84	6	0	3	29	12	0	3	65	9	1	280
03:30 PM	7	29	8	0	32	91	5	0	3	37	15	0	1	86	3	0	317
03:45 PM	10	24	5	0	26	98	10	1	5	36	20	0	4	85	10	0	334
Total	26	88	15	0	80	273	21	1	11	102	47	0	8	236	22	1	931
04:00 PM	9	46	2	0	32	100	7	0	8	28	12	0	0	79	8	0	331
04:15 PM	9	50	0	0	24	105	7	0	5	32	21	1	2	83	7	0	346
04:30 PM	13	36	3	0	13	116	11	0	5	28	17	0	1	95	3	0	341
04:45 PM	12	30	2	0	35	104	8	0	2	25	15	0	3	79	8	1	324
Total	43	162	7	0	104	425	33	0	20	113	65	1	6	336	26	1	1342
05:00 PM	9	48	5	0	29	105	8	0	5	24	11	0	3	70	9	1	327
Grand Total	78	298	27	0	213	803	62	1	36	239	123	1	17	642	57	3	2600
Apprch %	19.4	73.9	6.7	0	19.7	74.4	5.7	0.1	9	59.9	30.8	0.3	2.4	89.3	7.9	0.4	
Total %	3	11.5	1	0	8.2	30.9	2.4	0	1.4	9.2	4.7	0	0.7	24.7	2.2	0.1	
Motorcycles	0	1	0	0	1	3	0	0	0	1	0	0	0	2	1	0	9
% Motorcycles	0	0.3	0	0	0.5	0.4	0	0	0	0.4	0	0	0	0.3	1.8	0	0.3
Cars & Light Goods	77	295	27	0	209	794	61	0	35	235	123	0	17	636	55	0	2564
% Cars & Light Goods	98.7	99	100	0	98.1	98.9	98.4	0	97.2	98.3	100	0	100	99.1	96.5	0	98.6
Buses	1	0	0	0	1	1	0	0	1	1	0	0	0	2	0	0	7
% Buses	1.3	0	0	0	0.5	0.1	0	0	2.8	0.4	0	0	0	0.3	0	0	0.3
Single-Unit Trucks	0	2	0	0	2	3	1	0	0	2	0	0	0	1	1	0	12
% Single-Unit Trucks	0	0.7	0	0	0.9	0.4	1.6	0	0	0.8	0	0	0	0.2	1.8	0	0.5
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Road	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	3
% Bicycles on Road	0	0	0	0	0	0.2	0	0	0	0	0	0	0	0.2	0	0	0.1
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	33.3	0.1
Pedestrians	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	3
% Pedestrians	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	66.7	0.1

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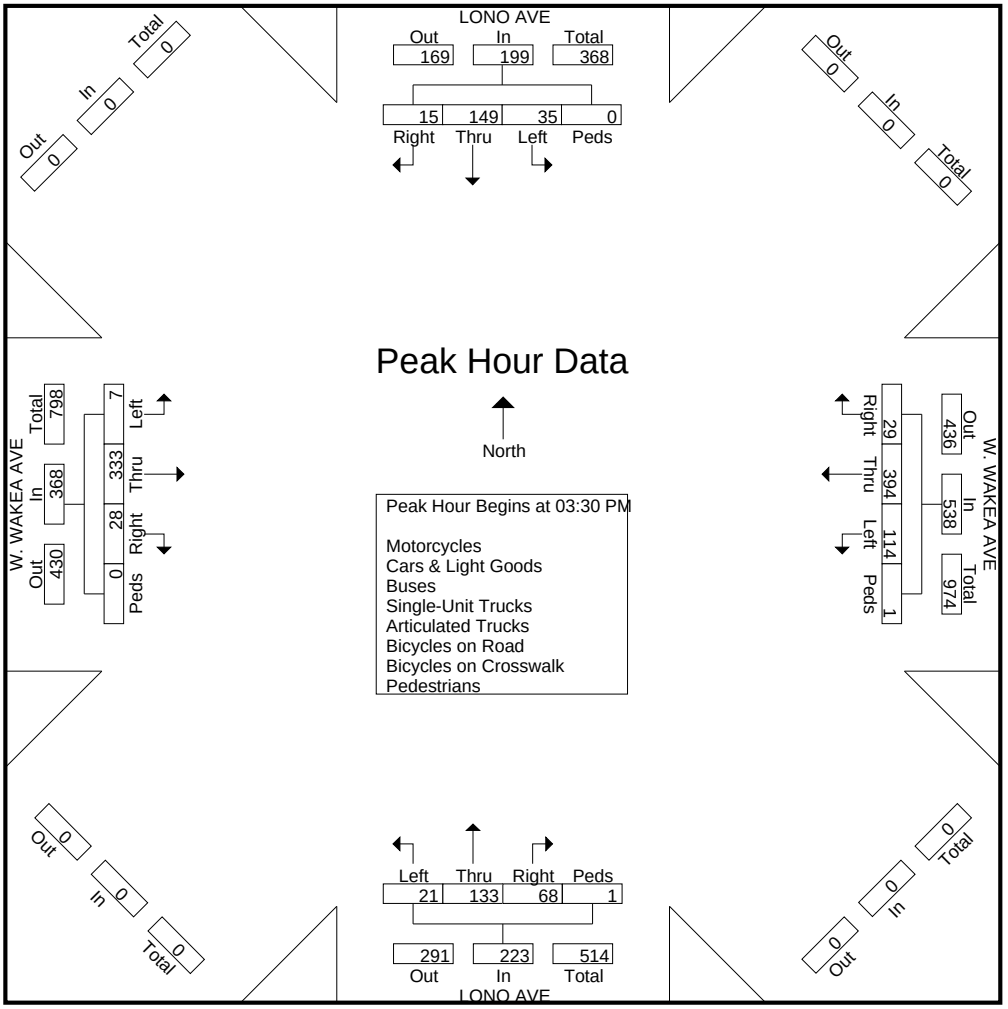
File Name : Lono Ave - W. Wakea Ave
Site Code : 20-526 Kahului Affordable Housing Project TIAR
Start Date : 8/19/2020
Page No : 2

	LONO AVE SOUTHBOUND					W. WAKEA AVE WESTBOUND					LONO AVE NORTHBOUND					W. WAKEA AVE EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:30 PM to 04:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:30 PM																					
03:30 PM	7	29	**8**	0	44	**32**	91	5	0	128	3	**37**	15	0	55	1	**86**	3	0	90	317
03:45 PM	**10**	24	5	0	39	26	98	**10**	**1**	135	5	36	20	0	**61**	**4**	85	**10**	0	**99**	334
04:00 PM	9	46	2	0	57	32	100	7	0	**139**	**8**	28	12	0	48	0	79	8	0	87	331
04:15 PM	9	**50**	0	0	**59**	24	**105**	7	0	136	5	32	**21**	**1**	59	2	83	7	0	92	**346**
Total Volume	35	149	15	0	199	114	394	29	1	538	21	133	68	1	223	7	333	28	0	368	1328
% App. Total	17.6	74.9	7.5	0		21.2	73.2	5.4	0.2		9.4	59.6	30.5	0.4		1.9	90.5	7.6	0		
PHF	.875	.745	.469	.000	.843	.891	.938	.725	.250	.968	.656	.899	.810	.250	.914	.438	.968	.700	.000	.929	.960



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File Name : W. Wakea Ave - Kaulawahine St
Site Code : 20-526 Kahului Affordable Housing Project TIAR
Start Date : 8/19/2020
Page No : 1

Groups Printed- Motorcycles - Cars & Light Goods - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	KAULAWAHINE ST SOUTHBOUND				E. WAKEA AVE WESTBOUND				KAULAWAHINE ST NORTHBOUND				W. WAKEA AVE EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
06:45 AM	4	0	1	0	0	47	2	0	0	0	1	3	0	121	1	0	180
Total	4	0	1	0	0	47	2	0	0	0	1	3	0	121	1	0	180
07:00 AM	1	0	0	0	2	46	4	1	1	0	3	0	0	70	1	0	129
07:15 AM	3	1	2	0	3	67	3	0	0	0	0	0	1	95	0	0	175
07:30 AM	6	0	7	0	1	80	1	0	0	0	2	2	1	89	0	0	189
07:45 AM	6	0	2	0	1	65	5	0	0	0	1	1	0	115	0	0	196
Total	16	1	11	0	7	258	13	1	1	0	6	3	2	369	1	0	689
08:00 AM	3	0	0	0	1	73	3	0	0	0	2	2	1	96	0	0	181
08:15 AM	2	0	1	0	0	49	2	0	1	0	0	1	1	76	0	0	133
08:30 AM	4	0	1	1	0	69	6	0	0	1	0	1	0	96	1	0	180
Grand Total	29	1	14	1	8	496	26	1	2	1	9	10	4	758	3	0	1363
Apprch %	64.4	2.2	31.1	2.2	1.5	93.4	4.9	0.2	9.1	4.5	40.9	45.5	0.5	99.1	0.4	0	
Total %	2.1	0.1	1	0.1	0.6	36.4	1.9	0.1	0.1	0.1	0.7	0.7	0.3	55.6	0.2	0	
Motorcycles	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	3
% Motorcycles	0	0	0	0	0	0	3.8	0	0	0	0	0	0	0.3	0	0	0.2
Cars & Light Goods	28	1	14	0	7	475	23	0	2	1	9	0	4	728	3	0	1295
% Cars & Light Goods	96.6	100	100	0	87.5	95.8	88.5	0	100	100	100	0	100	96	100	0	95
Buses	0	0	0	0	0	5	0	0	0	0	0	0	0	9	0	0	14
% Buses	0	0	0	0	0	1	0	0	0	0	0	0	0	1.2	0	0	1
Single-Unit Trucks	0	0	0	0	0	13	1	0	0	0	0	0	0	15	0	0	29
% Single-Unit Trucks	0	0	0	0	0	2.6	3.8	0	0	0	0	0	0	2	0	0	2.1
Articulated Trucks	0	0	0	0	0	3	0	0	0	0	0	0	0	2	0	0	5
% Articulated Trucks	0	0	0	0	0	0.6	0	0	0	0	0	0	0	0.3	0	0	0.4
Bicycles on Road	1	0	0	0	1	0	1	0	0	0	0	0	0	2	0	0	5
% Bicycles on Road	3.4	0	0	0	12.5	0	3.8	0	0	0	0	0	0	0.3	0	0	0.4
Bicycles on Crosswalk	0	0	0	1	0	0	0	1	0	0	0	3	0	0	0	0	5
% Bicycles on Crosswalk	0	0	0	100	0	0	0	100	0	0	0	30	0	0	0	0	0.4
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	7
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	70	0	0	0	0	0.5

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File Name : W. Wakea Ave - Kaulawahine St
Site Code : 20-526 Kahului Affordable Housing Project TIAR
Start Date : 8/19/2020
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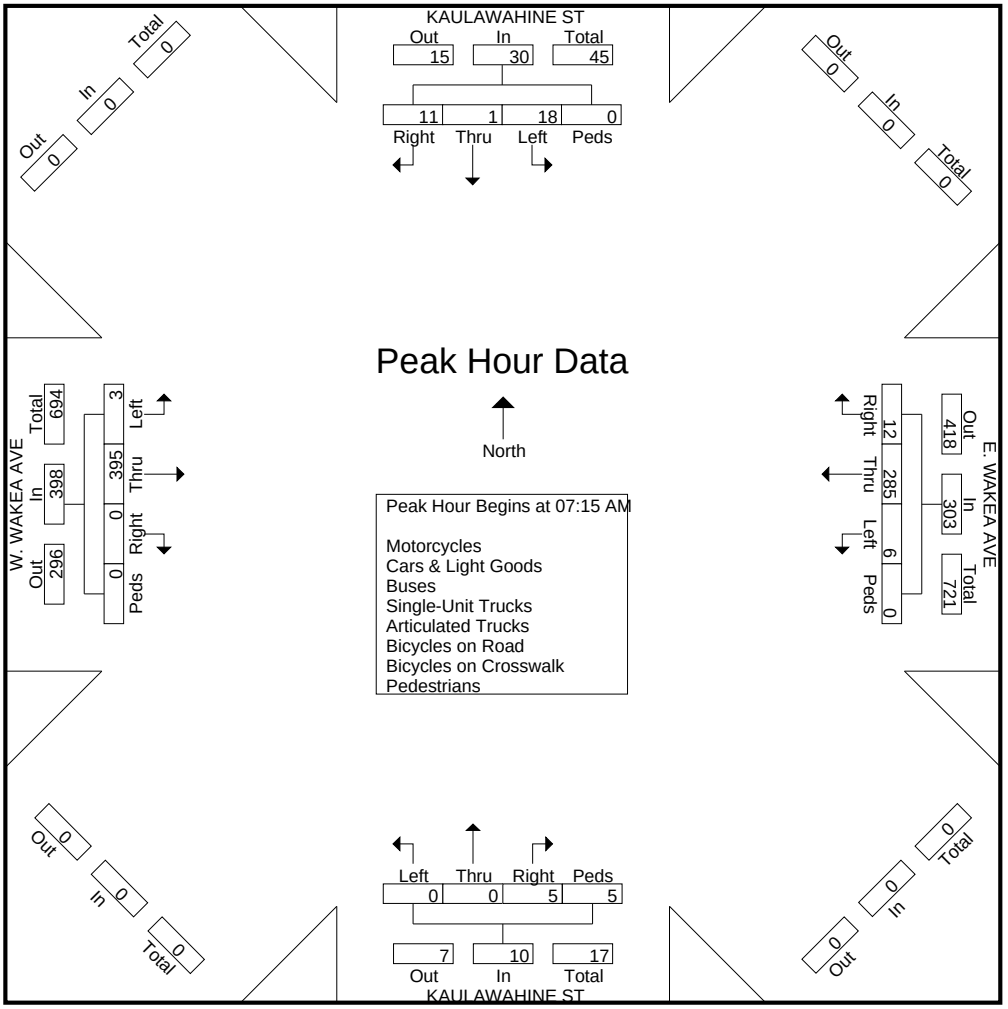
	KAULAWAHINE ST SOUTHBOUND					E. WAKEA AVE WESTBOUND					KAULAWAHINE ST NORTHBOUND					W. WAKEA AVE EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	3	**1**	2	0	6	**3**	67	3	0	73	0	0	0	0	0	**1**	95	0	0	96	175
07:30 AM	**6**	0	**7**	0	**13**	1	**80**	1	0	**82**	0	0	**2**	**2**	**4**	1	89	0	0	90	189
07:45 AM	6	0	2	0	8	1	65	**5**	0	71	0	0	1	1	2	0	**115**	0	0	**115**	**196**
08:00 AM	3	0	0	0	3	1	73	3	0	77	0	0	2	2	4	1	96	0	0	97	181
Total Volume	18	1	11	0	30	6	285	12	0	303	0	0	5	5	10	3	395	0	0	398	741
% App. Total	60	3.3	36.7	0		2	94.1	4	0		0	0	50	50		0.8	99.2	0	0		
PHF	.750	.250	.393	.000	.577	.500	.891	.600	.000	.924	.000	.000	.625	.625	.625	.750	.859	.000	.000	.865	.945



Austin Tsutsumi & Associates

1871 Wili Pa Loop STE.A
Wailuku, HI 96793
Phone: (808) 244-8044 Fax: (808) 2429163

File Name : W. Wakea Ave - Kaulawahine St
Site Code : 20-526 Kahului Affordable Housing Project TIAR
Start Date : 8/19/2020
Page No : 1

Groups Printed- Motorcycles - Cars & Light Goods - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	KAULAWAHINE ST SOUTHBOUND				E. WAKEA AVE WESTBOUND				KAULAWAHINE ST NORTHBOUND				W. WAKEA AVE EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
03:15 PM	1	0	2	0	2	113	5	0	1	0	2	0	0	84	2	1	213
03:30 PM	0	1	0	0	3	138	8	0	0	0	2	0	1	108	1	0	262
03:45 PM	3	0	4	0	1	125	8	0	0	0	0	0	0	111	2	1	255
Total	4	1	6	0	6	376	21	0	1	0	4	0	1	303	5	2	730
04:00 PM	3	0	2	1	2	136	9	0	0	0	1	0	0	105	1	1	261
04:15 PM	2	1	0	2	2	133	5	0	0	0	1	0	2	110	0	1	259
04:30 PM	3	1	1	0	2	146	12	0	0	0	1	0	1	117	2	0	286
04:45 PM	6	1	3	0	2	145	8	0	0	1	2	0	2	105	2	0	277
Total	14	3	6	3	8	560	34	0	0	1	5	0	5	437	5	2	1083
05:00 PM	3	1	0	0	3	141	6	0	0	1	0	0	0	84	0	0	239
Grand Total	21	5	12	3	17	1077	61	0	1	2	9	0	6	824	10	4	2052
Apprch %	51.2	12.2	29.3	7.3	1.5	93.2	5.3	0	8.3	16.7	75	0	0.7	97.6	1.2	0.5	
Total %	1	0.2	0.6	0.1	0.8	52.5	3	0	0	0.1	0.4	0	0.3	40.2	0.5	0.2	
Motorcycles	0	0	0	0	0	4	0	0	0	0	0	0	0	2	0	0	6
% Motorcycles	0	0	0	0	0	0.4	0	0	0	0	0	0	0	0.2	0	0	0.3
Cars & Light Goods	21	5	12	0	17	1064	59	0	1	2	8	0	5	818	10	0	2022
% Cars & Light Goods	100	100	100	0	100	98.8	96.7	0	100	100	88.9	0	83.3	99.3	100	0	98.5
Buses	0	0	0	0	0	3	0	0	0	0	0	0	0	3	0	0	6
% Buses	0	0	0	0	0	0.3	0	0	0	0	0	0	0	0.4	0	0	0.3
Single-Unit Trucks	0	0	0	0	0	4	1	0	0	0	1	0	0	1	0	0	7
% Single-Unit Trucks	0	0	0	0	0	0.4	1.6	0	0	0	11.1	0	0	0.1	0	0	0.3
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Road	0	0	0	0	0	2	1	0	0	0	0	0	1	0	0	0	4
% Bicycles on Road	0	0	0	0	0	0.2	1.6	0	0	0	0	0	16.7	0	0	0	0.2
Bicycles on Crosswalk	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	4
% Bicycles on Crosswalk	0	0	0	66.7	0	0	0	0	0	0	0	0	0	0	0	50	0.2
Pedestrians	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	3
% Pedestrians	0	0	0	33.3	0	0	0	0	0	0	0	0	0	0	0	50	0.1

Austin Tsutsumi & Associates

1871 Wili Pa Loop STE.A
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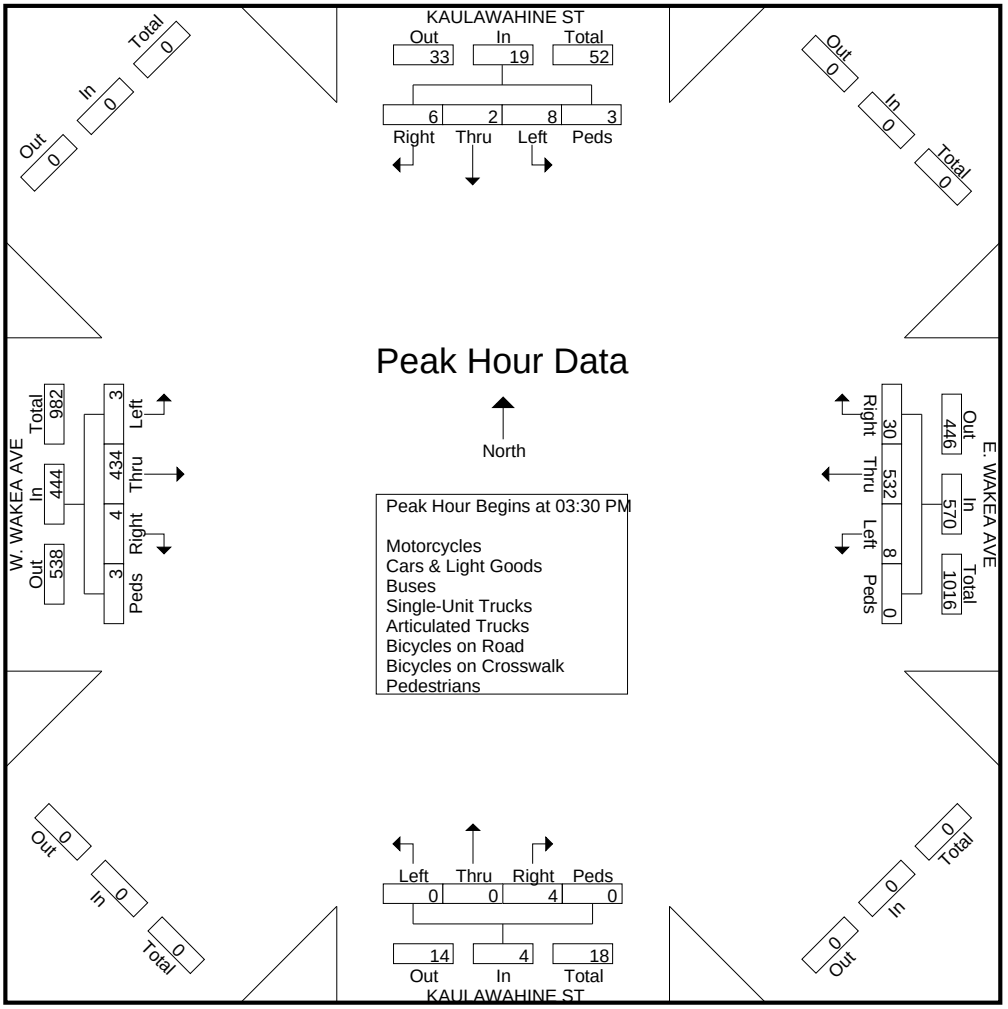
File Name : W. Wakea Ave - Kaulawahine St
Site Code : 20-526 Kahului Affordable Housing Project TIAR
Start Date : 8/19/2020
Page No : 2

	KAULAWAHINE ST SOUTHBOUND					E. WAKEA AVE WESTBOUND					KAULAWAHINE ST NORTHBOUND					W. WAKEA AVE EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:30 PM to 04:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:30 PM																					
03:30 PM	0	**1**	0	0	1	**3**	**138**	8	0	**149**	0	0	**2**	0	**2**	1	108	1	0	110	**262**
03:45 PM	**3**	0	**4**	0	**7**	1	125	8	0	134	0	0	0	0	0	0	**111**	**2**	**1**	**114**	255
04:00 PM	3	0	2	1	6	2	136	**9**	0	147	0	0	1	0	1	0	105	1	1	107	261
04:15 PM	2	1	0	**2**	5	2	133	5	0	140	0	0	1	0	1	**2**	110	0	1	113	259
Total Volume	8	2	6	3	19	8	532	30	0	570	0	0	4	0	4	3	434	4	3	444	1037
% App. Total	42.1	10.5	31.6	15.8		1.4	93.3	5.3	0		0	0	100	0		0.7	97.7	0.9	0.7		
PHF	.667	.500	.375	.375	.679	.667	.964	.833	.000	.956	.000	.000	.500	.000	.500	.375	.977	.500	.750	.974	.990



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File Name : W. Wakea Ave - Kaulawahine St
Site Code : 20-526 Kahului Affordable Housing Project TIAR
Start Date : 8/19/2020
Page No : 1

Groups Printed- Motorcycles - Cars & Light Goods - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	KAULAWAHINE ST SOUTHBOUND				E. WAKEA AVE WESTBOUND				KAULAWAHINE ST NORTHBOUND				W. WAKEA AVE EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
06:00 AM	3	0	1	0	0	20	2	0	1	0	0	4	0	57	1	0	89
06:15 AM	4	0	0	0	0	31	1	0	1	0	1	6	0	70	0	0	114
06:30 AM	0	1	0	0	0	27	3	0	0	0	2	0	0	74	0	0	107
06:45 AM	4	0	1	0	0	47	2	0	0	0	1	3	0	121	1	0	180
Total	11	1	2	0	0	125	8	0	2	0	4	13	0	322	2	0	490
07:00 AM	1	0	0	0	2	46	4	1	1	0	3	0	0	70	1	0	129
07:15 AM	3	1	2	0	3	67	3	0	0	0	0	0	1	95	0	0	175
07:30 AM	6	0	7	0	1	80	1	0	0	0	2	2	1	89	0	0	189
07:45 AM	6	0	2	0	1	65	5	0	0	0	1	1	0	115	0	0	196
Total	16	1	11	0	7	258	13	1	1	0	6	3	2	369	1	0	689
08:00 AM	3	0	0	0	1	73	3	0	0	0	2	2	1	96	0	0	181
08:15 AM	2	0	1	0	0	49	2	0	1	0	0	1	1	76	0	0	133
08:30 AM	4	0	1	1	0	69	6	0	0	1	0	1	0	96	1	0	180
08:45 AM	3	0	1	1	1	80	2	0	1	1	1	0	0	90	0	0	181
Total	12	0	3	2	2	271	13	0	2	2	3	4	2	358	1	0	675
09:00 AM	3	0	0	0	1	74	1	0	1	1	2	0	0	81	0	0	164
09:15 AM	2	0	1	1	2	82	2	0	0	0	1	0	1	90	0	1	183
09:30 AM	2	0	0	0	0	79	5	0	0	0	1	0	3	83	0	0	173
09:45 AM	1	1	0	0	2	96	1	0	1	0	1	0	1	109	0	0	213
Total	8	1	1	1	5	331	9	0	2	1	5	0	5	363	0	1	733
10:00 AM	0	0	0	0	1	86	6	0	0	0	1	1	0	79	1	0	175
10:15 AM	7	0	2	0	3	83	6	0	0	0	2	0	2	80	0	0	185
10:30 AM	2	0	0	0	2	108	4	0	0	0	0	1	1	93	0	0	211
10:45 AM	6	0	1	1	0	97	6	0	1	1	1	1	0	91	1	1	208
Total	15	0	3	1	6	374	22	0	1	1	4	3	3	343	2	1	779
11:00 AM	1	0	2	1	0	118	3	0	0	0	0	0	1	106	2	0	234
11:15 AM	3	0	1	0	1	105	3	0	0	0	0	0	0	88	1	0	202
11:30 AM	5	1	1	0	1	118	7	0	0	0	0	0	1	125	1	0	260
11:45 AM	4	1	1	0	2	121	2	0	0	0	0	0	0	109	1	0	241
Total	13	2	5	1	4	462	15	0	0	0	0	0	2	428	5	0	937
12:00 PM	0	0	0	0	2	121	6	0	0	0	2	0	0	99	2	0	232
12:15 PM	2	0	0	0	0	108	4	0	1	0	1	1	1	94	0	0	212
12:30 PM	3	0	0	0	0	91	1	0	1	0	0	0	3	108	0	0	207
12:45 PM	4	0	0	0	0	109	4	0	0	0	2	0	0	111	0	0	230
Total	9	0	0	0	2	429	15	0	2	0	5	1	4	412	2	0	881
01:00 PM	3	0	0	0	2	113	6	0	1	0	2	0	0	80	1	0	208
01:15 PM	0	0	0	0	0	107	5	0	0	1	0	0	1	103	0	0	217
01:30 PM	2	1	1	0	4	108	7	0	0	0	1	0	0	107	2	0	233
01:45 PM	4	0	2	0	0	100	4	0	0	0	2	0	0	102	0	0	214
Total	9	1	3	0	6	428	22	0	1	1	5	0	1	392	3	0	872
02:00 PM	3	0	1	0	0	108	4	0	0	0	0	1	5	93	2	0	217
02:15 PM	1	0	2	1	1	103	7	0	0	0	1	0	2	84	0	0	202
02:30 PM	3	0	0	1	0	89	5	0	0	0	2	0	2	101	0	0	203
02:45 PM	6	0	10	1	0	112	3	0	1	1	2	0	0	101	1	1	239
Total	13	0	13	3	1	412	19	0	1	1	5	1	9	379	3	1	861

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File Name : W. Wakea Ave - Kaulawahine St
Site Code : 20-526 Kahului Affordable Housing Project TIAR
Start Date : 8/19/2020
Page No : 2

Groups Printed- Motorcycles - Cars & Light Goods - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	KAULAWAHINE ST SOUTHBOUND				E. WAKEA AVE WESTBOUND				KAULAWAHINE ST NORTHBOUND				W. WAKEA AVE EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
03:00 PM	3	0	2	0	0	105	4	0	0	0	5	0	3	117	1	0	240
03:15 PM	1	0	2	0	2	113	5	0	1	0	2	0	0	84	2	1	213
03:30 PM	0	1	0	0	3	138	8	0	0	0	2	0	1	108	1	0	262
03:45 PM	3	0	4	0	1	125	8	0	0	0	0	0	0	111	2	1	255
Total	7	1	8	0	6	481	25	0	1	0	9	0	4	420	6	2	970
04:00 PM	3	0	2	1	2	136	9	0	0	0	1	0	0	105	1	1	261
04:15 PM	2	1	0	2	2	133	5	0	0	0	1	0	2	110	0	1	259
04:30 PM	3	1	1	0	2	146	12	0	0	0	1	0	1	117	2	0	286
04:45 PM	6	1	3	0	2	145	8	0	0	1	2	0	2	105	2	0	277
Total	14	3	6	3	8	560	34	0	0	1	5	0	5	437	5	2	1083
05:00 PM	3	1	0	0	3	141	6	0	0	1	0	0	0	84	0	0	239
05:15 PM	5	0	0	0	1	114	6	0	0	0	0	0	0	90	1	0	217
05:30 PM	2	1	0	0	1	91	3	0	0	1	2	0	0	70	1	0	172
05:45 PM	6	1	0	0	0	72	1	0	0	0	1	0	0	85	2	0	168
Total	16	3	0	0	5	418	16	0	0	2	3	0	0	329	4	0	796
Grand Total	143	13	55	11	52	4549	211	1	13	9	54	25	37	4552	34	7	9766
Apprch %	64.4	5.9	24.8	5	1.1	94.5	4.4	0	12.9	8.9	53.5	24.8	0.8	98.3	0.7	0.2	
Total %	1.5	0.1	0.6	0.1	0.5	46.6	2.2	0	0.1	0.1	0.6	0.3	0.4	46.6	0.3	0.1	
Motorcycles	1	0	0	0	0	13	1	0	0	0	0	0	1	21	0	0	37
% Motorcycles	0.7	0	0	0	0	0.3	0.5	0	0	0	0	0	2.7	0.5	0	0	0.4
Cars & Light Goods	130	13	54	0	49	4440	195	0	13	9	53	0	35	4413	34	0	9438
% Cars & Light Goods	90.9	100	98.2	0	94.2	97.6	92.4	0	100	100	98.1	0	94.6	96.9	100	0	96.6
Buses	0	0	0	0	0	23	0	0	0	0	0	0	0	29	0	0	52
% Buses	0	0	0	0	0	0.5	0	0	0	0	0	0	0	0.6	0	0	0.5
Single-Unit Trucks	6	0	0	0	1	61	10	0	0	0	1	0	0	80	0	0	159
% Single-Unit Trucks	4.2	0	0	0	1.9	1.3	4.7	0	0	0	1.9	0	0	1.8	0	0	1.6
Articulated Trucks	0	0	0	0	1	8	0	0	0	0	0	0	0	5	0	0	14
% Articulated Trucks	0	0	0	0	1.9	0.2	0	0	0	0	0	0	0	0.1	0	0	0.1
Bicycles on Road	6	0	1	0	1	4	5	0	0	0	0	0	1	4	0	0	22
% Bicycles on Road	4.2	0	1.8	0	1.9	0.1	2.4	0	0	0	0	0	2.7	0.1	0	0	0.2
Bicycles on Crosswalk	0	0	0	5	0	0	0	1	0	0	0	5	0	0	0	3	14
% Bicycles on Crosswalk	0	0	0	45.5	0	0	0	100	0	0	0	20	0	0	0	42.9	0.1
Pedestrians	0	0	0	6	0	0	0	0	0	0	0	20	0	0	0	4	30
% Pedestrians	0	0	0	54.5	0	0	0	0	0	0	0	80	0	0	0	57.1	0.3

Austin Tsutsumi & Associates

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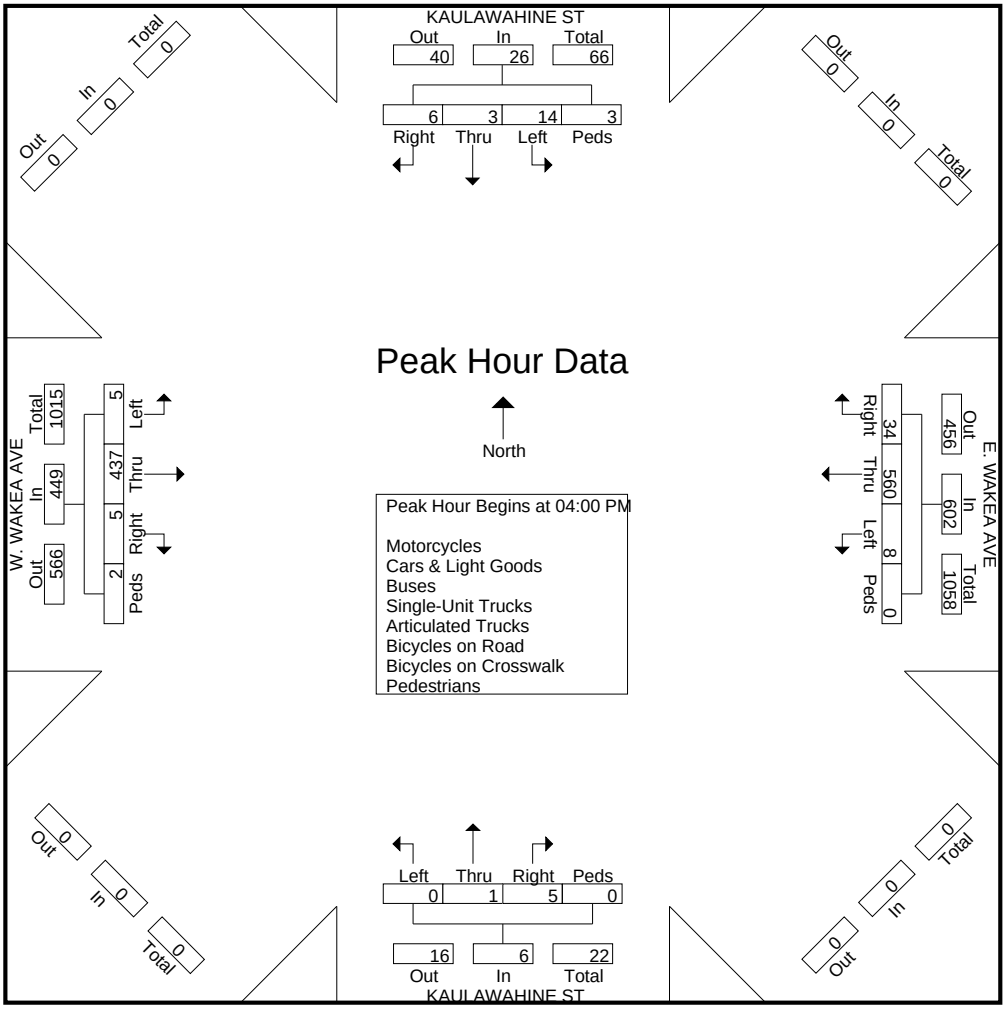
File Name : W. Wakea Ave - Kaulawahine St
Site Code : 20-526 Kahului Affordable Housing Project TIAR
Start Date : 8/19/2020
Page No : 3

	KAULAWAHINE ST SOUTHBOUND					E. WAKEA AVE WESTBOUND					KAULAWAHINE ST NORTHBOUND					W. WAKEA AVE EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	3	0	2	1	6	**2**	136	9	0	147	0	0	1	0	1	0	105	1	**1**	107	261
04:15 PM	2	**1**	0	**2**	5	2	133	5	0	140	0	0	1	0	1	**2**	110	0	1	113	259
04:30 PM	3	1	1	0	5	2	**146**	**12**	0	**160**	0	0	1	0	1	1	**117**	**2**	0	**120**	**286**
04:45 PM	**6**	1	**3**	0	**10**	2	145	8	0	155	0	**1**	**2**	0	**3**	2	105	2	0	109	277
Total Volume	14	3	6	3	26	8	560	34	0	602	0	1	5	0	6	5	437	5	2	449	1083
% App. Total	53.8	11.5	23.1	11.5		1.3	93	5.6	0		0	16.7	83.3	0		1.1	97.3	1.1	0.4		
PHF	.583	.750	.500	.375	.650	1.00	.959	.708	.000	.941	.000	.250	.625	.000	.500	.625	.934	.625	.500	.935	.947



Austin Tsutsumi & Associates

501 Sumner Street, Suite 521
Honolulu, HI 96817-5031
Phone: 533-3646 Fax: 526-1267

File Name : Puunene Ave - Wakea Ave
Site Code : 16-014.07 Maui DOT Signal Optimization
Start Date : 5/10/2018
Page No : 1

Groups Printed- Motorcycles - Cars & Light Goods - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	PUUNENE AVE SOUTHBOUND				WAKEA AVE WESTBOUND				PUUNENE AVE NORTHBOUND				WAKEA AVE EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
06:45	11	60	10	2	17	39	15	2	20	79	19	0	22	79	39	0	414
Total	11	60	10	2	17	39	15	2	20	79	19	0	22	79	39	0	414
07:00	11	69	14	0	12	44	12	1	31	113	12	0	13	59	49	0	440
07:15	10	86	17	0	17	50	17	0	39	136	32	0	32	74	45	0	555
07:30	13	83	15	1	14	63	18	1	38	122	30	0	22	96	53	0	569
07:45	18	96	20	0	14	44	16	2	26	120	25	0	26	96	55	0	558
Total	52	334	66	1	57	201	63	4	134	491	99	0	93	325	202	0	2122
08:00	24	84	21	1	21	52	21	2	33	103	35	0	15	79	54	1	546
08:15	13	88	10	1	20	53	19	0	23	117	31	0	7	63	43	1	489
08:30	15	99	8	0	29	39	20	0	30	143	26	0	6	40	28	0	483
Grand Total	115	665	115	5	144	384	138	8	240	933	210	0	143	586	366	2	4054
Apprch %	12.8	73.9	12.8	0.6	21.4	57	20.5	1.2	17.4	67.5	15.2	0	13	53.4	33.4	0.2	
Total %	2.8	16.4	2.8	0.1	3.6	9.5	3.4	0.2	5.9	23	5.2	0	3.5	14.5	9	0	
Motorcycles	1	2	0	0	1	0	0	0	1	2	0	0	0	3	0	0	10
% Motorcycles	0.9	0.3	0	0	0.7	0	0	0	0.4	0.2	0	0	0	0.5	0	0	0.2
Cars & Light Goods	109	622	113	0	132	369	130	0	227	907	205	0	139	574	345	0	3872
% Cars & Light Goods	94.8	93.5	98.3	0	91.7	96.1	94.2	0	94.6	97.2	97.6	0	97.2	98	94.3	0	95.5
Buses	0	15	0	0	2	8	0	0	4	9	0	0	0	2	10	0	50
% Buses	0	2.3	0	0	1.4	2.1	0	0	1.7	1	0	0	0	0.3	2.7	0	1.2
Single-Unit Trucks	4	17	2	0	9	6	7	0	6	9	3	0	4	7	10	0	84
% Single-Unit Trucks	3.5	2.6	1.7	0	6.2	1.6	5.1	0	2.5	1	1.4	0	2.8	1.2	2.7	0	2.1
Articulated Trucks	1	9	0	0	0	1	1	0	2	6	1	0	0	0	1	0	22
% Articulated Trucks	0.9	1.4	0	0	0	0.3	0.7	0	0.8	0.6	0.5	0	0	0	0.3	0	0.5
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0.5	0	0	0	0	0	0
Bicycles on Crosswalk	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
% Bicycles on Crosswalk	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	5	0	0	0	6	0	0	0	0	0	0	0	2	13
% Pedestrians	0	0	0	100	0	0	0	75	0	0	0	0	0	0	0	100	0.3

Austin Tsutsumi & Associates

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File Name : Puunene Ave - Wakea Ave
Site Code : 16-014.07 Maui DOT Signal Optimization
Start Date : 5/10/2018
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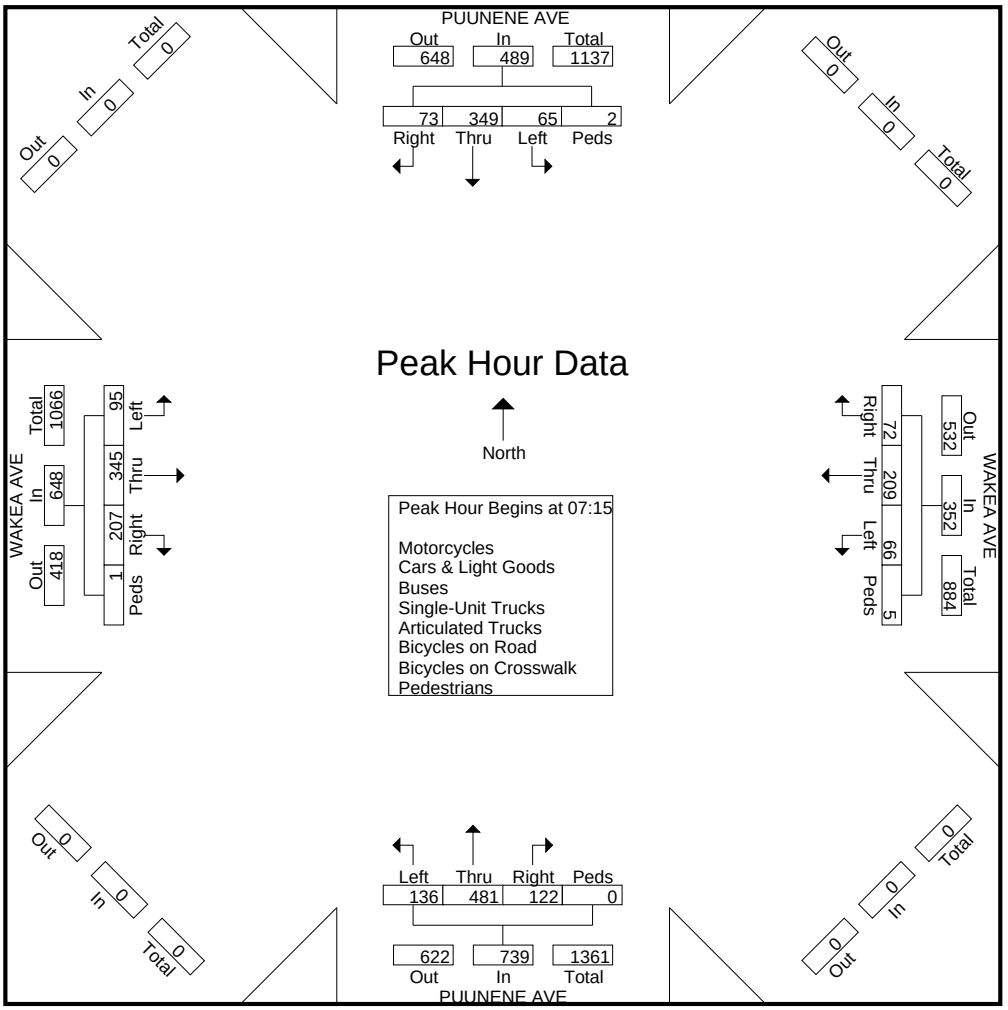
	PUUNENE AVE SOUTHBOUND					WAKEA AVE WESTBOUND					PUUNENE AVE NORTHBOUND					WAKEA AVE EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:45 to 08:30 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	10	86	17	0	113	17	50	17	0	84	**39**	**136**	32	0	**207**	**32**	74	45	0	151	555
07:30	13	83	15	**1**	112	14	**63**	18	1	**96**	38	122	30	0	190	22	**96**	53	0	171	**569**
07:45	18	**96**	20	0	**134**	14	44	16	**2**	76	26	120	25	0	171	26	96	**55**	0	**177**	558
08:00	**24**	84	**21**	1	130	**21**	52	**21**	2	96	33	103	**35**	0	171	15	79	54	**1**	149	546
Total Volume	65	349	73	2	489	66	209	72	5	352	136	481	122	0	739	95	345	207	1	648	2228
% App. Total	13.3	71.4	14.9	0.4		18.8	59.4	20.5	1.4		18.4	65.1	16.5	0		14.7	53.2	31.9	0.2		
PHF	.677	.909	.869	.500	.912	.786	.829	.857	.625	.917	.872	.884	.871	.000	.893	.742	.898	.941	.250	.915	.979



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Groups Printed- Motorcycles - Cars & Light Goods - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	PUUNENE AVE SOUTHBOUND				WAKEA AVE WESTBOUND				PUUNENE AVE NORTHBOUND				WAKEA AVE EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
15:30	31	91	25	0	37	103	21	0	60	150	29	0	10	72	53	0	682
15:45	27	103	23	0	25	98	32	0	41	153	24	0	14	79	47	0	666
Total	58	194	48	0	62	201	53	0	101	303	53	0	24	151	100	0	1348
16:00	33	103	28	0	24	104	27	2	39	140	21	0	10	68	41	0	640
16:15	31	103	24	0	31	98	27	0	54	145	23	0	16	70	37	0	659
16:30	23	108	24	0	28	115	20	1	47	137	26	0	9	76	34	0	648
16:45	13	106	23	3	26	109	30	0	39	120	14	0	11	79	71	0	644
Total	100	420	99	3	109	426	104	3	179	542	84	0	46	293	183	0	2591
17:00	15	93	23	0	28	94	22	1	48	136	20	0	14	68	42	0	604
17:15	26	100	21	0	22	97	17	0	46	132	16	0	11	62	40	0	590
Grand Total	199	807	191	3	221	818	196	4	374	1113	173	0	95	574	365	0	5133
Apprch %	16.6	67.2	15.9	0.2	17.8	66	15.8	0.3	22.5	67	10.4	0	9.2	55.5	35.3	0	
Total %	3.9	15.7	3.7	0.1	4.3	15.9	3.8	0.1	7.3	21.7	3.4	0	1.9	11.2	7.1	0	
Motorcycles	0	1	1	0	0	2	0	0	0	4	0	0	0	1	1	0	10
% Motorcycles	0	0.1	0.5	0	0	0.2	0	0	0	0.4	0	0	0	0.2	0.3	0	0.2
Cars & Light Goods	198	790	189	0	218	802	192	0	368	1093	169	0	94	569	356	0	5038
% Cars & Light Goods	99.5	97.9	99	0	98.6	98	98	0	98.4	98.2	97.7	0	98.9	99.1	97.5	0	98.1
Buses	0	10	0	0	0	1	0	0	1	8	0	0	1	2	4	0	27
% Buses	0	1.2	0	0	0	0.1	0	0	0.3	0.7	0	0	1.1	0.3	1.1	0	0.5
Single-Unit Trucks	0	5	1	0	3	10	1	0	4	6	4	0	0	0	4	0	38
% Single-Unit Trucks	0	0.6	0.5	0	1.4	1.2	0.5	0	1.1	0.5	2.3	0	0	0	1.1	0	0.7
Articulated Trucks	1	0	0	0	0	0	1	0	1	1	0	0	0	1	0	0	5
% Articulated Trucks	0.5	0	0	0	0	0	0.5	0	0.3	0.1	0	0	0	0.2	0	0	0.1
Bicycles on Road	0	1	0	0	0	3	2	0	0	1	0	0	0	1	0	0	8
% Bicycles on Road	0	0.1	0	0	0	0.4	1	0	0	0.1	0	0	0	0.2	0	0	0.2
Bicycles on Crosswalk	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	3
% Bicycles on Crosswalk	0	0	0	33.3	0	0	0	50	0	0	0	0	0	0	0	0	0.1
Pedestrians	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	4
% Pedestrians	0	0	0	66.7	0	0	0	50	0	0	0	0	0	0	0	0	0.1

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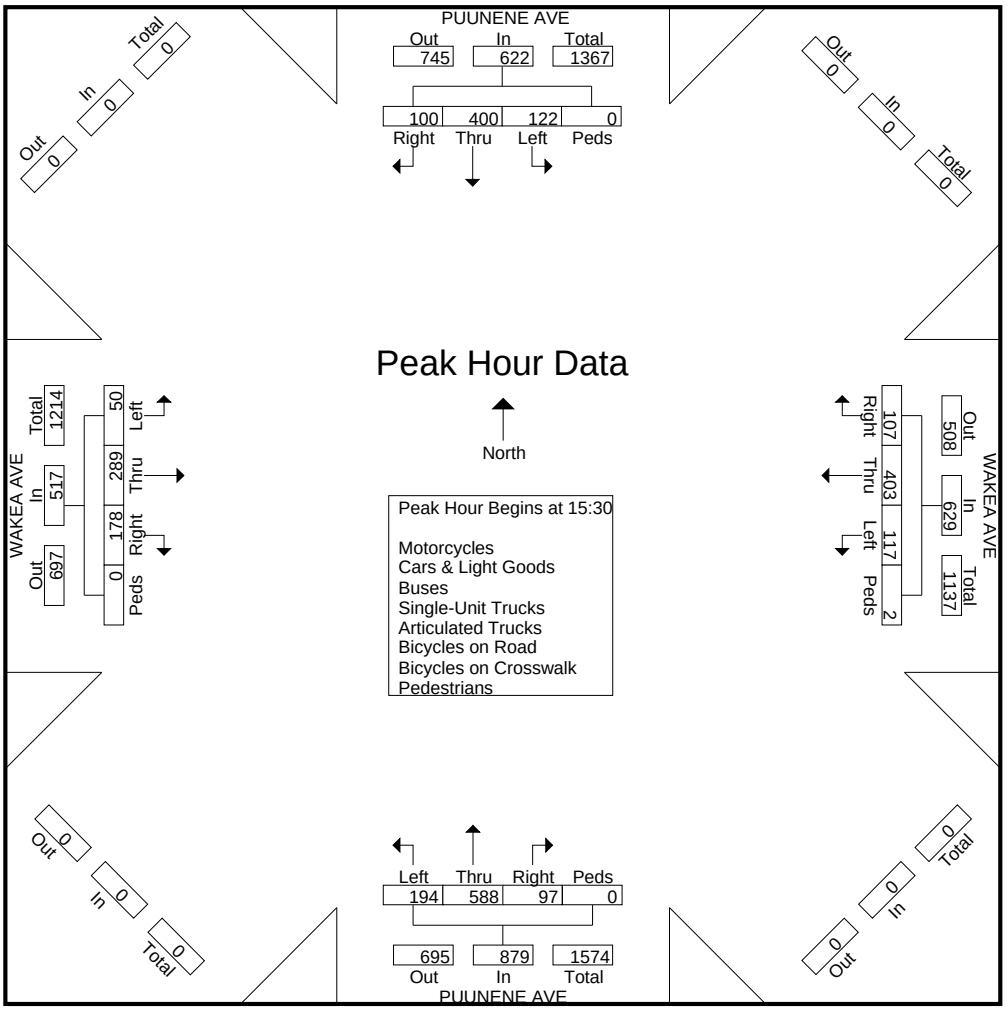
	PUUNENE AVE SOUTHBOUND					WAKEA AVE WESTBOUND					PUUNENE AVE NORTHBOUND					WAKEA AVE EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 15:30 to 17:15 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 15:30																					
15:30	31	91	25	0	147	**37**	103	21	0	**161**	**60**	150	**29**	0	**239**	10	72	**53**	0	135	**682**
15:45	27	**103**	23	0	153	25	98	**32**	0	155	41	**153**	24	0	218	14	**79**	47	0	**140**	666
16:00	**33**	103	**28**	0	**164**	24	**104**	27	**2**	157	39	140	21	0	200	10	68	41	0	119	640
16:15	31	103	24	0	158	31	98	27	0	156	54	145	23	0	222	**16**	70	37	0	123	659
Total Volume	122	400	100	0	622	117	403	107	2	629	194	588	97	0	879	50	289	178	0	517	2647
% App. Total	19.6	64.3	16.1	0		18.6	64.1	17	0.3		22.1	66.9	11	0		9.7	55.9	34.4	0		
PHF	.924	.971	.893	.000	.948	.791	.969	.836	.250	.977	.808	.961	.836	.000	.919	.781	.915	.840	.000	.923	.970



APPENDIX B

LEVEL OF SERVICE CRITERIA

APPENDIX B – LEVEL OF SERVICE (LOS) CRITERIA

VEHICULAR LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS (HCM 6th EDITION)

Level of service for vehicles at signalized intersections is directly related to delay values and is assigned on that basis. Level of Service is a measure of the acceptability of delay values to motorists at a given intersection. The criteria are given in the table below.

Level-of Service Criteria for Signalized Intersections

Level of Service	Control Delay per Vehicle (sec./veh.)
A	< 10.0
B	>10.0 and ≤ 20.0
C	>20.0 and ≤ 35.0
D	>35.0 and ≤ 55.0
E	>55.0 and ≤ 80.0
F	> 80.0

Delay is a complex measure, and is dependent on a number of variables, including the quality of progression, the cycle length, the green ratio, and the v/c ratio for the lane group or approach in question.

VEHICULAR LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS (HCM 6th EDITION)

The level of service criteria for vehicles at unsignalized intersections is defined as the average control delay, in seconds per vehicle.

LOS delay threshold values are lower for two-way stop-controlled (TWSC) and all-way stop-controlled (AWSC) intersections than those of signalized intersections. This is because more vehicles pass through signalized intersections, and therefore, drivers expect and tolerate greater delays. While the criteria for level of service for TWSC and AWSC intersections are the same, procedures to calculate the average total delay may differ.

Level of Service Criteria for Two-Way Stop-Controlled Intersections

Level of Service	Average Control Delay (sec/veh)
A	≤ 10
B	>10 and ≤15
C	>15 and ≤25
D	>25 and ≤35
E	>35 and ≤50
F	> 50

APPENDIX C

LEVEL OF SERVICE CALCULATIONS

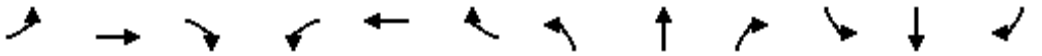
APPENDIX C

LEVEL OF SERVICE CALCULATIONS

- Existing AM Conditions (Projected)

HCM 6th Signalized Intersection Summary
1: Lono Ave & Kamehameha Ave

09/04/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	351	7	26	179	51	11	201	87	87	115	37
Future Volume (veh/h)	51	351	7	26	179	51	11	201	87	87	115	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	55	382	1	28	195	12	12	218	0	95	125	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	459	532	450	312	491	415	392	343		375	354	85
Arrive On Green	0.05	0.28	0.28	0.03	0.26	0.26	0.02	0.18	0.00	0.08	0.24	0.24
Sat Flow, veh/h	1781	1870	1582	1781	1870	1582	1781	1870	1585	1781	1457	350
Grp Volume(v), veh/h	55	382	1	28	195	12	12	218	0	95	0	155
Grp Sat Flow(s),veh/h/ln	1781	1870	1582	1781	1870	1582	1781	1870	1585	1781	0	1807
Q Serve(g_s), s	1.0	8.7	0.0	0.5	4.0	0.3	0.3	5.1	0.0	2.0	0.0	3.3
Cycle Q Clear(g_c), s	1.0	8.7	0.0	0.5	4.0	0.3	0.3	5.1	0.0	2.0	0.0	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	459	532	450	312	491	415	392	343		375	0	439
V/C Ratio(X)	0.12	0.72	0.00	0.09	0.40	0.03	0.03	0.64		0.25	0.00	0.35
Avail Cap(c_a), veh/h	778	1587	1342	669	1587	1342	780	1508		656	0	1456
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.5	15.2	12.1	12.5	14.3	12.9	15.2	17.8	0.0	14.0	0.0	14.8
Incr Delay (d2), s/veh	0.1	1.8	0.0	0.1	0.5	0.0	0.0	2.0	0.0	0.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.4	0.0	0.2	1.5	0.1	0.1	2.1	0.0	0.7	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.6	17.0	12.1	12.7	14.8	12.9	15.3	19.8	0.0	14.3	0.0	15.2
LnGrp LOS	B	B	B	B	B	B	B	B		B	A	B
Approach Vol, veh/h		438			235			230	A		250	
Approach Delay, s/veh		16.3			14.5			19.5			14.9	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	18.4	5.7	16.5	7.6	17.4	8.6	13.6
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	11.0	40.0	11.0	38.0	11.0	40.0	11.0	38.0
Max Q Clear Time (g_c+I1), s	2.5	10.7	2.3	5.3	3.0	6.0	4.0	7.1
Green Ext Time (p_c), s	0.0	2.5	0.0	0.9	0.0	1.2	0.1	1.3

Intersection Summary	
HCM 6th Ctrl Delay	16.3
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

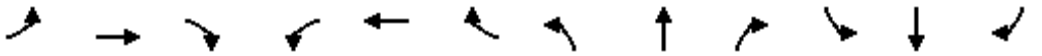
Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	516	6	13	240	20	32
Future Vol, veh/h	516	6	13	240	20	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	561	7	14	261	22	35

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	568	0	724	284
Stage 1	-	-	-	-	565	-
Stage 2	-	-	-	-	159	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1000	-	361	713
Stage 1	-	-	-	-	532	-
Stage 2	-	-	-	-	853	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1000	-	356	713
Mov Cap-2 Maneuver	-	-	-	-	356	-
Stage 1	-	-	-	-	525	-
Stage 2	-	-	-	-	853	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	12.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	515	-	-	1000	-
HCM Lane V/C Ratio	0.11	-	-	0.014	-
HCM Control Delay (s)	12.9	-	-	8.7	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	356	133	59	154	79	104	469	80	100	460	12
Future Volume (veh/h)	47	356	133	59	154	79	104	469	80	100	460	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	387	110	64	167	11	113	510	78	109	500	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	484	136	82	349	295	136	1669	254	134	1910	46
Arrive On Green	0.04	0.18	0.18	0.05	0.19	0.19	0.15	1.00	1.00	0.08	0.54	0.54
Sat Flow, veh/h	1781	2732	767	1781	1870	1585	1781	3091	471	1781	3546	85
Grp Volume(v), veh/h	51	250	247	64	167	11	113	292	296	109	250	262
Grp Sat Flow(s),veh/h/ln	1781	1777	1721	1781	1870	1585	1781	1777	1785	1781	1777	1854
Q Serve(g_s), s	3.7	17.5	17.9	4.6	10.4	0.7	8.0	0.0	0.0	7.8	9.8	9.9
Cycle Q Clear(g_c), s	3.7	17.5	17.9	4.6	10.4	0.7	8.0	0.0	0.0	7.8	9.8	9.9
Prop In Lane	1.00		0.45	1.00		1.00	1.00		0.26	1.00		0.05
Lane Grp Cap(c), veh/h	66	315	305	82	349	295	136	960	964	134	957	999
V/C Ratio(X)	0.77	0.79	0.81	0.78	0.48	0.04	0.83	0.30	0.31	0.82	0.26	0.26
Avail Cap(c_a), veh/h	260	410	397	260	432	366	343	960	964	343	957	999
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.0	51.2	51.4	61.3	47.2	43.3	54.2	0.0	0.0	59.2	16.1	16.1
Incr Delay (d2), s/veh	7.0	7.9	9.2	5.8	1.0	0.1	4.6	0.8	0.8	4.5	0.7	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	8.5	8.5	2.2	5.0	0.3	3.5	0.2	0.2	3.7	4.2	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.0	59.1	60.6	67.1	48.3	43.4	58.8	0.8	0.8	63.8	16.8	16.8
LnGrp LOS	E	E	E	E	D	D	E	A	A	E	B	B
Approach Vol, veh/h		548			242			701			621	
Approach Delay, s/veh		60.7			53.0			10.1			25.0	
Approach LOS		E			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.8	76.2	9.8	29.2	14.9	76.0	11.0	28.0
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	25.0	35.0	19.0	30.0	25.0	35.0	19.0	30.0
Max Q Clear Time (g_c+I1), s	9.8	2.0	5.7	12.4	10.0	11.9	6.6	19.9
Green Ext Time (p_c), s	0.1	6.8	0.0	0.8	0.1	5.1	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	32.5
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	3	7	39	2	9	9	14	387	2	0	173	0
Future Vol, veh/h	3	7	39	2	9	9	14	387	2	0	173	0
Conflicting Peds, #/hr	3	0	0	0	0	3	3	0	1	1	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	8	42	2	10	10	15	421	2	0	188	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	656	645	191	666	644	426	191	0	0	424	0	0
Stage 1	191	191	-	453	453	-	-	-	-	-	-	-
Stage 2	465	454	-	213	191	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	379	391	851	373	391	628	1383	-	-	1135	-	-
Stage 1	811	742	-	586	570	-	-	-	-	-	-	-
Stage 2	578	569	-	789	742	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	360	384	849	345	384	626	1379	-	-	1134	-	-
Mov Cap-2 Maneuver	360	384	-	345	384	-	-	-	-	-	-	-
Stage 1	797	740	-	577	561	-	-	-	-	-	-	-
Stage 2	550	560	-	742	740	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.8	13.2	0.3	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1379	-	-	676	459	1134	-	-
HCM Lane V/C Ratio	0.011	-	-	0.079	0.047	-	-	-
HCM Control Delay (s)	7.6	0	-	10.8	13.2	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.1	0	-	-

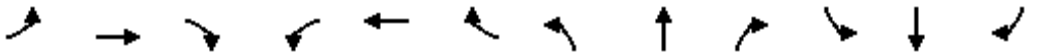
Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	1	10	2	0	3	7	30	1	2	10	7
Future Vol, veh/h	9	1	10	2	0	3	7	30	1	2	10	7
Conflicting Peds, #/hr	7	0	1	1	0	7	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	1	11	2	0	3	8	33	1	2	11	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	78	70	17	76	74	41	20	0	0	34	0	0
Stage 1	20	20	-	50	50	-	-	-	-	-	-	-
Stage 2	58	50	-	26	24	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	911	821	1062	914	816	1030	1596	-	-	1578	-	-
Stage 1	999	879	-	963	853	-	-	-	-	-	-	-
Stage 2	954	853	-	992	875	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	897	815	1060	898	810	1023	1594	-	-	1578	-	-
Mov Cap-2 Maneuver	897	815	-	898	810	-	-	-	-	-	-	-
Stage 1	993	877	-	958	849	-	-	-	-	-	-	-
Stage 2	940	849	-	979	873	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.8	8.7	1.3	0.8
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1594	-	-	966	969	1578	-	-
HCM Lane V/C Ratio	0.005	-	-	0.023	0.006	0.001	-	-
HCM Control Delay (s)	7.3	0	-	8.8	8.7	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	451	60	95	348	35	85	295	130	35	175	10
Future Volume (veh/h)	10	451	60	95	348	35	85	295	130	35	175	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	490	60	103	378	35	92	321	27	38	190	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	364	571	70	295	678	63	358	419	354	251	372	314
Arrive On Green	0.01	0.35	0.35	0.07	0.40	0.40	0.06	0.22	0.22	0.04	0.20	0.20
Sat Flow, veh/h	1781	1634	200	1781	1686	156	1781	1870	1578	1781	1870	1577
Grp Volume(v), veh/h	11	0	550	103	0	413	92	321	27	38	190	2
Grp Sat Flow(s),veh/h/ln	1781	0	1834	1781	0	1842	1781	1870	1578	1781	1870	1577
Q Serve(g_s), s	0.2	0.0	17.4	2.2	0.0	10.8	2.5	10.0	0.8	1.0	5.6	0.1
Cycle Q Clear(g_c), s	0.2	0.0	17.4	2.2	0.0	10.8	2.5	10.0	0.8	1.0	5.6	0.1
Prop In Lane	1.00		0.11	1.00		0.08	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	364	0	641	295	0	741	358	419	354	251	372	314
V/C Ratio(X)	0.03	0.00	0.86	0.35	0.00	0.56	0.26	0.77	0.08	0.15	0.51	0.01
Avail Cap(c_a), veh/h	567	0	824	405	0	828	473	781	659	411	781	658
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.2	0.0	18.8	13.9	0.0	14.3	18.1	22.6	19.1	19.1	22.3	20.0
Incr Delay (d2), s/veh	0.0	0.0	7.3	0.7	0.0	0.7	0.4	3.0	0.1	0.3	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	7.9	0.8	0.0	4.1	1.0	4.4	0.3	0.4	2.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.2	0.0	26.1	14.6	0.0	15.0	18.5	25.6	19.2	19.4	23.3	20.0
LnGrp LOS	B	A	C	B	A	B	B	C	B	B	C	C
Approach Vol, veh/h		561			516			440			230	
Approach Delay, s/veh		25.9			14.9			23.7			22.7	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	26.8	9.0	17.4	5.9	30.1	7.4	19.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	8.0	28.0	8.0	26.0	8.0	28.0	8.0	26.0
Max Q Clear Time (g_c+I1), s	4.2	19.4	4.5	7.6	2.2	12.8	3.0	12.0
Green Ext Time (p_c), s	0.1	2.4	0.1	0.9	0.0	2.3	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	21.7
HCM 6th LOS	C

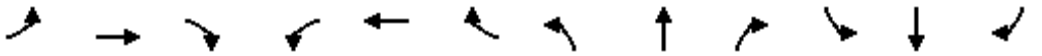
Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	584	0	7	422	14	0	0	9	30	2	19
Future Vol, veh/h	4	584	0	7	422	14	0	0	9	30	2	19
Conflicting Peds, #/hr	0	0	5	5	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	635	0	8	459	15	0	0	10	33	2	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	474	0	0	640	0	0	1142	1138	640	1131	1131	467
Stage 1	-	-	-	-	-	-	648	648	-	483	483	-
Stage 2	-	-	-	-	-	-	494	490	-	648	648	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1088	-	-	944	-	-	177	201	475	181	203	596
Stage 1	-	-	-	-	-	-	459	466	-	565	553	-
Stage 2	-	-	-	-	-	-	557	549	-	459	466	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1088	-	-	940	-	-	166	196	473	175	198	596
Mov Cap-2 Maneuver	-	-	-	-	-	-	166	196	-	175	198	-
Stage 1	-	-	-	-	-	-	454	461	-	562	546	-
Stage 2	-	-	-	-	-	-	529	542	-	447	461	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	12.8	24.6
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	473	1088	-	-	940	-	-	239
HCM Lane V/C Ratio	0.021	0.004	-	-	0.008	-	-	0.232
HCM Control Delay (s)	12.8	8.3	0	-	8.9	0	-	24.6
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	358	215	69	217	75	140	493	125	67	358	75
Future Volume (veh/h)	99	358	215	69	217	75	140	493	125	67	358	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	108	389	127	75	236	15	152	536	74	73	389	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	444	376	95	405	342	178	1762	782	92	1342	246
Arrive On Green	0.07	0.24	0.24	0.05	0.22	0.22	0.10	0.50	0.50	0.10	0.90	0.90
Sat Flow, veh/h	1781	1870	1585	1781	1870	1581	1781	3554	1577	1781	2998	550
Grp Volume(v), veh/h	108	389	127	75	236	15	152	536	74	73	229	232
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1581	1781	1777	1577	1781	1777	1771
Q Serve(g_s), s	7.8	26.0	8.6	5.4	14.7	1.0	10.9	11.6	3.2	5.2	2.4	2.4
Cycle Q Clear(g_c), s	7.8	26.0	8.6	5.4	14.7	1.0	10.9	11.6	3.2	5.2	2.4	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.31
Lane Grp Cap(c), veh/h	132	444	376	95	405	342	178	1762	782	92	795	793
V/C Ratio(X)	0.82	0.88	0.34	0.79	0.58	0.04	0.85	0.30	0.09	0.79	0.29	0.29
Avail Cap(c_a), veh/h	274	705	597	274	705	596	356	1762	782	301	795	793
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	59.3	47.8	41.1	60.8	45.7	40.3	57.5	19.5	17.3	57.6	3.9	3.9
Incr Delay (d2), s/veh	4.6	7.6	0.5	5.3	1.3	0.1	4.4	0.4	0.2	5.3	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	13.0	3.5	2.6	7.0	0.4	5.1	4.9	1.2	2.4	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.9	55.3	41.6	66.0	47.0	40.3	61.9	19.9	17.6	62.9	4.8	4.8
LnGrp LOS	E	E	D	E	D	D	E	B	B	E	A	A
Approach Vol, veh/h		624			326			762			534	
Approach Delay, s/veh		54.0			51.1			28.1			12.7	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.7	70.5	14.7	33.1	18.0	64.2	12.0	35.8
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	22.0	18.0	20.0	49.0	26.0	14.0	20.0	49.0
Max Q Clear Time (g_c+I1), s	7.2	13.6	9.8	16.7	12.9	4.4	7.4	28.0
Green Ext Time (p_c), s	0.1	1.9	0.1	1.5	0.2	2.5	0.1	2.8

Intersection Summary	
HCM 6th Ctrl Delay	35.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

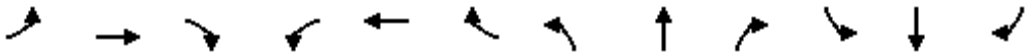
APPENDIX C

LEVEL OF SERVICE CALCULATIONS

- Existing PM Conditions (Projected)

HCM 6th Signalized Intersection Summary
1: Lono Ave & Kamehameha Ave

09/04/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	392	13	77	348	96	16	113	64	199	103	60
Future Volume (veh/h)	45	392	13	77	348	96	16	113	64	199	103	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	426	3	84	378	28	17	123	0	216	112	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	377	572	483	354	607	513	311	209		440	282	119
Arrive On Green	0.05	0.31	0.31	0.07	0.32	0.32	0.02	0.11	0.00	0.13	0.23	0.23
Sat Flow, veh/h	1781	1870	1580	1781	1870	1580	1781	1870	1585	1781	1251	525
Grp Volume(v), veh/h	49	426	3	84	378	28	17	123	0	216	0	159
Grp Sat Flow(s),veh/h/ln	1781	1870	1580	1781	1870	1580	1781	1870	1585	1781	0	1776
Q Serve(g_s), s	1.0	10.8	0.1	1.6	9.0	0.6	0.4	3.3	0.0	5.2	0.0	4.0
Cycle Q Clear(g_c), s	1.0	10.8	0.1	1.6	9.0	0.6	0.4	3.3	0.0	5.2	0.0	4.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	377	572	483	354	607	513	311	209		440	0	401
V/C Ratio(X)	0.13	0.74	0.01	0.24	0.62	0.05	0.05	0.59		0.49	0.00	0.40
Avail Cap(c_a), veh/h	663	1422	1201	607	1422	1201	647	1351		572	0	1283
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.9	16.4	12.7	12.1	15.0	12.2	20.0	22.2	0.0	15.6	0.0	17.3
Incr Delay (d2), s/veh	0.2	1.9	0.0	0.3	1.1	0.0	0.1	2.6	0.0	0.9	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.3	0.0	0.6	3.5	0.2	0.2	1.5	0.0	2.0	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.1	18.4	12.7	12.4	16.1	12.3	20.0	24.8	0.0	16.5	0.0	18.0
LnGrp LOS	B	B	B	B	B	B	C	C		B	A	B
Approach Vol, veh/h		478			490			140	A		375	
Approach Delay, s/veh		17.7			15.2			24.2			17.1	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	21.1	6.1	16.9	7.6	22.1	12.1	10.9
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	11.0	40.0	11.0	38.0	11.0	40.0	11.0	38.0
Max Q Clear Time (g_c+I1), s	3.6	12.8	2.4	6.0	3.0	11.0	7.2	5.3
Green Ext Time (p_c), s	0.1	2.8	0.0	0.9	0.0	2.5	0.2	0.7

Intersection Summary	
HCM 6th Ctrl Delay	17.3
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

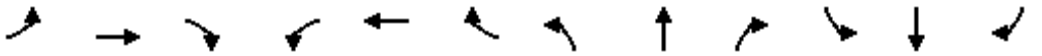
Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	648	6	12	549	3	15
Future Vol, veh/h	648	6	12	549	3	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	704	7	13	597	3	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	711	0	1033	356
Stage 1	-	-	-	-	708	-
Stage 2	-	-	-	-	325	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	884	-	228	640
Stage 1	-	-	-	-	449	-
Stage 2	-	-	-	-	705	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	884	-	225	640
Mov Cap-2 Maneuver	-	-	-	-	225	-
Stage 1	-	-	-	-	442	-
Stage 2	-	-	-	-	705	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	12.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	490	-	-	884	-
HCM Lane V/C Ratio	0.04	-	-	0.015	-
HCM Control Delay (s)	12.7	-	-	9.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	311	156	152	396	261	149	604	77	156	460	61
Future Volume (veh/h)	82	311	156	152	396	261	149	604	77	156	460	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	89	338	120	165	430	91	162	657	79	170	500	61
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	522	182	188	463	392	183	1414	170	193	1430	174
Arrive On Green	0.06	0.20	0.20	0.11	0.25	0.25	0.21	0.89	0.89	0.11	0.45	0.45
Sat Flow, veh/h	1781	2565	893	1781	1870	1585	1781	3194	384	1781	3189	388
Grp Volume(v), veh/h	89	232	226	165	430	91	162	365	371	170	278	283
Grp Sat Flow(s),veh/h/ln	1781	1777	1681	1781	1870	1585	1781	1777	1801	1781	1777	1799
Q Serve(g_s), s	7.4	17.9	18.6	13.7	33.7	6.9	13.3	6.0	6.0	14.1	15.3	15.5
Cycle Q Clear(g_c), s	7.4	17.9	18.6	13.7	33.7	6.9	13.3	6.0	6.0	14.1	15.3	15.5
Prop In Lane	1.00		0.53	1.00		1.00	1.00		0.21	1.00		0.22
Lane Grp Cap(c), veh/h	110	362	342	188	463	392	183	786	797	193	797	807
V/C Ratio(X)	0.81	0.64	0.66	0.88	0.93	0.23	0.89	0.46	0.47	0.88	0.35	0.35
Avail Cap(c_a), veh/h	297	486	459	297	511	433	321	786	797	321	797	807
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.5	54.7	55.0	66.1	55.2	45.1	58.8	5.2	5.2	65.9	27.1	27.1
Incr Delay (d2), s/veh	5.3	1.9	2.2	10.6	22.5	0.3	5.6	1.8	1.8	8.1	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	8.3	8.1	6.8	18.8	2.8	5.7	2.0	2.0	6.9	6.9	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.8	56.6	57.1	76.7	77.7	45.4	64.4	6.9	6.9	74.0	28.3	28.3
LnGrp LOS	E	E	E	E	E	D	E	A	A	E	C	C
Approach Vol, veh/h		547			686			898			731	
Approach Delay, s/veh		59.8			73.2			17.3			38.9	
Approach LOS		E			E			B			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.3	72.4	14.3	42.1	20.4	73.2	20.8	35.5
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	27.0	36.0	25.0	41.0	27.0	36.0	25.0	41.0
Max Q Clear Time (g_c+I1), s	16.1	8.0	9.4	35.7	15.3	17.5	15.7	20.6
Green Ext Time (p_c), s	0.2	8.5	0.1	1.4	0.2	5.2	0.1	2.7

Intersection Summary	
HCM 6th Ctrl Delay	44.3
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	3	30	5	7	10	19	186	4	5	201	3
Future Vol, veh/h	3	3	30	5	7	10	19	186	4	5	201	3
Conflicting Peds, #/hr	1	0	0	0	0	1	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	3	33	5	8	11	21	202	4	5	218	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	488	479	221	494	478	205	222	0	0	206	0	0
Stage 1	231	231	-	246	246	-	-	-	-	-	-	-
Stage 2	257	248	-	248	232	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	490	486	819	486	486	836	1347	-	-	1365	-	-
Stage 1	772	713	-	758	703	-	-	-	-	-	-	-
Stage 2	748	701	-	756	713	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	469	475	818	456	475	835	1346	-	-	1365	-	-
Mov Cap-2 Maneuver	469	475	-	456	475	-	-	-	-	-	-	-
Stage 1	757	709	-	744	690	-	-	-	-	-	-	-
Stage 2	716	688	-	720	709	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.2	11.4	0.7	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1346	-	-	729	584	1365	-	-
HCM Lane V/C Ratio	0.015	-	-	0.054	0.041	0.004	-	-
HCM Control Delay (s)	7.7	0	-	10.2	11.4	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

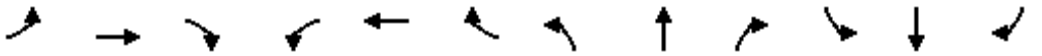
Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	0	4	3	3	2	8	16	1	0	14	6
Future Vol, veh/h	4	0	4	3	3	2	8	16	1	0	14	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	4	3	3	2	9	17	1	0	15	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	57	55	19	57	58	18	22	0	0	18	0	0
Stage 1	19	19	-	36	36	-	-	-	-	-	-	-
Stage 2	38	36	-	21	22	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	940	836	1059	940	833	1061	1593	-	-	1599	-	-
Stage 1	1000	880	-	980	865	-	-	-	-	-	-	-
Stage 2	977	865	-	998	877	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	931	831	1059	932	828	1061	1593	-	-	1599	-	-
Mov Cap-2 Maneuver	931	831	-	932	828	-	-	-	-	-	-	-
Stage 1	994	880	-	974	860	-	-	-	-	-	-	-
Stage 2	965	860	-	994	877	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	9	2.3	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1593	-	-	991	917	1599	-	-
HCM Lane V/C Ratio	0.005	-	-	0.009	0.009	-	-	-
HCM Control Delay (s)	7.3	0	-	8.7	9	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	425	35	125	462	40	20	155	60	50	210	25
Future Volume (veh/h)	10	425	35	125	462	40	20	155	60	50	210	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	462	35	136	502	40	22	168	8	54	228	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	575	44	363	688	55	256	284	240	312	332	281
Arrive On Green	0.01	0.33	0.33	0.08	0.40	0.40	0.03	0.15	0.15	0.05	0.18	0.18
Sat Flow, veh/h	1781	1717	130	1781	1709	136	1781	1870	1580	1781	1870	1581
Grp Volume(v), veh/h	11	0	497	136	0	542	22	168	8	54	228	4
Grp Sat Flow(s),veh/h/ln	1781	0	1847	1781	0	1846	1781	1870	1580	1781	1870	1581
Q Serve(g_s), s	0.2	0.0	12.9	2.5	0.0	13.1	0.5	4.4	0.2	1.3	6.0	0.1
Cycle Q Clear(g_c), s	0.2	0.0	12.9	2.5	0.0	13.1	0.5	4.4	0.2	1.3	6.0	0.1
Prop In Lane	1.00		0.07	1.00		0.07	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	295	0	618	363	0	743	256	284	240	312	332	281
V/C Ratio(X)	0.04	0.00	0.80	0.37	0.00	0.73	0.09	0.59	0.03	0.17	0.69	0.01
Avail Cap(c_a), veh/h	540	0	981	488	0	980	480	923	779	490	923	780
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.1	0.0	16.0	11.4	0.0	13.3	18.2	20.8	19.1	17.4	20.3	17.9
Incr Delay (d2), s/veh	0.1	0.0	2.6	0.6	0.0	1.9	0.1	2.0	0.1	0.3	2.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	5.1	0.9	0.0	4.9	0.2	1.9	0.1	0.5	2.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.2	0.0	18.6	12.0	0.0	15.2	18.4	22.8	19.1	17.7	22.8	17.9
LnGrp LOS	B	A	B	B	A	B	B	C	B	B	C	B
Approach Vol, veh/h		508			678			198			286	
Approach Delay, s/veh		18.4			14.6			22.1			21.8	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	22.7	6.4	14.4	5.7	26.2	7.7	13.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	8.0	28.0	8.0	26.0	8.0	28.0	8.0	26.0
Max Q Clear Time (g_c+I1), s	4.5	14.9	2.5	8.0	2.2	15.1	3.3	6.4
Green Ext Time (p_c), s	0.1	2.6	0.0	1.2	0.0	2.9	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	17.9
HCM 6th LOS	B

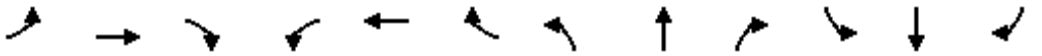
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	528	5	10	645	36	0	0	5	10	3	8
Future Vol, veh/h	4	528	5	10	645	36	0	0	5	10	3	8
Conflicting Peds, #/hr	3	0	0	0	0	3	3	0	0	0	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	574	5	11	701	39	0	0	5	11	3	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	743	0	0	579	0	0	1337	1350	577	1333	1333	727
Stage 1	-	-	-	-	-	-	585	585	-	746	746	-
Stage 2	-	-	-	-	-	-	752	765	-	587	587	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	864	-	-	995	-	-	130	150	516	131	154	424
Stage 1	-	-	-	-	-	-	497	498	-	405	421	-
Stage 2	-	-	-	-	-	-	402	412	-	496	497	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	862	-	-	995	-	-	122	146	516	127	150	422
Mov Cap-2 Maneuver	-	-	-	-	-	-	122	146	-	127	150	-
Stage 1	-	-	-	-	-	-	494	495	-	401	412	-
Stage 2	-	-	-	-	-	-	382	403	-	487	494	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	12.1	28.2
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	516	862	-	-	995	-	-	178
HCM Lane V/C Ratio	0.011	0.005	-	-	0.011	-	-	0.128
HCM Control Delay (s)	12.1	9.2	0	-	8.7	0	-	28.2
HCM Lane LOS	B	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	300	185	122	418	111	199	603	100	125	410	103
Future Volume (veh/h)	52	300	185	122	418	111	199	603	100	125	410	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	326	110	133	454	44	216	655	54	136	446	99
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	73	410	347	155	496	420	239	1655	736	157	1215	268
Arrive On Green	0.04	0.22	0.22	0.09	0.27	0.27	0.13	0.47	0.47	0.18	0.84	0.84
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1582	1781	2895	638
Grp Volume(v), veh/h	57	326	110	133	454	44	216	655	54	136	273	272
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1582	1781	1777	1756
Q Serve(g_s), s	4.8	24.7	8.7	11.0	35.3	3.1	17.9	18.1	2.8	11.1	5.3	5.4
Cycle Q Clear(g_c), s	4.8	24.7	8.7	11.0	35.3	3.1	17.9	18.1	2.8	11.1	5.3	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.36
Lane Grp Cap(c), veh/h	73	410	347	155	496	420	239	1655	736	157	746	737
V/C Ratio(X)	0.78	0.80	0.32	0.86	0.92	0.10	0.90	0.40	0.07	0.87	0.37	0.37
Avail Cap(c_a), veh/h	226	623	528	226	623	528	333	1655	736	333	746	737
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	0.87	0.87
Uniform Delay (d), s/veh	71.2	55.4	49.2	67.5	53.5	41.7	64.0	26.3	22.2	60.9	7.4	7.4
Incr Delay (d2), s/veh	6.5	4.1	0.5	13.9	15.9	0.1	17.9	0.7	0.2	4.8	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	12.2	3.6	5.7	18.8	1.3	9.3	7.9	1.1	4.8	1.9	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.8	59.5	49.7	81.5	69.4	41.8	81.9	27.0	22.4	65.7	8.6	8.7
LnGrp LOS	E	E	D	F	E	D	F	C	C	E	A	A
Approach Vol, veh/h		493			631			925			681	
Approach Delay, s/veh		59.4			70.0			39.5			20.0	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.2	75.8	11.2	44.8	25.1	69.0	18.1	37.9
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	28.0	32.0	19.0	50.0	28.0	32.0	19.0	50.0
Max Q Clear Time (g_c+I1), s	13.1	20.1	6.8	37.3	19.9	7.4	13.0	26.7
Green Ext Time (p_c), s	0.1	4.7	0.0	2.4	0.2	4.9	0.1	2.3

Intersection Summary	
HCM 6th Ctrl Delay	45.3
HCM 6th LOS	D

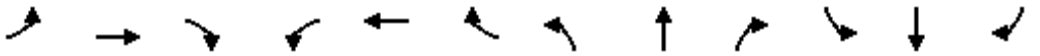
APPENDIX C

LEVEL OF SERVICE CALCULATIONS

- Base Year 2025 without Project AM Peak Conditions

HCM 6th Signalized Intersection Summary
1: Lono Ave & Kamehameha Ave

09/04/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	392	8	26	205	54	11	244	87	90	135	40
Future Volume (veh/h)	54	392	8	26	205	54	11	244	87	90	135	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	426	2	28	223	13	12	265	0	98	147	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	448	567	480	290	524	443	385	386		353	388	90
Arrive On Green	0.06	0.30	0.30	0.03	0.28	0.28	0.02	0.21	0.00	0.07	0.26	0.26
Sat Flow, veh/h	1781	1870	1582	1781	1870	1582	1781	1870	1585	1781	1469	340
Grp Volume(v), veh/h	59	426	2	28	223	13	12	265	0	98	0	181
Grp Sat Flow(s),veh/h/ln	1781	1870	1582	1781	1870	1582	1781	1870	1585	1781	0	1808
Q Serve(g_s), s	1.2	10.7	0.0	0.6	5.1	0.3	0.3	6.8	0.0	2.2	0.0	4.2
Cycle Q Clear(g_c), s	1.2	10.7	0.0	0.6	5.1	0.3	0.3	6.8	0.0	2.2	0.0	4.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	448	567	480	290	524	443	385	386		353	0	477
V/C Ratio(X)	0.13	0.75	0.00	0.10	0.43	0.03	0.03	0.69		0.28	0.00	0.38
Avail Cap(c_a), veh/h	728	1442	1220	610	1442	1220	735	1370		600	0	1325
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.1	16.3	12.6	13.4	15.3	13.6	15.8	19.0	0.0	14.7	0.0	15.6
Incr Delay (d2), s/veh	0.1	2.0	0.0	0.1	0.5	0.0	0.0	2.2	0.0	0.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	4.3	0.0	0.2	2.0	0.1	0.1	2.9	0.0	0.8	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.2	18.3	12.6	13.5	15.8	13.6	15.9	21.2	0.0	15.2	0.0	16.1
LnGrp LOS	B	B	B	B	B	B	B	C		B	A	B
Approach Vol, veh/h		487			264			277	A		279	
Approach Delay, s/veh		17.6			15.5			21.0			15.8	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	20.7	5.8	18.7	7.9	19.5	8.8	15.7
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	11.0	40.0	11.0	38.0	11.0	40.0	11.0	38.0
Max Q Clear Time (g_c+I1), s	2.6	12.7	2.3	6.2	3.2	7.1	4.2	8.8
Green Ext Time (p_c), s	0.0	2.8	0.0	1.1	0.1	1.4	0.1	1.6

Intersection Summary	
HCM 6th Ctrl Delay	17.5
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

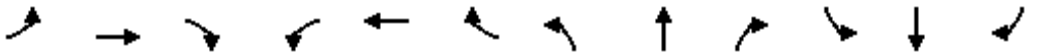
Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	559	6	13	268	20	32
Future Vol, veh/h	559	6	13	268	20	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	608	7	14	291	22	35

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	615	0	786	308
Stage 1	-	-	-	-	612	-
Stage 2	-	-	-	-	174	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	961	-	329	688
Stage 1	-	-	-	-	504	-
Stage 2	-	-	-	-	839	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	961	-	324	688
Mov Cap-2 Maneuver	-	-	-	-	324	-
Stage 1	-	-	-	-	496	-
Stage 2	-	-	-	-	839	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	13.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	480	-	-	961	-
HCM Lane V/C Ratio	0.118	-	-	0.015	-
HCM Control Delay (s)	13.5	-	-	8.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	399	133	59	180	79	106	524	80	100	550	12
Future Volume (veh/h)	47	399	133	59	180	79	106	524	80	100	550	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	434	117	64	196	12	115	570	79	109	598	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	525	140	82	372	315	139	1654	229	134	1867	37
Arrive On Green	0.04	0.19	0.19	0.05	0.20	0.20	0.10	0.70	0.70	0.08	0.52	0.52
Sat Flow, veh/h	1781	2766	739	1781	1870	1585	1781	3135	433	1781	3562	71
Grp Volume(v), veh/h	51	277	274	64	196	12	115	322	327	109	298	312
Grp Sat Flow(s),veh/h/ln	1781	1777	1728	1781	1870	1585	1781	1777	1792	1781	1777	1857
Q Serve(g_s), s	3.7	19.5	19.8	4.6	12.2	0.8	8.2	9.3	9.3	7.8	12.5	12.5
Cycle Q Clear(g_c), s	3.7	19.5	19.8	4.6	12.2	0.8	8.2	9.3	9.3	7.8	12.5	12.5
Prop In Lane	1.00		0.43	1.00		1.00	1.00		0.24	1.00		0.04
Lane Grp Cap(c), veh/h	66	337	328	82	372	315	139	937	945	134	931	973
V/C Ratio(X)	0.77	0.82	0.83	0.78	0.53	0.04	0.82	0.34	0.35	0.82	0.32	0.32
Avail Cap(c_a), veh/h	260	410	399	260	432	366	343	937	945	343	931	973
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.0	50.5	50.7	61.3	46.6	42.0	57.4	10.6	10.6	59.2	17.7	17.7
Incr Delay (d2), s/veh	7.0	10.7	12.1	5.8	1.2	0.0	4.6	1.0	1.0	4.5	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	9.7	9.7	2.2	5.8	0.3	3.8	3.5	3.6	3.7	5.4	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.0	61.3	62.7	67.1	47.7	42.1	62.0	11.6	11.6	63.8	18.6	18.6
LnGrp LOS	E	E	E	E	D	D	E	B	B	E	B	B
Approach Vol, veh/h		602			272			764			719	
Approach Delay, s/veh		62.6			52.1			19.2			25.4	
Approach LOS		E			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.8	74.6	9.8	30.9	15.2	74.1	11.0	29.7
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	25.0	35.0	19.0	30.0	25.0	35.0	19.0	30.0
Max Q Clear Time (g_c+I1), s	9.8	11.3	5.7	14.2	10.2	14.5	6.6	21.8
Green Ext Time (p_c), s	0.1	6.8	0.0	0.9	0.1	5.9	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	36.0
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	7	39	2	9	9	14	430	2	0	193	0
Future Vol, veh/h	3	7	39	2	9	9	14	430	2	0	193	0
Conflicting Peds, #/hr	3	0	0	0	0	3	3	0	1	1	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	8	42	2	10	10	15	467	2	0	210	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	724	713	213	734	712	472	213	0	0	470	0	0
Stage 1	213	213	-	499	499	-	-	-	-	-	-	-
Stage 2	511	500	-	235	213	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	341	357	827	336	358	592	1357	-	-	1092	-	-
Stage 1	789	726	-	554	544	-	-	-	-	-	-	-
Stage 2	545	543	-	768	726	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	323	350	825	309	351	590	1353	-	-	1091	-	-
Mov Cap-2 Maneuver	323	350	-	309	351	-	-	-	-	-	-	-
Stage 1	775	724	-	545	535	-	-	-	-	-	-	-
Stage 2	517	534	-	721	724	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.1	14	0.2	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1353	-	-	640	422	1091	-	-
HCM Lane V/C Ratio	0.011	-	-	0.083	0.052	-	-	-
HCM Control Delay (s)	7.7	0	-	11.1	14	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.2	0	-	-

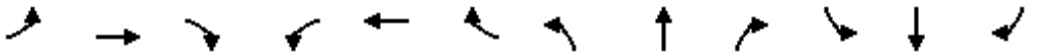
Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	1	10	2	0	3	7	30	1	2	10	7
Future Vol, veh/h	9	1	10	2	0	3	7	30	1	2	10	7
Conflicting Peds, #/hr	7	0	1	1	0	7	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	1	11	2	0	3	8	33	1	2	11	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	78	70	17	76	74	41	20	0	0	34	0	0
Stage 1	20	20	-	50	50	-	-	-	-	-	-	-
Stage 2	58	50	-	26	24	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	911	821	1062	914	816	1030	1596	-	-	1578	-	-
Stage 1	999	879	-	963	853	-	-	-	-	-	-	-
Stage 2	954	853	-	992	875	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	897	815	1060	898	810	1023	1594	-	-	1578	-	-
Mov Cap-2 Maneuver	897	815	-	898	810	-	-	-	-	-	-	-
Stage 1	993	877	-	958	849	-	-	-	-	-	-	-
Stage 2	940	849	-	979	873	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.8	8.7	1.3	0.8
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1594	-	-	966	969	1578	-	-
HCM Lane V/C Ratio	0.005	-	-	0.023	0.006	0.001	-	-
HCM Control Delay (s)	7.3	0	-	8.8	8.7	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	478	60	95	363	36	85	338	130	36	195	10
Future Volume (veh/h)	10	478	60	95	363	36	85	338	130	36	195	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	520	61	103	395	36	92	367	27	39	212	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	347	586	69	269	686	63	358	456	385	236	414	349
Arrive On Green	0.01	0.36	0.36	0.06	0.41	0.41	0.06	0.24	0.24	0.04	0.22	0.22
Sat Flow, veh/h	1781	1643	193	1781	1689	154	1781	1870	1579	1781	1870	1578
Grp Volume(v), veh/h	11	0	581	103	0	431	92	367	27	39	212	2
Grp Sat Flow(s),veh/h/ln	1781	0	1835	1781	0	1842	1781	1870	1579	1781	1870	1578
Q Serve(g_s), s	0.3	0.0	20.0	2.4	0.0	12.2	2.6	12.4	0.9	1.1	6.7	0.1
Cycle Q Clear(g_c), s	0.3	0.0	20.0	2.4	0.0	12.2	2.6	12.4	0.9	1.1	6.7	0.1
Prop In Lane	1.00		0.10	1.00		0.08	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	347	0	655	269	0	749	358	456	385	236	414	349
V/C Ratio(X)	0.03	0.00	0.89	0.38	0.00	0.58	0.26	0.80	0.07	0.17	0.51	0.01
Avail Cap(c_a), veh/h	534	0	764	368	0	767	461	723	610	379	723	610
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.0	0.0	20.4	15.3	0.0	15.5	18.6	23.9	19.6	19.7	23.0	20.4
Incr Delay (d2), s/veh	0.0	0.0	11.1	0.9	0.0	1.0	0.4	3.6	0.1	0.3	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	9.8	0.9	0.0	4.8	1.1	5.6	0.3	0.5	2.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.0	0.0	31.5	16.2	0.0	16.5	19.0	27.5	19.6	20.1	24.0	20.4
LnGrp LOS	B	A	C	B	A	B	B	C	B	C	C	C
Approach Vol, veh/h		592			534			486			253	
Approach Delay, s/veh		31.1			16.4			25.4			23.3	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	29.0	9.1	19.9	5.9	32.3	7.6	21.4
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	8.0	28.0	8.0	26.0	8.0	28.0	8.0	26.0
Max Q Clear Time (g_c+I1), s	4.4	22.0	4.6	8.7	2.3	14.2	3.1	14.4
Green Ext Time (p_c), s	0.1	1.9	0.1	1.0	0.0	2.3	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C

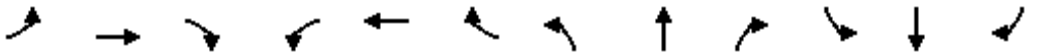
Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	612	0	7	437	14	0	0	9	30	2	19
Future Vol, veh/h	4	612	0	7	437	14	0	0	9	30	2	19
Conflicting Peds, #/hr	0	0	5	5	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	665	0	8	475	15	0	0	10	33	2	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	490	0	0	670	0	0	1188	1184	670	1177	1177	483
Stage 1	-	-	-	-	-	-	678	678	-	499	499	-
Stage 2	-	-	-	-	-	-	510	506	-	678	678	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1073	-	-	920	-	-	165	189	457	168	191	584
Stage 1	-	-	-	-	-	-	442	452	-	554	544	-
Stage 2	-	-	-	-	-	-	546	540	-	442	452	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1073	-	-	916	-	-	155	185	455	162	187	584
Mov Cap-2 Maneuver	-	-	-	-	-	-	155	185	-	162	187	-
Stage 1	-	-	-	-	-	-	437	447	-	551	537	-
Stage 2	-	-	-	-	-	-	518	534	-	430	447	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	13.1	26.4
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	455	1073	-	-	916	-	-	223
HCM Lane V/C Ratio	0.022	0.004	-	-	0.008	-	-	0.249
HCM Control Delay (s)	13.1	8.4	0	-	9	0	-	26.4
HCM Lane LOS	B	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	386	215	69	232	75	140	550	125	67	448	75
Future Volume (veh/h)	99	386	215	69	232	75	140	550	125	67	448	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	108	420	137	75	252	16	152	598	73	73	487	73
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	475	403	95	437	369	178	1702	755	92	1335	199
Arrive On Green	0.07	0.25	0.25	0.05	0.23	0.23	0.10	0.48	0.48	0.10	0.86	0.86
Sat Flow, veh/h	1781	1870	1585	1781	1870	1581	1781	3554	1577	1781	3101	463
Grp Volume(v), veh/h	108	420	137	75	252	16	152	598	73	73	278	282
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1581	1781	1777	1577	1781	1777	1786
Q Serve(g_s), s	7.8	28.1	9.2	5.4	15.5	1.0	10.9	13.7	3.3	5.2	4.1	4.2
Cycle Q Clear(g_c), s	7.8	28.1	9.2	5.4	15.5	1.0	10.9	13.7	3.3	5.2	4.1	4.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	132	475	403	95	437	369	178	1702	755	92	765	769
V/C Ratio(X)	0.82	0.88	0.34	0.79	0.58	0.04	0.85	0.35	0.10	0.79	0.36	0.37
Avail Cap(c_a), veh/h	274	705	597	274	705	596	356	1702	755	301	765	769
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.3	46.6	39.6	60.8	44.1	38.6	57.5	21.2	18.5	57.6	5.4	5.4
Incr Delay (d2), s/veh	4.6	9.0	0.5	5.3	1.2	0.0	4.4	0.6	0.3	5.6	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	14.2	3.7	2.6	7.4	0.4	5.1	5.9	1.3	2.4	1.5	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.9	55.6	40.1	66.0	45.3	38.6	61.9	21.8	18.8	63.1	6.8	6.8
LnGrp LOS	E	E	D	E	D	D	E	C	B	E	A	A
Approach Vol, veh/h		665			343			823			633	
Approach Delay, s/veh		53.8			49.6			28.9			13.3	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.7	68.2	14.7	35.4	18.0	62.0	12.0	38.0
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	22.0	18.0	20.0	49.0	26.0	14.0	20.0	49.0
Max Q Clear Time (g_c+I1), s	7.2	15.7	9.8	17.5	12.9	6.2	7.4	30.1
Green Ext Time (p_c), s	0.1	1.2	0.1	1.6	0.2	2.7	0.1	3.0

Intersection Summary	
HCM 6th Ctrl Delay	34.5
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

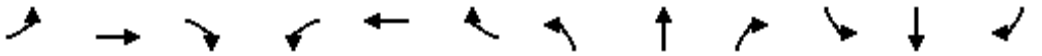
APPENDIX C

LEVEL OF SERVICE CALCULATIONS

- Base Year 2025 without Project PM Peak Conditions

HCM 6th Signalized Intersection Summary
1: Lono Ave & Kamehameha Ave

09/04/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	441	18	77	405	100	16	140	64	203	121	63
Future Volume (veh/h)	48	441	18	77	405	100	16	140	64	203	121	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	479	6	84	440	33	17	152	0	221	132	51
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	347	616	520	329	644	544	313	236		424	308	119
Arrive On Green	0.05	0.33	0.33	0.06	0.34	0.34	0.02	0.13	0.00	0.13	0.24	0.24
Sat Flow, veh/h	1781	1870	1580	1781	1870	1580	1781	1870	1585	1781	1285	496
Grp Volume(v), veh/h	52	479	6	84	440	33	17	152	0	221	0	183
Grp Sat Flow(s),veh/h/ln	1781	1870	1580	1781	1870	1580	1781	1870	1585	1781	0	1781
Q Serve(g_s), s	1.1	13.3	0.1	1.7	11.6	0.8	0.5	4.5	0.0	5.8	0.0	5.0
Cycle Q Clear(g_c), s	1.1	13.3	0.1	1.7	11.6	0.8	0.5	4.5	0.0	5.8	0.0	5.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.28
Lane Grp Cap(c), veh/h	347	616	520	329	644	544	313	236		424	0	427
V/C Ratio(X)	0.15	0.78	0.01	0.26	0.68	0.06	0.05	0.64		0.52	0.00	0.43
Avail Cap(c_a), veh/h	599	1296	1095	554	1296	1095	616	1232		525	0	1173
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.6	17.5	13.0	12.8	16.2	12.7	21.2	24.0	0.0	16.8	0.0	18.6
Incr Delay (d2), s/veh	0.2	2.2	0.0	0.4	1.3	0.0	0.1	2.9	0.0	1.0	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	5.4	0.0	0.6	4.6	0.3	0.2	2.0	0.0	2.2	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.8	19.6	13.0	13.2	17.5	12.7	21.3	26.9	0.0	17.8	0.0	19.3
LnGrp LOS	B	B	B	B	B	B	C	C		B	A	B
Approach Vol, veh/h		537			557			169	A		404	
Approach Delay, s/veh		18.9			16.6			26.3			18.5	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	24.0	6.2	18.8	7.8	24.9	12.7	12.3
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	11.0	40.0	11.0	38.0	11.0	40.0	11.0	38.0
Max Q Clear Time (g_c+I1), s	3.7	15.3	2.5	7.0	3.1	13.6	7.8	6.5
Green Ext Time (p_c), s	0.1	3.2	0.0	1.1	0.0	3.0	0.2	0.9

Intersection Summary	
HCM 6th Ctrl Delay	18.8
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

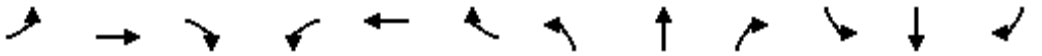
Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	700	6	12	610	3	15
Future Vol, veh/h	700	6	12	610	3	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	761	7	13	663	3	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	768	0	1123	384
Stage 1	-	-	-	-	765	-
Stage 2	-	-	-	-	358	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	842	-	199	614
Stage 1	-	-	-	-	420	-
Stage 2	-	-	-	-	678	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	842	-	196	614
Mov Cap-2 Maneuver	-	-	-	-	196	-
Stage 1	-	-	-	-	414	-
Stage 2	-	-	-	-	678	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	13.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	453	-	-	842	-
HCM Lane V/C Ratio	0.043	-	-	0.015	-
HCM Control Delay (s)	13.3	-	-	9.3	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	362	157	152	454	261	152	731	77	156	554	61
Future Volume (veh/h)	82	362	157	152	454	261	152	731	77	156	554	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	89	393	134	165	493	118	165	795	80	170	602	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	606	204	188	519	440	188	1345	135	193	1351	139
Arrive On Green	0.06	0.23	0.23	0.11	0.28	0.28	0.11	0.41	0.41	0.11	0.42	0.42
Sat Flow, veh/h	1781	2594	872	1781	1870	1585	1781	3260	328	1781	3252	334
Grp Volume(v), veh/h	89	267	260	165	493	118	165	433	442	170	328	336
Grp Sat Flow(s),veh/h/ln	1781	1777	1689	1781	1870	1585	1781	1777	1811	1781	1777	1809
Q Serve(g_s), s	7.4	20.4	20.9	13.7	38.8	8.7	13.7	28.4	28.4	14.1	19.9	20.0
Cycle Q Clear(g_c), s	7.4	20.4	20.9	13.7	38.8	8.7	13.7	28.4	28.4	14.1	19.9	20.0
Prop In Lane	1.00		0.52	1.00		1.00	1.00		0.18	1.00		0.18
Lane Grp Cap(c), veh/h	110	415	394	188	519	440	188	733	747	193	738	751
V/C Ratio(X)	0.81	0.64	0.66	0.88	0.95	0.27	0.88	0.59	0.59	0.88	0.45	0.45
Avail Cap(c_a), veh/h	285	486	462	309	536	454	321	733	747	321	738	751
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.5	51.9	52.1	66.1	53.2	42.3	66.1	34.2	34.2	65.9	31.4	31.5
Incr Delay (d2), s/veh	5.3	2.3	2.7	8.5	26.5	0.3	6.5	3.5	3.4	8.1	1.9	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	9.4	9.2	6.7	22.0	3.5	6.6	13.1	13.3	6.9	9.0	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.8	54.2	54.8	74.6	79.7	42.6	72.7	37.7	37.6	74.0	33.4	33.4
LnGrp LOS	E	D	D	E	E	D	E	D	D	E	C	C
Approach Vol, veh/h		616			776			1040			834	
Approach Delay, s/veh		57.4			73.0			43.2			41.7	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.3	67.9	14.2	46.6	20.8	68.3	20.8	40.0
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	27.0	35.0	24.0	43.0	27.0	35.0	26.0	41.0
Max Q Clear Time (g_c+I1), s	16.1	30.4	9.4	40.8	15.7	22.0	15.7	22.9
Green Ext Time (p_c), s	0.2	2.9	0.1	0.8	0.2	5.1	0.2	3.1

Intersection Summary	
HCM 6th Ctrl Delay	52.6
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	3	30	5	7	10	19	213	4	5	219	3
Future Vol, veh/h	3	3	30	5	7	10	19	213	4	5	219	3
Conflicting Peds, #/hr	1	0	0	0	0	1	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	3	33	5	8	11	21	232	4	5	238	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	538	529	241	544	528	235	242	0	0	236	0	0
Stage 1	251	251	-	276	276	-	-	-	-	-	-	-
Stage 2	287	278	-	268	252	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	454	455	798	450	456	804	1324	-	-	1331	-	-
Stage 1	753	699	-	730	682	-	-	-	-	-	-	-
Stage 2	720	680	-	738	698	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	434	445	797	422	446	803	1323	-	-	1331	-	-
Mov Cap-2 Maneuver	434	445	-	422	446	-	-	-	-	-	-	-
Stage 1	739	696	-	717	670	-	-	-	-	-	-	-
Stage 2	689	668	-	702	695	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	11.8	0.6	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1323	-	-	702	550	1331	-	-
HCM Lane V/C Ratio	0.016	-	-	0.056	0.043	0.004	-	-
HCM Control Delay (s)	7.8	0	-	10.4	11.8	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

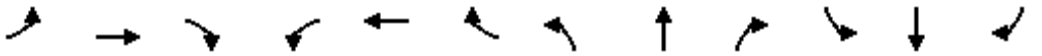
Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	0	4	3	3	2	8	16	1	0	14	6
Future Vol, veh/h	4	0	4	3	3	2	8	16	1	0	14	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	4	3	3	2	9	17	1	0	15	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	57	55	19	57	58	18	22	0	0	18	0	0
Stage 1	19	19	-	36	36	-	-	-	-	-	-	-
Stage 2	38	36	-	21	22	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	940	836	1059	940	833	1061	1593	-	-	1599	-	-
Stage 1	1000	880	-	980	865	-	-	-	-	-	-	-
Stage 2	977	865	-	998	877	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	931	831	1059	932	828	1061	1593	-	-	1599	-	-
Mov Cap-2 Maneuver	931	831	-	932	828	-	-	-	-	-	-	-
Stage 1	994	880	-	974	860	-	-	-	-	-	-	-
Stage 2	965	860	-	994	877	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	9	2.3	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1593	-	-	991	917	1599	-	-
HCM Lane V/C Ratio	0.005	-	-	0.009	0.009	-	-	-
HCM Control Delay (s)	7.3	0	-	8.7	9	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	452	35	125	494	41	20	182	60	51	227	25
Future Volume (veh/h)	10	452	35	125	494	41	20	182	60	51	227	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	491	36	136	537	42	22	198	8	55	247	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	275	597	44	347	705	55	247	300	254	294	348	294
Arrive On Green	0.01	0.35	0.35	0.08	0.41	0.41	0.03	0.16	0.16	0.05	0.19	0.19
Sat Flow, veh/h	1781	1721	126	1781	1712	134	1781	1870	1580	1781	1870	1581
Grp Volume(v), veh/h	11	0	527	136	0	579	22	198	8	55	247	4
Grp Sat Flow(s),veh/h/ln	1781	0	1847	1781	0	1846	1781	1870	1580	1781	1870	1581
Q Serve(g_s), s	0.2	0.0	14.4	2.6	0.0	14.8	0.6	5.5	0.2	1.4	6.8	0.1
Cycle Q Clear(g_c), s	0.2	0.0	14.4	2.6	0.0	14.8	0.6	5.5	0.2	1.4	6.8	0.1
Prop In Lane	1.00		0.07	1.00		0.07	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	275	0	640	347	0	760	247	300	254	294	348	294
V/C Ratio(X)	0.04	0.00	0.82	0.39	0.00	0.76	0.09	0.66	0.03	0.19	0.71	0.01
Avail Cap(c_a), veh/h	508	0	936	463	0	936	459	880	744	460	880	744
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.5	0.0	16.5	11.9	0.0	13.9	18.8	21.8	19.6	18.0	21.1	18.3
Incr Delay (d2), s/veh	0.1	0.0	3.9	0.7	0.0	3.0	0.2	2.5	0.0	0.3	2.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	6.0	0.9	0.0	5.8	0.2	2.4	0.1	0.5	3.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.6	0.0	20.4	12.6	0.0	16.9	18.9	24.2	19.6	18.3	23.8	18.4
LnGrp LOS	B	A	C	B	A	B	B	C	B	B	C	B
Approach Vol, veh/h		538			715			228			306	
Approach Delay, s/veh		20.3			16.1			23.6			22.7	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	24.2	6.4	15.3	5.8	27.8	7.9	13.9
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	8.0	28.0	8.0	26.0	8.0	28.0	8.0	26.0
Max Q Clear Time (g_c+I1), s	4.6	16.4	2.6	8.8	2.2	16.8	3.4	7.5
Green Ext Time (p_c), s	0.1	2.7	0.0	1.3	0.0	2.9	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	19.4
HCM 6th LOS	B

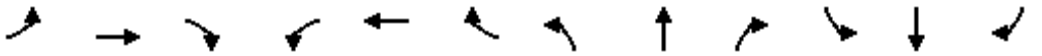
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	556	5	10	677	36	0	0	5	10	3	8
Future Vol, veh/h	4	556	5	10	677	36	0	0	5	10	3	8
Conflicting Peds, #/hr	3	0	0	0	0	3	3	0	0	0	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	604	5	11	736	39	0	0	5	11	3	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	778	0	0	609	0	0	1402	1415	607	1398	1398	762
Stage 1	-	-	-	-	-	-	615	615	-	781	781	-
Stage 2	-	-	-	-	-	-	787	800	-	617	617	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	839	-	-	970	-	-	117	137	496	118	141	405
Stage 1	-	-	-	-	-	-	479	482	-	388	405	-
Stage 2	-	-	-	-	-	-	385	397	-	477	481	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	837	-	-	970	-	-	110	133	496	114	137	403
Mov Cap-2 Maneuver	-	-	-	-	-	-	110	133	-	114	137	-
Stage 1	-	-	-	-	-	-	476	479	-	384	396	-
Stage 2	-	-	-	-	-	-	365	388	-	468	478	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	12.3	30.8
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	496	837	-	-	970	-	-	162
HCM Lane V/C Ratio	0.011	0.005	-	-	0.011	-	-	0.141
HCM Control Delay (s)	12.3	9.3	0	-	8.8	0	-	30.8
HCM Lane LOS	B	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	328	185	122	450	111	199	733	100	125	505	103
Future Volume (veh/h)	52	328	185	122	450	111	199	733	100	125	505	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	357	119	133	489	49	216	797	51	136	549	102
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	73	443	375	155	529	448	239	1592	708	157	1203	223
Arrive On Green	0.04	0.24	0.24	0.09	0.28	0.28	0.13	0.45	0.45	0.18	0.80	0.80
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1582	1781	2993	554
Grp Volume(v), veh/h	57	357	119	133	489	49	216	797	51	136	325	326
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1582	1781	1777	1771
Q Serve(g_s), s	4.8	27.0	9.3	11.0	38.1	3.4	17.9	23.9	2.8	11.1	8.5	8.6
Cycle Q Clear(g_c), s	4.8	27.0	9.3	11.0	38.1	3.4	17.9	23.9	2.8	11.1	8.5	8.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.31
Lane Grp Cap(c), veh/h	73	443	375	155	529	448	239	1592	708	157	714	711
V/C Ratio(X)	0.78	0.81	0.32	0.86	0.92	0.11	0.90	0.50	0.07	0.87	0.46	0.46
Avail Cap(c_a), veh/h	238	623	528	238	623	528	368	1592	708	333	714	711
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	71.2	54.0	47.2	67.5	52.2	39.8	64.0	29.5	23.6	60.9	9.6	9.7
Incr Delay (d2), s/veh	6.5	5.3	0.5	11.2	18.0	0.1	12.9	1.1	0.2	5.4	2.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	13.4	3.8	5.5	20.5	1.4	9.0	10.6	1.1	4.9	2.9	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.8	59.3	47.7	78.7	70.2	39.9	76.9	30.6	23.8	66.3	11.7	11.8
LnGrp LOS	E	E	D	E	E	D	E	C	C	E	B	B
Approach Vol, veh/h		533			671			1064			787	
Approach Delay, s/veh		58.7			69.7			39.7			21.2	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.2	73.2	11.2	47.4	25.1	66.3	18.1	40.5
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	28.0	31.0	20.0	50.0	31.0	28.0	20.0	50.0
Max Q Clear Time (g_c+I1), s	13.1	25.9	6.8	40.1	19.9	10.6	13.0	29.0
Green Ext Time (p_c), s	0.1	2.9	0.0	2.3	0.2	5.2	0.1	2.5

Intersection Summary	
HCM 6th Ctrl Delay	44.8
HCM 6th LOS	D

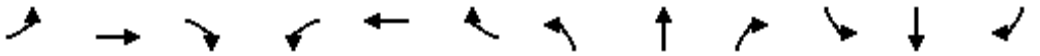
APPENDIX C

LEVEL OF SERVICE CALCULATIONS

- Future Year 2025 with Project AM Peak Conditions

HCM 6th Signalized Intersection Summary
1: Lono Ave & Kamehameha Ave

09/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	392	8	26	205	62	11	244	87	94	135	40
Future Volume (veh/h)	54	392	8	26	205	62	11	244	87	94	135	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	426	2	28	223	16	12	265	0	102	147	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	448	567	480	289	524	443	386	386		354	389	90
Arrive On Green	0.06	0.30	0.30	0.03	0.28	0.28	0.02	0.21	0.00	0.07	0.27	0.27
Sat Flow, veh/h	1781	1870	1582	1781	1870	1582	1781	1870	1585	1781	1469	340
Grp Volume(v), veh/h	59	426	2	28	223	16	12	265	0	102	0	181
Grp Sat Flow(s),veh/h/ln	1781	1870	1582	1781	1870	1582	1781	1870	1585	1781	0	1808
Q Serve(g_s), s	1.2	10.7	0.0	0.6	5.1	0.4	0.3	6.8	0.0	2.3	0.0	4.3
Cycle Q Clear(g_c), s	1.2	10.7	0.0	0.6	5.1	0.4	0.3	6.8	0.0	2.3	0.0	4.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	448	567	480	289	524	443	386	386		354	0	479
V/C Ratio(X)	0.13	0.75	0.00	0.10	0.43	0.04	0.03	0.69		0.29	0.00	0.38
Avail Cap(c_a), veh/h	726	1439	1217	609	1439	1217	735	1367		599	0	1322
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.2	16.4	12.6	13.4	15.3	13.6	15.9	19.1	0.0	14.7	0.0	15.6
Incr Delay (d2), s/veh	0.1	2.0	0.0	0.1	0.6	0.0	0.0	2.2	0.0	0.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	4.3	0.0	0.2	2.0	0.1	0.1	2.9	0.0	0.9	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.3	18.4	12.6	13.5	15.9	13.7	15.9	21.3	0.0	15.2	0.0	16.1
LnGrp LOS	B	B	B	B	B	B	B	C		B	A	B
Approach Vol, veh/h		487			267			277	A		283	
Approach Delay, s/veh		17.6			15.5			21.0			15.8	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	20.8	5.8	18.8	7.9	19.6	8.9	15.7
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	11.0	40.0	11.0	38.0	11.0	40.0	11.0	38.0
Max Q Clear Time (g_c+I1), s	2.6	12.7	2.3	6.3	3.2	7.1	4.3	8.8
Green Ext Time (p_c), s	0.0	2.8	0.0	1.1	0.1	1.4	0.1	1.6

Intersection Summary	
HCM 6th Ctrl Delay	17.5
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

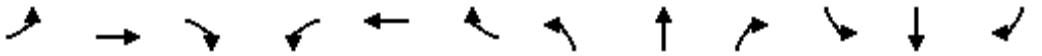
Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	559	10	13	268	28	40
Future Vol, veh/h	559	10	13	268	28	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	608	11	14	291	30	43

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	619	0	788	310
Stage 1	-	-	-	-	614	-
Stage 2	-	-	-	-	174	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	957	-	328	686
Stage 1	-	-	-	-	502	-
Stage 2	-	-	-	-	839	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	957	-	323	686
Mov Cap-2 Maneuver	-	-	-	-	323	-
Stage 1	-	-	-	-	494	-
Stage 2	-	-	-	-	839	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	14.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	469	-	-	957	-
HCM Lane V/C Ratio	0.158	-	-	0.015	-
HCM Control Delay (s)	14.1	-	-	8.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.6	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	403	133	60	180	79	106	528	84	100	551	12
Future Volume (veh/h)	51	403	133	60	180	79	106	528	84	100	551	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	55	438	118	65	196	12	115	574	83	109	599	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	528	141	84	370	314	139	1638	236	134	1860	37
Arrive On Green	0.04	0.19	0.19	0.05	0.20	0.20	0.10	0.70	0.70	0.08	0.52	0.52
Sat Flow, veh/h	1781	2766	738	1781	1870	1585	1781	3117	449	1781	3562	71
Grp Volume(v), veh/h	55	280	276	65	196	12	115	327	330	109	299	312
Grp Sat Flow(s),veh/h/ln	1781	1777	1728	1781	1870	1585	1781	1777	1789	1781	1777	1857
Q Serve(g_s), s	4.0	19.7	20.0	4.7	12.2	0.8	8.2	9.5	9.6	7.8	12.5	12.6
Cycle Q Clear(g_c), s	4.0	19.7	20.0	4.7	12.2	0.8	8.2	9.5	9.6	7.8	12.5	12.6
Prop In Lane	1.00		0.43	1.00		1.00	1.00		0.25	1.00		0.04
Lane Grp Cap(c), veh/h	71	339	330	84	370	314	139	934	940	134	928	970
V/C Ratio(X)	0.77	0.82	0.84	0.78	0.53	0.04	0.82	0.35	0.35	0.82	0.32	0.32
Avail Cap(c_a), veh/h	260	410	399	260	432	366	343	934	940	343	928	970
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.8	50.5	50.6	61.3	46.7	42.1	57.4	10.7	10.7	59.2	17.8	17.8
Incr Delay (d2), s/veh	6.5	11.0	12.4	5.7	1.2	0.0	4.6	1.0	1.0	4.5	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	9.8	9.8	2.3	5.8	0.3	3.8	3.6	3.7	3.7	5.4	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.3	61.5	63.0	67.0	47.9	42.2	62.0	11.8	11.8	63.8	18.8	18.7
LnGrp LOS	E	E	E	E	D	D	E	B	B	E	B	B
Approach Vol, veh/h		611			273			772			720	
Approach Delay, s/veh		62.8			52.2			19.2			25.6	
Approach LOS		E			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.8	74.3	10.2	30.7	15.2	73.9	11.1	29.8
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	25.0	35.0	19.0	30.0	25.0	35.0	19.0	30.0
Max Q Clear Time (g_c+I1), s	9.8	11.6	6.0	14.2	10.2	14.6	6.7	22.0
Green Ext Time (p_c), s	0.1	6.9	0.0	0.9	0.1	5.9	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	36.1
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	9	39	2	15	9	14	430	2	0	193	0
Future Vol, veh/h	3	9	39	2	15	9	14	430	2	0	193	0
Conflicting Peds, #/hr	3	0	0	0	0	3	3	0	1	1	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	10	42	2	16	10	15	467	2	0	210	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	727	713	213	735	712	472	213	0	0	470	0	0
Stage 1	213	213	-	499	499	-	-	-	-	-	-	-
Stage 2	514	500	-	236	213	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	339	357	827	335	358	592	1357	-	-	1092	-	-
Stage 1	789	726	-	554	544	-	-	-	-	-	-	-
Stage 2	543	543	-	767	726	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	316	350	825	307	351	590	1353	-	-	1091	-	-
Mov Cap-2 Maneuver	316	350	-	307	351	-	-	-	-	-	-	-
Stage 1	775	724	-	545	535	-	-	-	-	-	-	-
Stage 2	509	534	-	718	724	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.4	14.6	0.2	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1353	-	-	618	403	1091	-	-
HCM Lane V/C Ratio	0.011	-	-	0.09	0.07	-	-	-
HCM Control Delay (s)	7.7	0	-	11.4	14.6	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.2	0	-	-

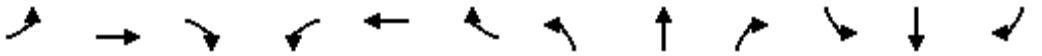
Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	1	12	2	0	3	13	46	1	2	14	7
Future Vol, veh/h	9	1	12	2	0	3	13	46	1	2	14	7
Conflicting Peds, #/hr	7	0	1	1	0	7	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	1	13	2	0	3	14	50	1	2	15	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	111	103	21	110	107	58	24	0	0	51	0	0
Stage 1	24	24	-	79	79	-	-	-	-	-	-	-
Stage 2	87	79	-	31	28	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	867	787	1056	868	783	1008	1591	-	-	1555	-	-
Stage 1	994	875	-	930	829	-	-	-	-	-	-	-
Stage 2	921	829	-	986	872	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	851	778	1054	849	774	1001	1589	-	-	1555	-	-
Mov Cap-2 Maneuver	851	778	-	849	774	-	-	-	-	-	-	-
Stage 1	984	873	-	922	822	-	-	-	-	-	-	-
Stage 2	904	822	-	971	870	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.9	8.9	1.6	0.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1589	-	-	946	934	1555	-	-
HCM Lane V/C Ratio	0.009	-	-	0.025	0.006	0.001	-	-
HCM Control Delay (s)	7.3	0	-	8.9	8.9	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	481	60	101	367	36	85	338	131	36	195	10
Future Volume (veh/h)	10	481	60	101	367	36	85	338	131	36	195	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	523	61	110	399	36	92	367	28	39	212	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	588	69	270	690	62	357	456	384	235	414	349
Arrive On Green	0.01	0.36	0.36	0.06	0.41	0.41	0.06	0.24	0.24	0.04	0.22	0.22
Sat Flow, veh/h	1781	1644	192	1781	1690	152	1781	1870	1579	1781	1870	1578
Grp Volume(v), veh/h	11	0	584	110	0	435	92	367	28	39	212	2
Grp Sat Flow(s),veh/h/ln	1781	0	1836	1781	0	1843	1781	1870	1579	1781	1870	1578
Q Serve(g_s), s	0.3	0.0	20.3	2.5	0.0	12.4	2.6	12.5	0.9	1.1	6.7	0.1
Cycle Q Clear(g_c), s	0.3	0.0	20.3	2.5	0.0	12.4	2.6	12.5	0.9	1.1	6.7	0.1
Prop In Lane	1.00		0.10	1.00		0.08	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	0	656	270	0	752	357	456	384	235	414	349
V/C Ratio(X)	0.03	0.00	0.89	0.41	0.00	0.58	0.26	0.81	0.07	0.17	0.51	0.01
Avail Cap(c_a), veh/h	532	0	760	365	0	763	459	719	607	377	719	607
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.0	0.0	20.5	15.4	0.0	15.5	18.7	24.1	19.7	19.9	23.1	20.5
Incr Delay (d2), s/veh	0.0	0.0	11.5	1.0	0.0	1.1	0.4	3.6	0.1	0.3	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	10.0	1.0	0.0	4.9	1.1	5.6	0.3	0.5	2.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.1	0.0	31.9	16.4	0.0	16.5	19.1	27.7	19.8	20.2	24.1	20.5
LnGrp LOS	B	A	C	B	A	B	B	C	B	C	C	C
Approach Vol, veh/h		595			545			487			253	
Approach Delay, s/veh		31.6			16.5			25.6			23.5	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	29.2	9.1	19.9	5.9	32.6	7.6	21.5
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	8.0	28.0	8.0	26.0	8.0	28.0	8.0	26.0
Max Q Clear Time (g_c+I1), s	4.5	22.3	4.6	8.7	2.3	14.4	3.1	14.5
Green Ext Time (p_c), s	0.1	1.9	0.1	1.0	0.0	2.3	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	24.6
HCM 6th LOS	C

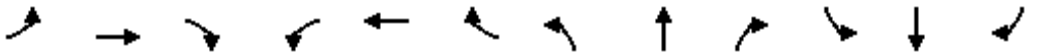
Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	612	0	7	437	21	0	0	9	36	2	29
Future Vol, veh/h	8	612	0	7	437	21	0	0	9	36	2	29
Conflicting Peds, #/hr	0	0	5	5	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	665	0	8	475	23	0	0	10	39	2	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	498	0	0	670	0	0	1208	1202	670	1191	1191	487
Stage 1	-	-	-	-	-	-	688	688	-	503	503	-
Stage 2	-	-	-	-	-	-	520	514	-	688	688	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1066	-	-	920	-	-	160	185	457	164	187	581
Stage 1	-	-	-	-	-	-	436	447	-	551	541	-
Stage 2	-	-	-	-	-	-	539	535	-	436	447	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1066	-	-	916	-	-	146	179	455	157	181	581
Mov Cap-2 Maneuver	-	-	-	-	-	-	146	179	-	157	181	-
Stage 1	-	-	-	-	-	-	428	439	-	544	535	-
Stage 2	-	-	-	-	-	-	502	529	-	421	439	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	13.1	27.6
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	455	1066	-	-	916	-	-	231
HCM Lane V/C Ratio	0.022	0.008	-	-	0.008	-	-	0.315
HCM Control Delay (s)	13.1	8.4	0	-	9	0	-	27.6
HCM Lane LOS	B	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	1.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	388	220	69	235	75	144	555	125	73	464	75
Future Volume (veh/h)	102	388	220	69	235	75	144	555	125	73	464	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	111	422	141	75	255	16	157	603	72	79	504	74
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	135	478	405	95	436	368	183	1684	747	99	1327	194
Arrive On Green	0.08	0.26	0.26	0.05	0.23	0.23	0.10	0.47	0.47	0.11	0.85	0.85
Sat Flow, veh/h	1781	1870	1585	1781	1870	1581	1781	3554	1577	1781	3110	455
Grp Volume(v), veh/h	111	422	141	75	255	16	157	603	72	79	287	291
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1581	1781	1777	1577	1781	1777	1788
Q Serve(g_s), s	8.0	28.2	9.5	5.4	15.7	1.0	11.3	14.0	3.3	5.6	4.6	4.6
Cycle Q Clear(g_c), s	8.0	28.2	9.5	5.4	15.7	1.0	11.3	14.0	3.3	5.6	4.6	4.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	135	478	405	95	436	368	183	1684	747	99	758	763
V/C Ratio(X)	0.82	0.88	0.35	0.79	0.59	0.04	0.86	0.36	0.10	0.80	0.38	0.38
Avail Cap(c_a), veh/h	274	705	597	274	705	596	356	1684	747	301	758	763
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.2	46.5	39.6	60.8	44.3	38.6	57.4	21.7	18.9	57.0	5.8	5.8
Incr Delay (d2), s/veh	4.6	9.0	0.5	5.3	1.3	0.0	4.4	0.6	0.3	5.4	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	14.3	3.8	2.6	7.5	0.4	5.3	6.0	1.3	2.6	1.7	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.8	55.6	40.1	66.0	45.5	38.7	61.7	22.3	19.1	62.4	7.3	7.3
LnGrp LOS	E	E	D	E	D	D	E	C	B	E	A	A
Approach Vol, veh/h		674			346			832			657	
Approach Delay, s/veh		53.7			49.7			29.4			13.9	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	67.6	14.9	35.3	18.4	61.5	12.0	38.2
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	22.0	18.0	20.0	49.0	26.0	14.0	20.0	49.0
Max Q Clear Time (g_c+I1), s	7.6	16.0	10.0	17.7	13.3	6.6	7.4	30.2
Green Ext Time (p_c), s	0.1	1.0	0.1	1.6	0.2	2.7	0.1	3.0

Intersection Summary	
HCM 6th Ctrl Delay	34.7
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	3.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	22	38	11	6	22
Future Vol, veh/h	16	22	38	11	6	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	24	41	12	7	24

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	85	47	0	0	53	0
Stage 1	47	-	-	-	-	-
Stage 2	38	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	916	1022	-	-	1553	-
Stage 1	975	-	-	-	-	-
Stage 2	984	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	911	1022	-	-	1553	-
Mov Cap-2 Maneuver	911	-	-	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	984	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	1.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	972	1553	-
HCM Lane V/C Ratio	-	-	0.042	0.004	-
HCM Control Delay (s)	-	-	8.9	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	26	0	718	742	2
Future Vol, veh/h	0	26	0	718	742	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	28	0	780	807	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	405	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	595	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	595	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	595	-	-
HCM Lane V/C Ratio	-	0.047	-	-
HCM Control Delay (s)	-	11.4	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

APPENDIX C

LEVEL OF SERVICE CALCULATIONS

• Future Year 2025 with Project PM Peak Conditions

HCM 6th Signalized Intersection Summary
1: Lono Ave & Kamehameha Ave

09/22/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	441	18	77	405	107	16	140	64	215	121	63
Future Volume (veh/h)	48	441	18	77	405	107	16	140	64	215	121	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	479	6	84	440	34	17	152	0	234	132	51
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	614	519	325	642	542	311	235		433	315	122
Arrive On Green	0.05	0.33	0.33	0.06	0.34	0.34	0.02	0.13	0.00	0.14	0.25	0.25
Sat Flow, veh/h	1781	1870	1580	1781	1870	1580	1781	1870	1585	1781	1285	496
Grp Volume(v), veh/h	52	479	6	84	440	34	17	152	0	234	0	183
Grp Sat Flow(s),veh/h/ln	1781	1870	1580	1781	1870	1580	1781	1870	1585	1781	0	1781
Q Serve(g_s), s	1.1	13.5	0.1	1.8	11.8	0.8	0.5	4.5	0.0	6.2	0.0	5.1
Cycle Q Clear(g_c), s	1.1	13.5	0.1	1.8	11.8	0.8	0.5	4.5	0.0	6.2	0.0	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.28
Lane Grp Cap(c), veh/h	344	614	519	325	642	542	311	235		433	0	437
V/C Ratio(X)	0.15	0.78	0.01	0.26	0.69	0.06	0.05	0.65		0.54	0.00	0.42
Avail Cap(c_a), veh/h	592	1281	1082	547	1281	1082	610	1216		518	0	1158
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.8	17.7	13.2	13.1	16.5	12.9	21.5	24.3	0.0	16.9	0.0	18.5
Incr Delay (d2), s/veh	0.2	2.2	0.0	0.4	1.3	0.0	0.1	3.0	0.0	1.1	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	5.5	0.0	0.7	4.7	0.3	0.2	2.1	0.0	2.4	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.0	19.9	13.2	13.5	17.8	12.9	21.6	27.3	0.0	18.0	0.0	19.2
LnGrp LOS	B	B	B	B	B	B	C	C		B	A	B
Approach Vol, veh/h		537			558			169	A		417	
Approach Delay, s/veh		19.2			16.8			26.7			18.5	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	24.2	6.2	19.3	7.8	25.0	13.2	12.3
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	11.0	40.0	11.0	38.0	11.0	40.0	11.0	38.0
Max Q Clear Time (g_c+I1), s	3.8	15.5	2.5	7.1	3.1	13.8	8.2	6.5
Green Ext Time (p_c), s	0.1	3.2	0.0	1.1	0.0	3.0	0.2	0.9

Intersection Summary	
HCM 6th Ctrl Delay	19.0
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

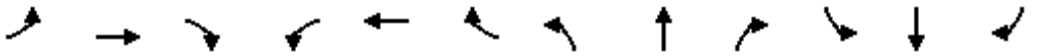
Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	700	18	13	610	10	19
Future Vol, veh/h	700	18	13	610	10	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	761	20	14	663	11	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	781	0	1131	391
Stage 1	-	-	-	-	771	-
Stage 2	-	-	-	-	360	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	832	-	197	608
Stage 1	-	-	-	-	417	-
Stage 2	-	-	-	-	677	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	832	-	194	608
Mov Cap-2 Maneuver	-	-	-	-	194	-
Stage 1	-	-	-	-	410	-
Stage 2	-	-	-	-	677	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	16.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	350	-	-	832	-
HCM Lane V/C Ratio	0.09	-	-	0.017	-
HCM Control Delay (s)	16.3	-	-	9.4	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	364	157	155	454	261	152	731	77	156	557	62
Future Volume (veh/h)	84	364	157	155	454	261	152	731	77	156	557	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	91	396	135	168	493	118	165	795	80	170	605	63
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	604	203	191	519	440	188	1341	135	193	1345	140
Arrive On Green	0.06	0.23	0.23	0.11	0.28	0.28	0.11	0.41	0.41	0.11	0.41	0.41
Sat Flow, veh/h	1781	2594	872	1781	1870	1585	1781	3260	328	1781	3248	338
Grp Volume(v), veh/h	91	270	261	168	493	118	165	433	442	170	331	337
Grp Sat Flow(s),veh/h/ln	1781	1777	1689	1781	1870	1585	1781	1777	1811	1781	1777	1808
Q Serve(g_s), s	7.6	20.6	21.1	13.9	38.8	8.7	13.7	28.5	28.5	14.1	20.1	20.2
Cycle Q Clear(g_c), s	7.6	20.6	21.1	13.9	38.8	8.7	13.7	28.5	28.5	14.1	20.1	20.2
Prop In Lane	1.00		0.52	1.00		1.00	1.00		0.18	1.00		0.19
Lane Grp Cap(c), veh/h	112	414	394	191	519	440	188	731	745	193	736	749
V/C Ratio(X)	0.81	0.65	0.66	0.88	0.95	0.27	0.88	0.59	0.59	0.88	0.45	0.45
Avail Cap(c_a), veh/h	285	486	462	309	536	454	321	731	745	321	736	749
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.4	52.0	52.2	66.0	53.2	42.3	66.1	34.4	34.4	65.9	31.6	31.6
Incr Delay (d2), s/veh	5.3	2.4	2.8	9.4	26.5	0.3	6.5	3.5	3.5	8.1	2.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	9.5	9.3	6.9	22.0	3.5	6.6	13.1	13.4	6.9	9.1	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.7	54.4	55.0	75.4	79.7	42.6	72.7	37.9	37.8	74.0	33.6	33.6
LnGrp LOS	E	D	E	E	E	D	E	D	D	E	C	C
Approach Vol, veh/h		622			779			1040			838	
Approach Delay, s/veh		57.7			73.2			43.4			41.8	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.3	67.7	14.4	46.6	20.8	68.1	21.1	39.9
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	27.0	35.0	24.0	43.0	27.0	35.0	26.0	41.0
Max Q Clear Time (g_c+I1), s	16.1	30.5	9.6	40.8	15.7	22.2	15.9	23.1
Green Ext Time (p_c), s	0.2	2.9	0.1	0.8	0.2	5.1	0.2	3.1

Intersection Summary	
HCM 6th Ctrl Delay	52.8
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	9	30	5	13	10	19	213	4	5	219	3
Future Vol, veh/h	3	9	30	5	13	10	19	213	4	5	219	3
Conflicting Peds, #/hr	1	0	0	0	0	1	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	10	33	5	14	11	21	232	4	5	238	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	541	529	241	547	528	235	242	0	0	236	0	0
Stage 1	251	251	-	276	276	-	-	-	-	-	-	-
Stage 2	290	278	-	271	252	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	452	455	798	448	456	804	1324	-	-	1331	-	-
Stage 1	753	699	-	730	682	-	-	-	-	-	-	-
Stage 2	718	680	-	735	698	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	427	445	797	415	446	803	1323	-	-	1331	-	-
Mov Cap-2 Maneuver	427	445	-	415	446	-	-	-	-	-	-	-
Stage 1	739	696	-	717	670	-	-	-	-	-	-	-
Stage 2	680	668	-	692	695	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	12.3	0.6	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1323	-	-	647	522	1331	-	-
HCM Lane V/C Ratio	0.016	-	-	0.071	0.058	0.004	-	-
HCM Control Delay (s)	7.8	0	-	11	12.3	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.2	0	-	-

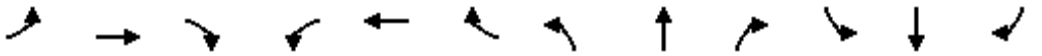
Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	0	10	3	3	2	14	27	1	0	27	6
Future Vol, veh/h	4	0	10	3	3	2	14	27	1	0	27	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	11	3	3	2	15	29	1	0	29	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	95	93	33	98	96	30	36	0	0	30	0	0
Stage 1	33	33	-	60	60	-	-	-	-	-	-	-
Stage 2	62	60	-	38	36	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	888	797	1041	884	794	1044	1575	-	-	1583	-	-
Stage 1	983	868	-	951	845	-	-	-	-	-	-	-
Stage 2	949	845	-	977	865	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	876	789	1041	868	786	1044	1575	-	-	1583	-	-
Mov Cap-2 Maneuver	876	789	-	868	786	-	-	-	-	-	-	-
Stage 1	973	868	-	941	837	-	-	-	-	-	-	-
Stage 2	934	837	-	967	865	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	9.2	2.4	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1575	-	-	988	871	1583	-	-
HCM Lane V/C Ratio	0.01	-	-	0.015	0.01	-	-	-
HCM Control Delay (s)	7.3	0	-	8.7	9.2	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	462	35	125	496	41	20	182	64	51	227	25
Future Volume (veh/h)	10	462	35	125	496	41	20	182	64	51	227	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	502	36	136	539	42	22	198	9	55	247	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	277	606	43	343	713	56	245	299	253	292	347	293
Arrive On Green	0.01	0.35	0.35	0.08	0.42	0.42	0.03	0.16	0.16	0.05	0.19	0.19
Sat Flow, veh/h	1781	1724	124	1781	1713	133	1781	1870	1580	1781	1870	1581
Grp Volume(v), veh/h	11	0	538	136	0	581	22	198	9	55	247	4
Grp Sat Flow(s),veh/h/ln	1781	0	1848	1781	0	1846	1781	1870	1580	1781	1870	1581
Q Serve(g_s), s	0.2	0.0	14.9	2.6	0.0	15.0	0.6	5.5	0.3	1.4	6.9	0.1
Cycle Q Clear(g_c), s	0.2	0.0	14.9	2.6	0.0	15.0	0.6	5.5	0.3	1.4	6.9	0.1
Prop In Lane	1.00		0.07	1.00		0.07	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	277	0	649	343	0	768	245	299	253	292	347	293
V/C Ratio(X)	0.04	0.00	0.83	0.40	0.00	0.76	0.09	0.66	0.04	0.19	0.71	0.01
Avail Cap(c_a), veh/h	508	0	927	458	0	926	454	871	736	456	871	737
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.5	0.0	16.6	12.0	0.0	13.9	19.0	22.0	19.8	18.2	21.3	18.6
Incr Delay (d2), s/veh	0.1	0.0	4.3	0.7	0.0	2.9	0.2	2.5	0.1	0.3	2.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	6.2	0.9	0.0	5.8	0.2	2.5	0.1	0.6	3.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.5	0.0	20.9	12.7	0.0	16.8	19.2	24.5	19.9	18.5	24.0	18.6
LnGrp LOS	B	A	C	B	A	B	B	C	B	B	C	B
Approach Vol, veh/h		549			717			229			306	
Approach Delay, s/veh		20.7			16.0			23.8			23.0	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	24.6	6.4	15.4	5.8	28.2	7.9	13.9
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	8.0	28.0	8.0	26.0	8.0	28.0	8.0	26.0
Max Q Clear Time (g_c+I1), s	4.6	16.9	2.6	8.9	2.2	17.0	3.4	7.5
Green Ext Time (p_c), s	0.1	2.7	0.0	1.3	0.0	2.9	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	19.6
HCM 6th LOS	B

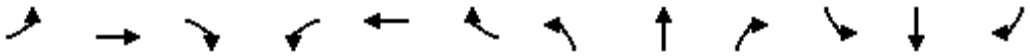
Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	18	556	5	10	677	59	0	0	5	15	3	10
Future Vol, veh/h	18	556	5	10	677	59	0	0	5	15	3	10
Conflicting Peds, #/hr	3	0	0	0	0	3	3	0	0	0	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	604	5	11	736	64	0	0	5	16	3	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	803	0	0	609	0	0	1447	1472	607	1442	1442	774
Stage 1	-	-	-	-	-	-	647	647	-	793	793	-
Stage 2	-	-	-	-	-	-	800	825	-	649	649	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	821	-	-	970	-	-	109	127	496	110	132	398
Stage 1	-	-	-	-	-	-	460	467	-	382	400	-
Stage 2	-	-	-	-	-	-	379	387	-	458	466	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	819	-	-	970	-	-	99	119	496	104	124	396
Mov Cap-2 Maneuver	-	-	-	-	-	-	99	119	-	104	124	-
Stage 1	-	-	-	-	-	-	443	450	-	367	390	-
Stage 2	-	-	-	-	-	-	357	378	-	436	449	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	12.3	36.3
HCM LOS			B	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	496	819	-	-	970	-	-	145
HCM Lane V/C Ratio	0.011	0.024	-	-	0.011	-	-	0.21
HCM Control Delay (s)	12.3	9.5	0	-	8.8	0	-	36.3
HCM Lane LOS	B	A	A	-	A	A	-	E
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	330	188	122	458	111	214	733	100	130	513	103
Future Volume (veh/h)	52	330	188	122	458	111	214	733	100	130	513	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	359	122	133	498	49	233	797	51	141	558	102
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	73	451	382	155	537	455	256	1566	697	162	1165	212
Arrive On Green	0.04	0.24	0.24	0.09	0.29	0.29	0.14	0.44	0.44	0.18	0.78	0.78
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1581	1781	3002	547
Grp Volume(v), veh/h	57	359	122	133	498	49	233	797	51	141	330	330
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1581	1781	1777	1772
Q Serve(g_s), s	4.8	27.0	9.5	11.0	38.8	3.4	19.3	24.3	2.8	11.5	9.9	10.0
Cycle Q Clear(g_c), s	4.8	27.0	9.5	11.0	38.8	3.4	19.3	24.3	2.8	11.5	9.9	10.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.31
Lane Grp Cap(c), veh/h	73	451	382	155	537	455	256	1566	697	162	689	687
V/C Ratio(X)	0.78	0.80	0.32	0.86	0.93	0.11	0.91	0.51	0.07	0.87	0.48	0.48
Avail Cap(c_a), veh/h	238	623	528	238	623	528	368	1566	697	333	689	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	71.2	53.5	46.8	67.5	51.9	39.3	63.3	30.2	24.2	60.5	11.4	11.4
Incr Delay (d2), s/veh	6.5	5.0	0.5	11.2	18.6	0.1	16.4	1.2	0.2	5.4	2.4	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	13.4	3.8	5.5	21.0	1.4	10.0	10.7	1.1	5.0	3.4	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.8	58.4	47.3	78.7	70.5	39.4	79.7	31.4	24.4	65.9	13.8	13.8
LnGrp LOS	E	E	D	E	E	D	E	C	C	E	B	B
Approach Vol, veh/h		538			680			1081			801	
Approach Delay, s/veh		57.9			69.9			41.5			23.0	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.6	72.1	11.2	48.1	26.6	64.2	18.1	41.2
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	28.0	31.0	20.0	50.0	31.0	28.0	20.0	50.0
Max Q Clear Time (g_c+I1), s	13.5	26.3	6.8	40.8	21.3	12.0	13.0	29.0
Green Ext Time (p_c), s	0.1	2.8	0.0	2.3	0.2	5.1	0.1	2.6

Intersection Summary	
HCM 6th Ctrl Delay	45.8
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	17	25	37	19	21
Future Vol, veh/h	7	17	25	37	19	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	18	27	40	21	23

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	112	47	0	0	67	0
Stage 1	47	-	-	-	-	-
Stage 2	65	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	885	1022	-	-	1535	-
Stage 1	975	-	-	-	-	-
Stage 2	958	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	873	1022	-	-	1535	-
Mov Cap-2 Maneuver	873	-	-	-	-	-
Stage 1	961	-	-	-	-	-
Stage 2	958	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	3.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	974	1535	-
HCM Lane V/C Ratio	-	-	0.027	0.013	-
HCM Control Delay (s)	-	-	8.8	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	13	0	960	863	6
Future Vol, veh/h	0	13	0	960	863	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	14	0	1043	938	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	473	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	538	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	538	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	538	-	-
HCM Lane V/C Ratio	-	0.026	-	-
HCM Control Delay (s)	-	11.9	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

APPENDIX D

TRAFFIC SIGNAL WARRANTS

Warrant 1: Eight-Hour Vehicular Volume - Kamehameha Avenue & Kaulawahine Street - Existing Year 2020 (Projected) Conditions

Condition A - Minimum volume									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vechicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100% *	80%	70% **	56%	100% *	80%	70% **	56%
1	1	500	400	350	280	**150**	**120**	105	84
2 or more	1	**600**	480	420	336	**150**	**120**	105	84
2 or more	2 or more	**600**	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vechicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100% *	80%	70% **	56%	100% *	80%	70% **	56%
1	1	750	600	525	420	**75**	60	53	42
2 or more	1	**900**	**720**	630	504	**75**	60	53	42
2 or more	2 or more	**900**	**720**	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

* Basic Minimum Hourly Volume

** May be used when the major street speed exceeds 40 mph, or in an isolated community with a population of less than 10,000.

INTERSECTION INFORMATION		Condition A Vol	Condition B Vol	Condition A+B
# Major St. Lanes	**2**	**600**	**900**	**720**
# Minor St. Lanes	**1**	**150**	**75**	**120**
Major St. Speed	**30**			
Percentile Column	100%			

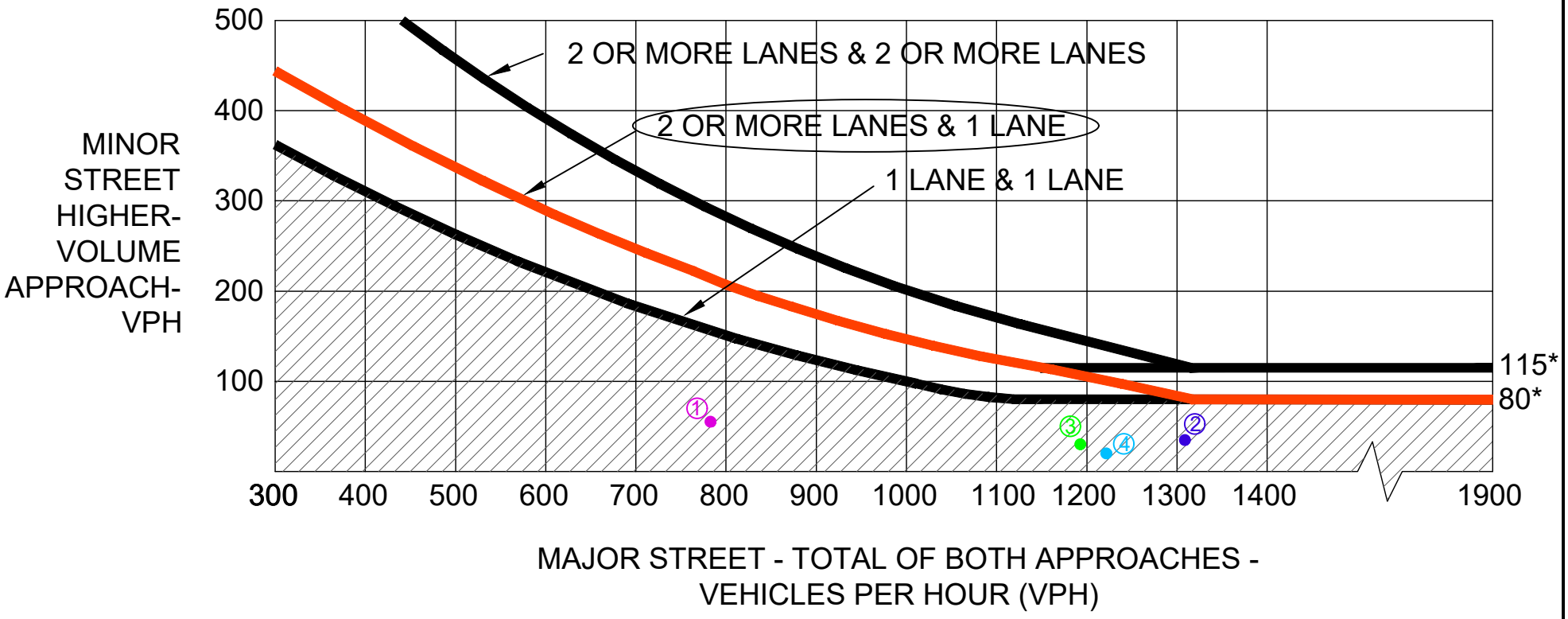
WARRANT MET? **NO**

Including Mainline Left-Turn **Hours** 0

EB
WB NB

	MAJOR STREET		MINOR STREET		MAIN	HIGHEST	CONDITION		
TIME	EB	WB	NB	WBLT	TOTAL	MINOR	A	B	A + B
6:00 AM	338	146	4	8	484	8	NO	NO	NO
6:15 AM	419	155	5	8	574	8	NO	NO	NO
6:30 AM	488	159	8	12	647	12	NO	NO	NO
6:45 AM	492	190	20	11	682	20	NO	NO	NO
7:00 AM	535	240	33	10	775	33	NO	NO	NO
7:15 AM	525	258	55	13	783	55	NO	NO	NO
7:30 AM	485	284	57	12	769	57	NO	NO	NO
7:45 AM	500	298	55	11	798	55	NO	NO	NO
8:00 AM	509	309	48	12	818	48	NO	NO	NO
8:15 AM	511	325	38	11	836	38	NO	NO	NO
8:30 AM	563	354	33	9	917	33	NO	NO	NO
8:45 AM	578	365	38	9	943	38	NO	NO	NO
9:00 AM	615	361	39	10	976	39	NO	NO	NO
9:15 AM	652	396	33	11	1048	33	NO	NO	NO
9:30 AM	667	392	42	14	1059	42	NO	NO	NO
9:45 AM	677	399	33	10	1076	33	NO	NO	NO
10:00 AM	640	424	37	11	1064	37	NO	NO	NO
10:15 AM	645	424	34	7	1069	34	NO	NO	NO
10:30 AM	685	445	33	5	1130	33	NO	NO	NO
10:45 AM	682	499	37	8	1181	37	NO	NO	NO
11:00 AM	692	532	30	7	1224	30	NO	NO	NO
11:15 AM	730	579	35	13	1309	35	NO	NO	NO
11:30 AM	683	610	32	20	1293	32	NO	NO	NO
11:45 AM	704	588	24	22	1292	24	NO	NO	NO
12:00 PM	665	544	27	21	1209	27	NO	NO	NO
12:15 PM	604	517	24	26	1121	26	NO	NO	NO
12:30 PM	565	507	22	20	1072	22	NO	NO	NO
12:45 PM	544	510	23	19	1054	23	NO	NO	NO
1:00 PM	594	519	26	20	1113	26	NO	NO	NO
1:15 PM	635	535	29	13	1170	29	NO	NO	NO
1:30 PM	648	545	30	16	1193	30	NO	NO	NO
1:45 PM	645	528	33	14	1173	33	NO	NO	NO
2:00 PM	634	537	35	16	1171	35	NO	NO	NO
2:15 PM	616	511	26	14	1127	26	NO	NO	NO
2:30 PM	624	494	24	14	1118	24	NO	NO	NO
2:45 PM	641	516	23	16	1157	23	NO	NO	NO
3:00 PM	608	514	14	13	1122	14	NO	NO	NO
3:15 PM	599	541	20	15	1140	20	NO	NO	NO
3:30 PM	658	564	20	13	1222	20	NO	NO	NO
3:45 PM	603	574	13	9	1177	13	NO	NO	NO
4:00 PM	605	566	12	7	1171	12	NO	NO	NO
4:15 PM	579	553	10	8	1132	10	NO	NO	NO
4:30 PM	480	491	12	7	971	12	NO	NO	NO
4:45 PM	451	444	21	11	895	21	NO	NO	NO
5:00 PM	397	403	19	14	800	19	NO	NO	NO
5:15 PM	0	0	0	0	0	0	NO	NO	NO
5:30 PM	0	0	0	0	0	0	NO	NO	NO
5:45 PM	0	0	0	0	0	0	NO	NO	NO
6:00 PM	0	0	0	0	0	0	NO	NO	NO

Warrant 2, Four-Hour Vehicular Volume



① (7:15 AM to 8:15 AM), (783, 55)
② (11:15 AM to 12:15 PM), (1309, 35)
③ (1:30 PM to 2:30 PM), (1193, 30)
④ (3:30 PM to 4:30 PM), (1222, 20)

*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

KAHULUI AFFORDABLE HOUSING PROJECT

AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS, SURVEYORS • HONOLULU, HAWAII

FIGURE D2

EXISTING YEAR 2020 (PROJECTED) CONDITIONS - FOUR HOUR TRAFFIC SIGNAL WARRANT FOR KAMEHAMEHA AVENUE/KAULAWAHINE STREET INTERSECTION

Warrant 1: Eight-Hour Vehicular Volume - Wakea Avenue & Kaulawahine Street - Existing Year 2020 (Projected) Conditions

Condition A - Minimum volume									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vechicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100% *	80%	70% **	56%	100% *	80%	70% **	56%
1	1	**500**	400	350	280	**150**	**120**	105	84
2 or more	1	600	480	420	336	**150**	**120**	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	**500**	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vechicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100% *	80%	70% **	56%	100% *	80%	70% **	56%
1	1	**750**	**600**	525	420	**75**	60	53	42
2 or more	1	900	720	630	504	**75**	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	**750**	**600**	525	420	100	80	70	56

* Basic Minimum Hourly Volume

** May be used when the major street speed exceeds 40 mph, or in an isolated community with a population of less than 10,000.

INTERSECTION INFORMATION		Condition A Vol	Condition B Vol	Condition A+B
# Major St. Lanes	**1**	**500**	**750**	**600**
# Minor St. Lanes	**1**	**150**	**75**	**120**
Major St. Speed	**20**			
Percentile Column	100%			

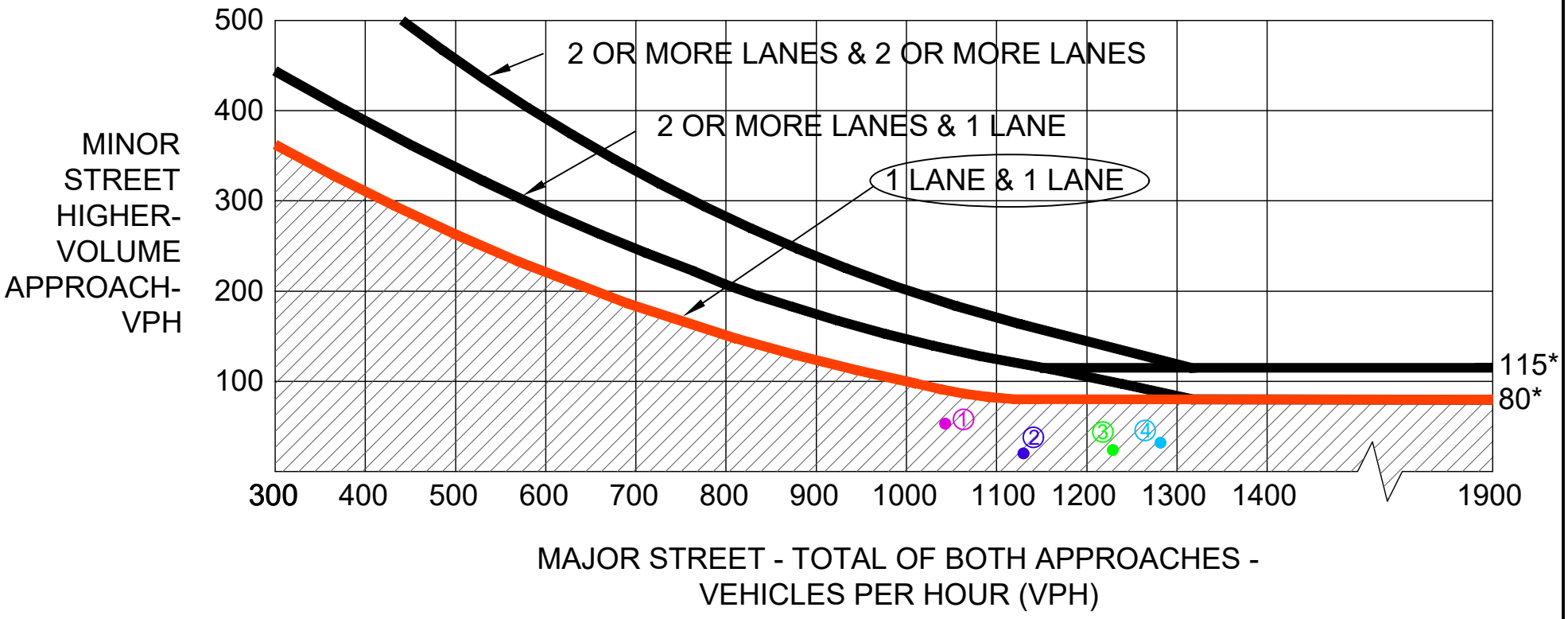
Including Mainline Left-Turn **Hours**

WARRANT MET? **NO** 0

EB
WB SB

	MAJOR STREET		MINOR STREET		MAIN	HIGHEST	CONDITION		
TIME	EB	WB	NB	SB	TOTAL	MINOR	A	B	A + B
6:00 AM	478	198	2	25	676	25	NO	NO	NO
6:15 AM	497	242	2	20	739	20	NO	NO	NO
6:30 AM	536	302	1	24	838	24	NO	NO	NO
6:45 AM	560	381	5	45	941	45	NO	NO	NO
7:00 AM	552	413	7	50	965	50	NO	NO	NO
7:15 AM	592	451	10	53	1043	53	NO	NO	NO
7:30 AM	564	419	11	47	983	47	NO	NO	NO
7:45 AM	572	406	8	32	978	32	NO	NO	NO
8:00 AM	535	425	10	24	960	24	NO	NO	NO
8:15 AM	511	424	12	24	935	24	NO	NO	NO
8:30 AM	532	476	13	24	1008	24	NO	NO	NO
8:45 AM	517	489	14	20	1006	20	NO	NO	NO
9:00 AM	547	513	13	16	1060	16	NO	NO	NO
9:15 AM	544	536	9	11	1080	11	NO	NO	NO
9:30 AM	530	542	11	20	1072	20	NO	NO	NO
9:45 AM	543	587	9	20	1130	20	NO	NO	NO
10:00 AM	514	590	10	29	1104	29	NO	NO	NO
10:15 AM	556	632	8	33	1188	33	NO	NO	NO
10:30 AM	565	660	4	25	1225	25	NO	NO	NO
10:45 AM	582	647	4	24	1229	24	NO	NO	NO
11:00 AM	582	649	0	16	1231	16	NO	NO	NO
11:15 AM	547	628	3	12	1175	12	NO	NO	NO
11:30 AM	533	602	6	6	1135	6	NO	NO	NO
11:45 AM	512	560	7	3	1072	7	NO	NO	NO
12:00 PM	513	545	10	0	1058	10	NO	NO	NO
12:15 PM	489	536	11	0	1025	11	NO	NO	NO
12:30 PM	500	536	9	0	1036	9	NO	NO	NO
12:45 PM	498	568	10	3	1066	10	NO	NO	NO
1:00 PM	487	557	10	5	1044	10	NO	NO	NO
1:15 PM	511	544	6	6	1055	6	NO	NO	NO
1:30 PM	489	544	7	8	1033	8	NO	NO	NO
1:45 PM	481	513	8	5	994	8	NO	NO	NO
2:00 PM	481	526	10	13	1007	13	NO	NO	NO
2:15 PM	506	523	17	14	1029	17	NO	NO	NO
2:30 PM	506	534	19	14	1040	19	NO	NO	NO
2:45 PM	516	602	19	16	1118	19	NO	NO	NO
3:00 PM	530	626	14	16	1156	16	NO	NO	NO
3:15 PM	511	672	9	21	1183	21	NO	NO	NO
3:30 PM	542	696	7	24	1238	24	NO	NO	NO
3:45 PM	553	710	6	29	1263	29	NO	NO	NO
4:00 PM	547	735	10	32	1282	32	NO	NO	NO
4:15 PM	520	739	9	31	1259	31	NO	NO	NO
4:30 PM	494	717	7	33	1211	33	NO	NO	NO
4:45 PM	434	638	9	31	1072	31	NO	NO	NO
5:00 PM	407	539	7	28	946	28	NO	NO	NO
5:15 PM	0	0	0	0	0	0	NO	NO	NO
5:30 PM	0	0	0	0	0	0	NO	NO	NO
5:45 PM	0	0	0	0	0	0	NO	NO	NO
6:00 PM	0	0	0	0	0	0	NO	NO	NO

Warrant 2, Four-Hour Vehicular Volume



① (7:15 AM to 8:15 AM), (1043, 53)
② (9:45 AM to 10:45 AM), (1130, 20)
③ (10:45 AM to 11:45 AM), (1229, 24)
④ (4:00 PM to 5:00 PM), (1282, 32)

*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

KAHULUI AFFORDABLE HOUSING PROJECT

AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS, SURVEYORS • HONOLULU, HAWAII

EXISTING YEAR 2020 (PROJECTED) CONDITIONS - FOUR HOUR TRAFFIC SIGNAL WARRANT FOR WAKEA AVENUE/KAULAWAHINE STREET INTERSECTION

FIGURE D4

Warrant 1: Eight-Hour Vehicular Volume - Kamehameha Avenue & Kaulawahine Street - Future Year 2025 Conditions

Condition A - Minimum volume									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vechicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100% *	80%	70% **	56%	100% *	80%	70% **	56%
1	1	500	400	350	280	**150**	**120**	105	84
2 or more	1	**600**	480	420	336	**150**	**120**	105	84
2 or more	2 or more	**600**	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vechicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100% *	80%	70% **	56%	100% *	80%	70% **	56%
1	1	750	600	525	420	**75**	60	53	42
2 or more	1	**900**	**720**	630	504	**75**	60	53	42
2 or more	2 or more	**900**	**720**	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

* Basic Minimum Hourly Volume

** May be used when the major street speed exceeds 40 mph, or in an isolated community with a population of less than 10,000.

INTERSECTION INFORMATION		Condition A Vol	Condition B Vol	Condition A+B
# Major St. Lanes	**2**	**600**	**900**	**720**
# Minor St. Lanes	**1**	**150**	**75**	**120**
Major St. Speed	**30**			
Percentile Column	100%			

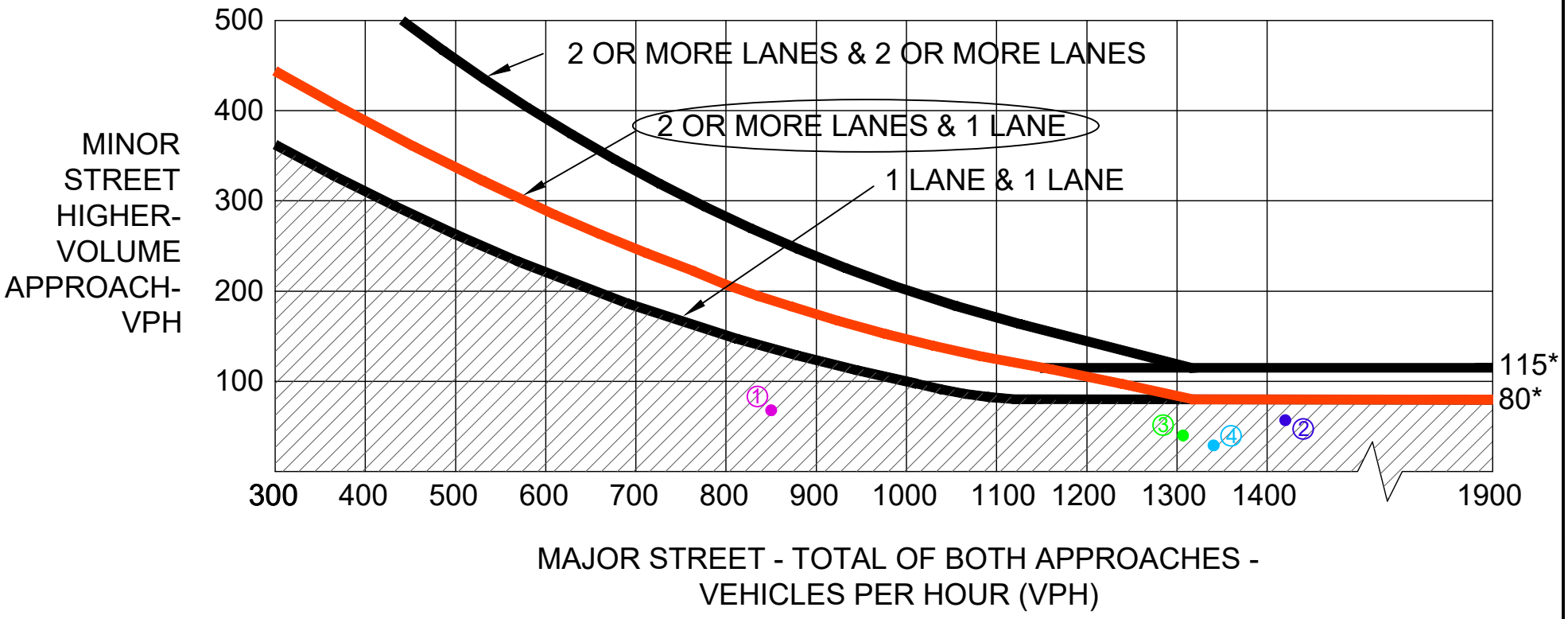
WARRANT MET? **NO**

Including Mainline Left-Turn **Hours** 0

EB
WB NB

	MAJOR STREET		MINOR STREET		MAIN	HIGHEST	CONDITION		
TIME	EB	WB	NB	WBLT	TOTAL	MINOR	A	B	A + B
6:00 AM	369	160	9	8	529	9	NO	NO	NO
6:15 AM	456	170	10	8	626	10	NO	NO	NO
6:30 AM	529	174	16	12	703	16	NO	NO	NO
6:45 AM	536	209	31	11	744	31	NO	NO	NO
7:00 AM	587	264	57	10	851	57	NO	NO	NO
7:15 AM	569	281	68	13	850	68	NO	NO	NO
7:30 AM	532	313	106	12	844	106	NO	NO	NO
7:45 AM	548	328	99	11	876	99	NO	NO	NO
8:00 AM	555	340	80	12	896	80	NO	NO	NO
8:15 AM	557	358	47	11	916	47	NO	NO	NO
8:30 AM	613	391	44	9	1004	44	NO	NO	NO
8:45 AM	628	403	51	9	1031	51	NO	NO	NO
9:00 AM	666	398	55	10	1064	55	NO	NO	NO
9:15 AM	708	437	44	11	1145	44	NO	NO	NO
9:30 AM	727	432	58	14	1159	58	NO	NO	NO
9:45 AM	737	441	50	10	1178	50	NO	NO	NO
10:00 AM	700	468	55	11	1168	55	NO	NO	NO
10:15 AM	706	469	51	7	1175	51	NO	NO	NO
10:30 AM	747	493	44	5	1240	44	NO	NO	NO
10:45 AM	745	552	48	8	1297	48	NO	NO	NO
11:00 AM	758	589	42	7	1347	42	NO	NO	NO
11:15 AM	800	640	57	13	1440	57	NO	NO	NO
11:30 AM	751	673	56	20	1423	56	NO	NO	NO
11:45 AM	772	648	42	22	1420	42	NO	NO	NO
12:00 PM	724	599	43	21	1324	43	NO	NO	NO
12:15 PM	654	568	38	26	1222	38	NO	NO	NO
12:30 PM	610	558	33	20	1168	33	NO	NO	NO
12:45 PM	586	562	35	19	1148	35	NO	NO	NO
1:00 PM	642	572	42	20	1214	42	NO	NO	NO
1:15 PM	691	591	39	13	1282	39	NO	NO	NO
1:30 PM	706	601	40	16	1307	40	NO	NO	NO
1:45 PM	708	583	44	14	1290	44	NO	NO	NO
2:00 PM	693	593	41	16	1286	41	NO	NO	NO
2:15 PM	669	564	31	14	1233	31	NO	NO	NO
2:30 PM	678	545	29	14	1223	29	NO	NO	NO
2:45 PM	691	569	28	16	1261	28	NO	NO	NO
3:00 PM	658	568	16	13	1226	16	NO	NO	NO
3:15 PM	652	597	29	15	1249	29	NO	NO	NO
3:30 PM	718	623	29	13	1341	29	NO	NO	NO
3:45 PM	659	635	21	9	1294	21	NO	NO	NO
4:00 PM	661	626	20	7	1287	20	NO	NO	NO
4:15 PM	634	612	13	8	1246	13	NO	NO	NO
4:30 PM	530	543	16	7	1073	16	NO	NO	NO
4:45 PM	502	490	30	11	992	30	NO	NO	NO
5:00 PM	443	444	30	14	887	30	NO	NO	NO
5:15 PM	0	0	0	0	0	0	NO	NO	NO
5:30 PM	0	0	0	0	0	0	NO	NO	NO
5:45 PM	0	0	0	0	0	0	NO	NO	NO
6:00 PM	0	0	0	0	0	0	NO	NO	NO

Warrant 2, Four-Hour Vehicular Volume



① (7:15 AM to 8:15 AM), (850, 68)
② (11:15 AM to 12:15 PM), (1440, 57)
③ (1:30 PM to 2:30 PM), (1307, 40)
④ (3:30 PM to 4:30 PM), (1341, 29)

*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

KAHULUI AFFORDABLE HOUSING PROJECT

AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS, SURVEYORS • HONOLULU, HAWAII

FUTURE YEAR 2025 CONDITIONS - FOUR HOUR TRAFFIC SIGNAL WARRANT FOR KAMEHAMEHA AVENUE/KAULAWAHINE STREET INTERSECTION

FIGURE D6

Warrant 1: Eight-Hour Vehicular Volume - Wakea Avenue & Kaulawahine Street - Future Year 2025 Conditions

Condition A - Minimum volume									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vechicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100% *	80%	70% **	56%	100% *	80%	70% **	56%
1	1	**500**	400	350	280	**150**	**120**	105	84
2 or more	1	600	480	420	336	**150**	**120**	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	**500**	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vechicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100% *	80%	70% **	56%	100% *	80%	70% **	56%
1	1	**750**	**600**	525	420	**75**	60	53	42
2 or more	1	900	720	630	504	**75**	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	**750**	**600**	525	420	100	80	70	56

* Basic Minimum Hourly Volume

** May be used when the major street speed exceeds 40 mph, or in an isolated community with a population of less than 10,000.

INTERSECTION INFORMATION		Condition A Vol	Condition B Vol	Condition A+B
# Major St. Lanes	**1**	**500**	**750**	**600**
# Minor St. Lanes	**1**	**150**	**75**	**120**
Major St. Speed	**20**			
Percentile Column	100%			

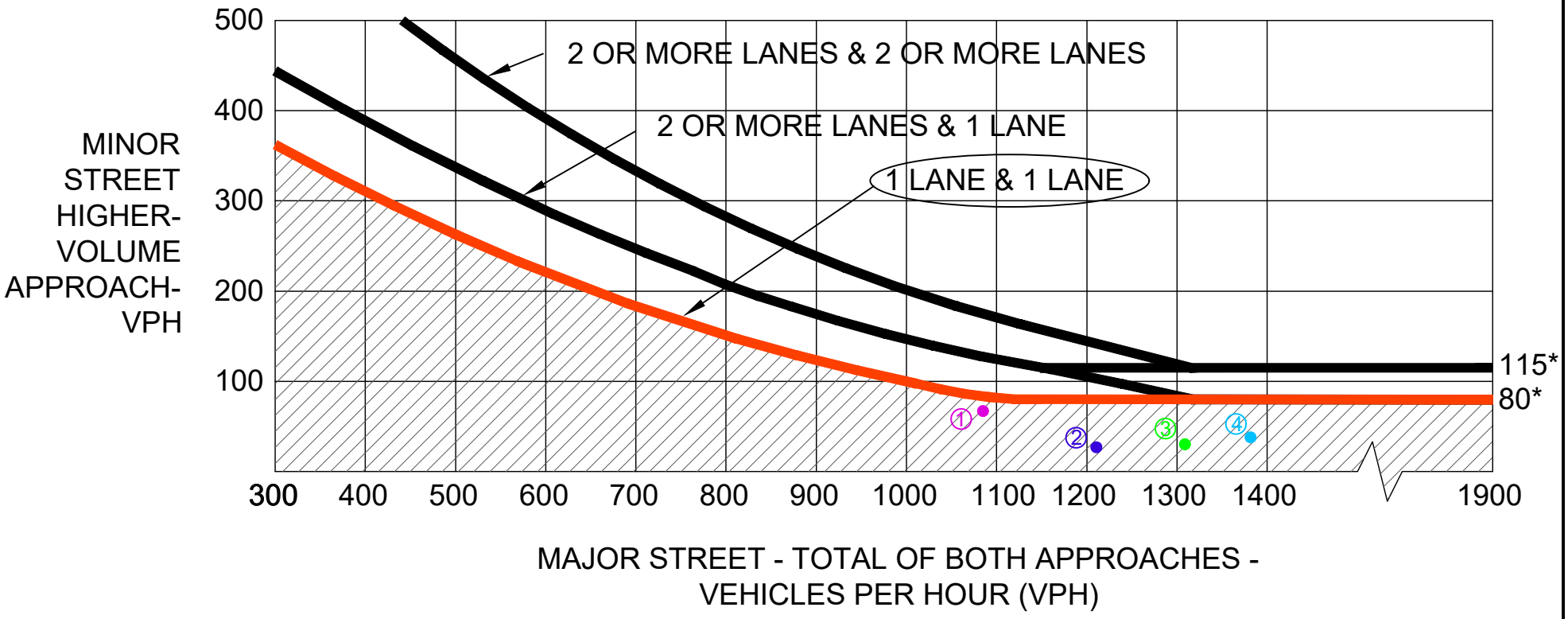
Including Mainline Left-Turn **Hours**

WARRANT MET? **NO** 0

EB
WB SB

	MAJOR STREET		MINOR STREET		MAIN	HIGHEST	CONDITION		
TIME	EB	WB	NB	SB	TOTAL	MINOR	A	B	A + B
6:00 AM	501	214	1	32	715	32	NO	NO	NO
6:15 AM	521	260	1	26	782	26	NO	NO	NO
6:30 AM	567	323	0	29	891	29	NO	NO	NO
6:45 AM	598	404	3	55	1002	55	NO	NO	NO
7:00 AM	589	439	5	62	1028	62	NO	NO	NO
7:15 AM	620	465	9	67	1085	67	NO	NO	NO
7:30 AM	607	445	7	60	1052	60	NO	NO	NO
7:45 AM	610	435	4	42	1045	42	NO	NO	NO
8:00 AM	571	453	4	32	1025	32	NO	NO	NO
8:15 AM	541	451	5	32	992	32	NO	NO	NO
8:30 AM	563	505	7	32	1068	32	NO	NO	NO
8:45 AM	558	518	9	27	1076	27	NO	NO	NO
9:00 AM	594	542	9	22	1136	22	NO	NO	NO
9:15 AM	591	569	6	15	1160	15	NO	NO	NO
9:30 AM	579	577	7	27	1156	27	NO	NO	NO
9:45 AM	587	623	7	27	1211	27	NO	NO	NO
10:00 AM	552	630	6	39	1182	39	NO	NO	NO
10:15 AM	601	672	4	44	1274	44	NO	NO	NO
10:30 AM	603	701	1	33	1303	33	NO	NO	NO
10:45 AM	620	689	3	30	1309	30	NO	NO	NO
11:00 AM	619	689	0	18	1308	18	NO	NO	NO
11:15 AM	577	668	2	13	1245	13	NO	NO	NO
11:30 AM	567	642	4	5	1209	5	NO	NO	NO
11:45 AM	551	595	4	3	1145	4	NO	NO	NO
12:00 PM	552	581	6	0	1133	6	NO	NO	NO
12:15 PM	528	571	7	0	1099	7	NO	NO	NO
12:30 PM	539	572	5	0	1111	5	NO	NO	NO
12:45 PM	526	608	6	3	1134	6	NO	NO	NO
1:00 PM	514	596	7	5	1111	7	NO	NO	NO
1:15 PM	557	582	5	6	1139	6	NO	NO	NO
1:30 PM	536	583	5	8	1120	8	NO	NO	NO
1:45 PM	537	550	6	6	1087	6	NO	NO	NO
2:00 PM	536	563	6	14	1099	14	NO	NO	NO
2:15 PM	555	560	11	16	1115	16	NO	NO	NO
2:30 PM	546	570	11	16	1116	16	NO	NO	NO
2:45 PM	554	642	13	17	1196	17	NO	NO	NO
3:00 PM	568	670	9	18	1238	18	NO	NO	NO
3:15 PM	538	721	7	25	1259	25	NO	NO	NO
3:30 PM	579	746	5	28	1325	28	NO	NO	NO
3:45 PM	591	764	4	35	1354	35	NO	NO	NO
4:00 PM	592	790	6	38	1382	38	NO	NO	NO
4:15 PM	565	792	5	36	1356	36	NO	NO	NO
4:30 PM	529	770	4	40	1299	40	NO	NO	NO
4:45 PM	462	682	5	38	1143	38	NO	NO	NO
5:00 PM	426	574	5	35	1000	35	NO	NO	NO
5:15 PM	0	0	0	0	0	0	NO	NO	NO
5:30 PM	0	0	0	0	0	0	NO	NO	NO
5:45 PM	0	0	0	0	0	0	NO	NO	NO
6:00 PM	0	0	0	0	0	0	NO	NO	NO

Warrant 2, Four-Hour Vehicular Volume



① (7:15 AM to 8:15 AM), (1085, 67)
② (9:45 AM to 10:45 AM), (1211, 27)
③ (10:45 AM to 11:45 AM), (1309, 30)
④ (4:00 PM to 5:00 PM), (1382, 38)

*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

KAHULUI AFFORDABLE HOUSING PROJECT

AUSTIN, TSUTSUMI & ASSOCIATES, INC.
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FIGURE D8

FUTURE YEAR 2025 CONDITIONS – FOUR HOUR TRAFFIC SIGNAL WARRANT FOR WAKEA AVENUE/KAULAWAHINE STREET INTERSECTION

APPENDIX

F

PRELIMINARY ENGINEERING REPORT

HALE PILINA
PRELIMINARY ENGINEERING REPORT

Kahului, Maui, Hawaii
TMK: (2) 3-7-013:026

September 2020

PREPARED BY:

M&A HAWAII, INC.

747 Amana Street, Suite 216
Honolulu, Hawaii 96814
(808) 945-7882 • Fax: (808) 946-2563

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I. SITE ACCESSIBILITY AND PARKING

The Hale Pilina senior housing development will be accessible from Puunene Avenue and Kaulawahine Street. Puunene Avenue is a State-owned main arterial roadway that provides north-south access to Kahului from Kaahumanu Avenue to the North and Kuihelani Highway and Maui Veterans Highway to the South. Adjacent to the project site, Puunene Avenue is an undivided four-lane arterial roadway with a two-way left-turn lane. Nearby signalized intersections include Puunene Avenue with Wakea Avenue and Kamehameha Avenue. Kaulawahine Street is a county-owned two-lane collector road that provides access to residential homes in the Kahului Development Subdivision adjacent to the project site.

A paved parking lot with 270 marked stalls will be provided for the project, as required by Maui County Code, Chapter 19.036A. Three (3) loading zones will be provided within the parking lot.

The Hawaii Statewide Uniform Design Manual For Streets and Highways, DOT Highways Division & DPW Counties of the State of Hawaii, October 1980, will be utilized to provide new driveways along Puunene Avenue and Kaulawahine Street. The parking lot improvements will be designed to comply with Maui County Code. Traffic control plans required for the project will be provided as necessary.

The project will comply with Americans with Disabilities (ADA) Guidelines. Final plans will be submitted to the Disability and Communication Access Board (DCAB) for ADA review.

The proposed project site will include a fire access lane compliant to County of Maui Fire Department Standards and the National Fire Protection Association Fire Code.

II. SITE GRADING & DRAINAGE SYSTEM

The grading of the 4.9 acre site will comply with the Maui County Grading Ordinance and the recommendations of the geotechnical engineer. Cut and fill slopes will be 3H:1V or flatter unless otherwise specified by the geotechnical engineer.

According to the Flood Insurance Rate Map (FM1500030392E) by the Federal Emergency Management Agency (FEMA), the project site is in Flood Zone X (Areas determined to be outside 500-year floodplain), see Figure 1.

Figure 1 FIRM Map, FM1500030392E

Drainage system improvements will be incorporated into the proposed project. Existing drainage patterns will be maintained to the maximum extent practicable and additional run-off caused by the development will be detained. The proposed apartment buildings and parking lots will drain to a collection system which leads to either an underground detention system or above ground shallow retention basins.

The design of the on-site drainage system will comply with the Rules For the Design of Storm Drainage Facilities in the County of Maui, dated July 1995. Based on the current layout for the development, the project will increase the storm water runoff from the site by approximately 19.2 cubic feet per second for a 50-year, 1-hour design storm event. This will require approximately 34,500 cubic feet of detention storage. The storm water storage required for the 50-year, 1 hour storm event will be installed within the site. The connecting pipes will be designed for the 10-year, 1-hour storm event. Under a 10-year, 1-hour storm event the proposed flow is 25 cfs. The overflow from the system will either discharge to a catch basin along Kaulawahine Street or a drainage system along Puunene Avenue.

Erosion and dust control measures will be implemented to accommodate neighboring public and private facilities.

A hydrodynamic separator is proposed to be installed to meet County storm water quality requirements. In addition, the quality of storm water being discharged from the site will be addressed by implementing County approved BMPs.

A NPDES Permit will be obtained for projects greater than 1 acre; it will address all necessary storm water measures to be implemented during construction activities.

III. WATER SYSTEM

The potable water system will comply with the latest Water System Standards, County of Maui, Department of Water Supply, 2002. In addition, the project will need to meet the criteria for water service outlined in the Administrative Rules (Title 16, Chapter 201), amended 11/28/2019. See Appendix B for the preliminary requirements for the project provided in a letter from the Department of Water Supply, County of Maui, dated August 20, 2020.

The proposed development will connect to the existing 12" waterline in Puunene Avenue and/or existing 6" waterline in Kaulawahine Street. Based on initial calculations, a portion of the existing 6" waterline along Kaulawahine Street may need to be upsized to an 8" waterline in order to provide adequate fire protection. There is no existing water meter on the property. Therefore, a water service lateral and meter box shall be installed. The water meter shall be sized in accordance with the Non-Residential Water Meter Sizing worksheet. A reduced pressure backflow preventer (RPBP) after the water meter shall be installed.

Fire protection shall be provided and will comply with the Water System Standards and Maui County Code 14.050.090 – Fire Protection, as amended. The fire flow requirement for the project is 1,500 gallons per minute. Fire hydrants will be provided on site at 250-foot spacing for A-1 zoning. The Department of Water Supply provided hydrant pressure data for hydrants adjacent to the project. In 2016, Hydrant No. 114 was tested and found to have a static pressure of 92 psi. In 2014, Hydrant No. 778 was tested and found to have a static pressure of 108 psi. The static water system pressure may be reduced to as low as 40 psi. The allowable residual pressure with fire flow is 20 psi.

The average daily domestic demand of the project is 104,260 gallons per day including irrigation demand. The water source will come from the Central Maui Water System, which is supplied mainly by the Iao Aquifer in the vicinity of Iao Stream and Waiehu stream. Water demand for the Central Maui Water System averages 24 mgd (The Maui News, 2020). The average daily demand based on the 0.6 acres of landscaping is 3,000 gallons per day. See Appendix B for Water Demand Calculations.

IV. WASTEWATER SYSTEM

The sewer system will be designed to comply with the Design Standards of the Wastewater Reclamation Division, County of Maui.

The buildings will connect to an existing County of Maui 10" sewer main located on Puunene Avenue. Figure 2 identifies the location of the proposed sewer connection. The 10-inch Puunene Avenue sewer connects to a 24-inch sewer north of Kamehameha Avenue, which runs north east to the Kahului Wastewater Pump Station. The pump station is located approximately 2,800 feet from the Kahului Wastewater Treatment Plant.

The total average wastewater flow is 51,730 gallons per day. See Appendix C for Wastewater System Calculations.

Figure 2 Sewer Connection Map

V. SOLID WASTE

The undeveloped parcel (3-7-013:026) currently does not have or require a refuse service.

The proposed project will generate solid waste during construction and after development. Construction wastes will include vegetation, rocks and debris from the grading and grubbing of the project site. The typical range of per capita solid waste from a residential source is 2.0 to 5.0 pounds per capita per day. It is estimated that Hale Pilina (179 apartment/condominium units) will generate 0.9 tons/day (179 x 2.5 persons/condo x 4.0 lbs/person/day / 2000 lbs/ton). The composition of the solid waste is expected to be typical for a municipal source. (US EPA 2009)

VI. PERMITS

The construction of new facilities and accesses will require multiple permits. Below is a list of potential permits:

i. Building Permit – County of Maui, Development Services Administration (DSA)
ii. Driveway Permit – County of Maui, DSA
iii. Grading, Grubbing, and Stockpiling Permit – County of Maui, DSA
iv. Trenching Permit – County of Maui, DSA
v. Drainage and Plan Approval – County of Maui, DSA
vi. Sewer Connection and Plan Approval – County of Maui, Wastewater Reclamation Division (WWRD)
vii. Water Connection and Plan Approval – County of Maui, Department of Water Supply (DWS)
viii. NPDES Permit – State of Hawaii Department of Health
ix. Work within State Right-of-Way – State of Hawaii Department of Transportation
x. Use and Occupancy Agreement – State of Hawaii Department of Transportation
xi. Stormwater Discharge Permit – State of Hawaii Department of Transportation

VII. REFERENCES

1. Rules for the Design of Storm Drainage Facilities in the County of Maui. Department of Public Works and Waste Management, County of Maui, November 1995 as amended.

2. Rules for the Design of Storm Water Treatment Best Management Practices. Department of Public Works, County of Maui, November 2012 as amended.

3. Water System Standards, Board of Water Supply, County of Maui, 2002.

4. Wastewater Flow Standards, County of Maui Wastewater Reclamation Division, February 2006.

5. Soils Survey of Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii. US Department of Agriculture, Soils Conservation Service, August 1972.

APPENDICES

APPENDIX A Drainage Calculations & Drainage Maps

Appendix A - Drainage Calculations

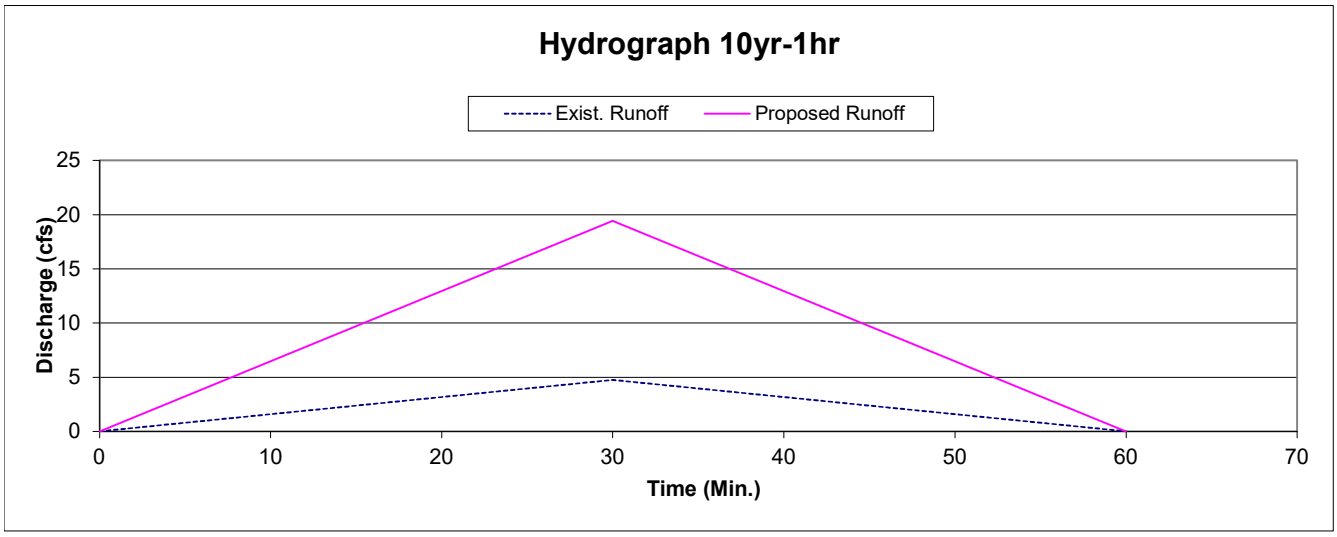
Hale Pilina - Flow Calculation for Each Drainage Area 10-Year

Existing Condition Plate 4 = 2.000 Plate 7 2.500

AREA	LANDSCAPED AREA (ACRE)	C1	PAVED AREA (ACRE)	C2	AREA WEIGHTED C	TOTAL AREA	LENGTH	SLOPE	TIME OF CONC.	PLATE 2 10 YR 1-HR RAIN-FALL INTENSITY (INCH/HR)	PLATE 2 50 YR 1-HR RAIN-FALL INTENSITY (INCH/HR)	10 YR 1-HR FLOW(CFS)	50 YR 1-HR FLOW(CFS)
E1	4.865	0.30	0.000	0.95	0.30	4.865	400	0.50%	21	3.25	4.00	4.74	5.84
TOTAL	4.865					**4.865**						**4.74**	**5.84**

Proposed Condition Plate 4 = 2.000 Plate 7 2.500

AREA	LANDSCAPED AREA (ACRE)	C1	PAVED AREA (ACRE)	C2	AREA WEIGHTED C	TOTAL AREA	LENGTH	SLOPE	TIME OF CONC.	PLATE 2 10 YR 1-HR RAIN-FALL INTENSITY (INCH/HR)	PLATE 2 50 YR 1-HR RAIN-FALL INTENSITY (INCH/HR)	10 YR 1-HR FLOW(CFS)	50 YR 1-HR FLOW(CFS)
P1	0.133	0.10	0.000	0.95	0.10	0.133	110	1.00%	15	3.70	4.40	0.05	0.06
P2	0.000	0.10	0.130	0.95	0.95	0.130	30	0.50%	5	6.20	8.00	0.77	0.99
P3	0.000	0.10	0.130	0.95	0.95	0.130	30	0.50%	5	6.20	8.00	0.77	0.99
P4	0.066	0.10	0.290	0.95	0.79	0.357	100	1.00%	5	6.20	8.00	1.75	2.25
P5	0.034	0.10	0.159	0.95	0.80	0.193	105	1.00%	5	6.20	8.00	0.96	1.24
P6	0.096	0.10	0.046	0.95	0.37	0.142	180	1.00%	13	3.90	4.80	0.21	0.25
P7	0.669	0.10	0.076	0.95	0.19	0.745	250	1.00%	21	3.20	3.90	0.45	0.55
P8	0.015	0.10	0.281	0.95	0.91	0.297	120	1.00%	5	6.20	8.00	1.67	2.16
P9	0.031	0.10	0.301	0.95	0.87	0.332	120	1.00%	5	6.20	8.00	1.79	2.31
P10	0.015	0.10	0.328	0.95	0.91	0.343	130	1.00%	5	6.20	8.00	1.94	2.50
P11	0.000	0.10	0.130	0.95	0.95	0.130	30	0.50%	5	6.20	8.00	0.77	0.99
P12	0.000	0.10	0.130	0.95	0.95	0.130	30	0.50%	5	6.20	8.00	0.77	0.99
P13	0.123	0.10	0.000	0.95	0.10	0.123	70	1.00%	12.5	4.00	4.80	0.05	0.06
P14	0.088	0.10	0.004	0.95	0.14	0.091	130	1.00%	16	3.50	4.40	0.04	0.06
P15	0.000	0.10	0.130	0.95	0.95	0.130	30	0.50%	5	6.20	8.00	0.77	0.99
P16	0.000	0.10	0.130	0.95	0.95	0.130	30	0.50%	5	6.20	8.00	0.77	0.99
P17	0.021	0.10	0.321	0.95	0.90	0.343	80	1.00%	5	6.20	8.00	1.91	2.47
P18	0.018	0.10	0.111	0.95	0.83	0.129	110	1.00%	5	6.20	8.00	0.66	0.86
P19	0.021	0.10	0.132	0.95	0.83	0.153	110	1.00%	5	6.20	8.00	0.79	1.02
P20	0.069	0.10	0.171	0.95	0.71	0.240	145	1.00%	7	5.50	7.00	0.94	1.19
P21	0.000	0.10	0.130	0.95	0.95	0.130	30	0.50%	5	6.20	8.00	0.77	0.99
P22	0.000	0.10	0.130	0.95	0.95	0.130	30	0.50%	5	6.20	8.00	0.77	0.99
P23	0.202	0.10	0.000	0.95	0.10	0.202	100	1.00%	14.5	3.75	4.50	0.08	0.09
TOTAL	1.603		**3.264**			**4.866**						**19.43**	**24.99**



10-YR, 1-HR STORM

Existing		**Proposed**	
Time (min)	Flow (cfs)	Time (min)	Flow (cfs)
0	0	0	0
30	4.74	30	19.43
60	0	60	0

50-YR, 1-HR STORM

Existing		**Proposed**	
Time (min)	Flow (cfs)	Time (min)	Flow (cfs)
0	0	0	0
30	5.84	30	24.99
60	0	60	0

Exist. Runoff Volume	8,537.3	ft³
Proposed Runoff Volume	34,968.1	ft³
Detention Voume Required	26,430.8	ft³

Exist. Runoff Volume	10,507.4	ft³
Proposed Runoff Volum	44,978.1	ft³
Detention Voume Requi	34,470.7	ft³

LEGEND

- PROPERTY LINE
- LIMITS OF WORK
- DRAINAGE AREA
- DIRECTION OF FLOW
- DISCHARGE POINT
- GARDEN/PLANTING

NOTE: FLOW RATE CALCULATIONS BASED ON THE 10-YR RECURRENCE INTERVAL STORM

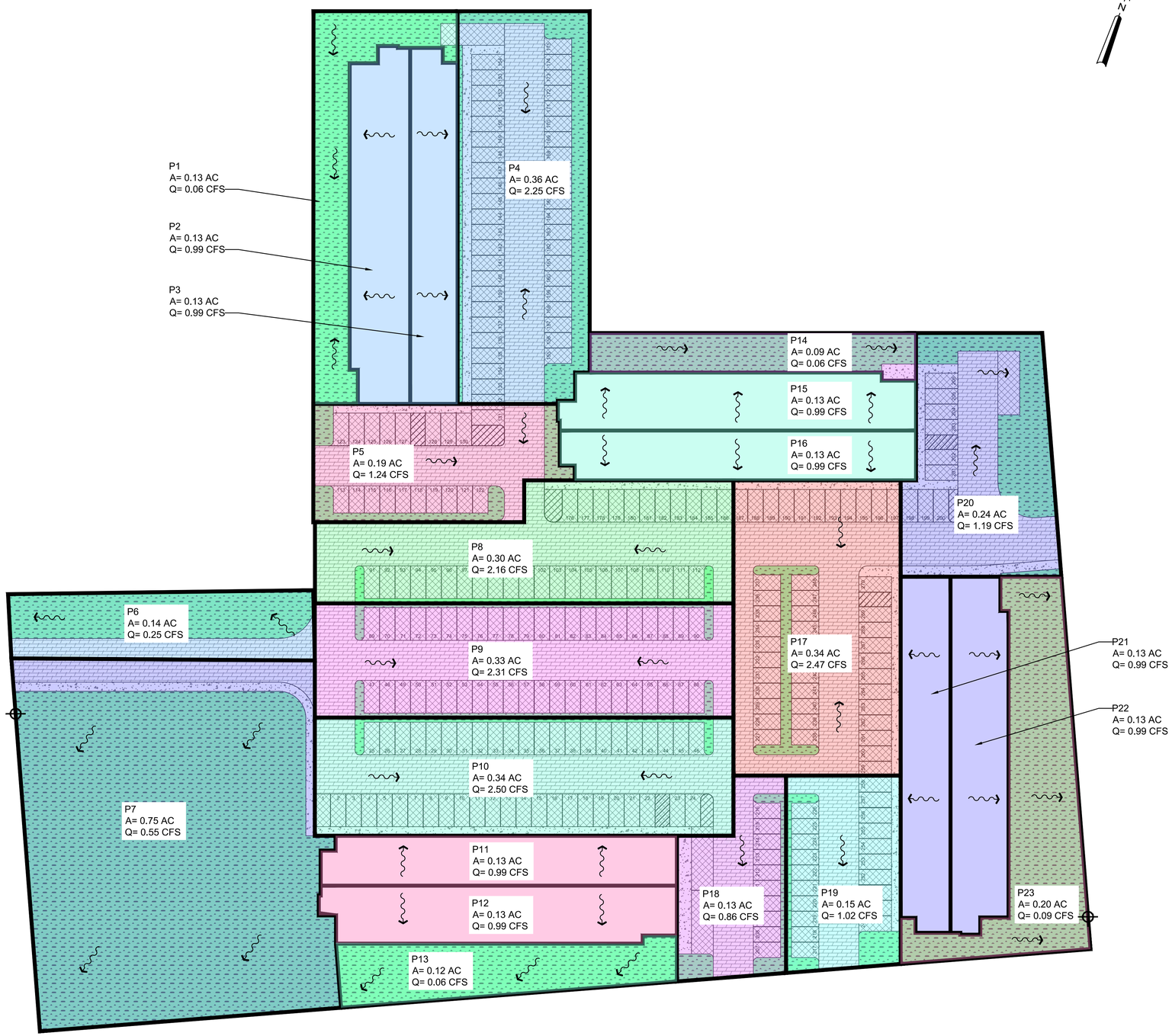
KAHULUI - EXISTING DRAINAGE MAP

SCALE: 1"=30'-0"

GRAPHIC SCALE

1" = 30'

30' 15' 0 30' 60'



LEGEND

- PROPERTY LINE
- LIMITS OF WORK
- DRAINAGE AREA
- DIRECTION OF FLOW
- DISCHARGE POINT
- GARDEN/PLANTING

NOTE: FLOW RATE CALCULATIONS BASED ON THE 10-YR RECURRENCE INTERVAL STORM

KAHULUI - PROPOSED DRAINAGE MAP

SCALE: 1"=30'-0"

GRAPHIC SCALE

1" = 30'

30' 15' 0 30' 60'

APPENDIX B DWS Preliminary Requirements Letter & Water System Calculations

MICHAEL P. VICTORINO
Mayor

JEFFREY T. PEARSON, P.E.
Director

HELENE KAU
Deputy Director

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAIʻI 96793
www.mauiwater.org

August 20, 2020

Mr. Scott Suzuki
MITSUNAGA & ASSOCIATES, INC.
via email: scotts@mitsdesign.com

Dear Mr. Suzuki:

SUBJECT: KAHULUI SENIOR HOUSING PROJECT, PUUNENE AVENUE
TMK: (2) 3-7-013:026, Kahului, Maui, Hawaii

The Department received your inquiry regarding a proposed elderly housing development located at the subject property. If developed, the intention is to develop 179-units and a 0.60-acre park. Based on this information, the following requirements may be required:

- The project will need to meet the criteria for water service outlined in the Administrative Rules (Title 16, Chapter 201), amended 11/28/2019. The Administrative Rules clarify large quantity of water usage and the tiers for an applicant's request for new or additional water service from the Department. However, the following projects shall be considered exempt, provided that the water system has adequate capacity to meet the project's water needs:
    - Residential development projects comprised of 100 percent residential workforce housing units, as defined in section 2.96.020, Maui County Code, evidenced by an executed, recorded, and valid residential workforce housing agreement between the developer and the County.
    - County, state or federal public facility projects, as defined in section 19.04.040, Maui County Code.
- Provide fire protection in accordance with the Department's Water System Standards (2002) and Maui County Code 14.050.090 – Fire Protection, as may be amended. Initial calculations indicate that the existing 6-inch waterline along Kaulawahine Street from Alehela Place to fire hydrant 114 may need to be upsized to an 8-inch waterline to provide adequate fire protection for the project.
- Per your request, provided are hydrant pressure data for hydrants adjacent to the proposed project. Please be aware of the following:
    - The results are tests conducted in 2014 and 2016. Therefore, due to changes in demand on the system we will not certify the accuracy of the results.
    - Future demands on the system may result in noticeable changes from the test results.
    - We may, in the future, also make modifications to our system that may result in water

pressure changes and available fire flow rate in the area.

- The static water system pressure may be reduced to as low as 40 psi which is the Department's standard minimum pressure. The allowable residual pressure with fire flow is 20 psi.

Hydrant No.	Test Data	Static Pressure (psi)
114	9/6/2016	92
778	8/28/2014	108

- There is no existing water meter for the subject property. Therefore, a water service lateral and box shall be installed in accordance with the Department's Water System Standards (2002), as long as the project meets the Administrative Rules discussed above. Submit civil plans (24" x 36") stamped and signed by a licensed engineer showing the improvements for our review and approval.
- Water meter shall be sized in accordance with the Non-Residential Water Meter Sizing worksheet.
- Installation of a reduced pressure backflow preventer (RPBP) after the water meter shall be required and also shown on the civil plans discussed above.

Please be aware that approval of water service will be subject to rules and regulations of the Department at the time water service is applied for. Should you have any questions or need further information, please contact Tammy Yeh of our Engineering Division at (808) 270-7835 or via email at tammy.yeh@mauicounty.gov.

Sincerely,

Digitally signed by Wendy Taomoto
Date: 2020.08.20 17:24:31 -10'00'

WENDY TAOMOTO, P.E.
Engineering Program Manager

TY

cc: Department of Housing and Human Concerns, Attn: Linda Munsell, via email: linda.munsell@co.maui.hi.us

Appendix B - Water System Calculations

Hale Pilina - Puunene Avenue, Kahului, Maui, Hawaii

TMK: 3-7-013:026

WATER SYSTEM DEMAND

Water demand calculated from "Water System Standards", Department of Water Supply, County of Maui, 2002.

Project Area: 4.865 Acres (4.265 Acres Residential + 0.600 Acres Park)
Building A: Senior Affordable (3 Story Building) = 44 units
Building B: Senior Affordable (3 Story Building) = 45 units
Building C: Senior Affordable (3 Story Building) = 45 units
Building D: Senior Affordable (3 Story Building) = 45 units

Multi-Family Low Rise (DWS Planning Criteria) :

560 gals / unit OR 5000 gals / acre (Table 100-18)

Parks:

1700 gals / acre (Table 100-18)

Irrigation:

Assumed irrigation area:	1.40	acres
Irrigation rate	1700	gal / acre
Irrigation demand	3000	gpd

Total Project

Average Daily Demand:	560 gpd x 179 units + 0.600 Acres x 1700 = **101260 gpd**
Maximum Daily Demand:	1.5 x 101260 gpd = **151890 gpd (Table 100-20)**
Peak Hour Demand:	5.0 x 101260 gpd = **506300 gpd (Table 100-20)**
Fire Flow Requirement (A-1 Zoning):	1500 gpm for 2 hour duration (Table 100-19)
Total Fire Flow:	1500 gpm x 2 hrs x 60 min/hr = 180,000 gallons
Pipeline Sizing (Fire line):	Provide required fire flow at a minimum of 20 psi residual pressure at fire hydrants.
Fire Hydrant Spacing:	250 feet maximum for A-1 Zoning

Average Daily Demand with Irrigation **104,260 gpd**

APPENDIX C Wastewater System Calculation

Appendix C - Wastewater System Calculations

Hale Pilina - Puunene Avenue, Kahului, Maui, Hawaii

TMK: 3-7-013:026
Project Area: 4.865 Acres

SEWER SYSTEM DEMAND
Reference: "Wastewater Flow Standards", County of Maui Wastewater Reclamation Division Feb. 2006

For an Apartment/Condo, wastewater flow contribution is estimated at 255 gal/unit/day

Building A: Senior Affordable (3 Story Building) = 44 units
Building B: Senior Affordable (3 Story Building) = 45 units
Building C: Senior Affordable (3 Story Building) = 45 units
Building D: Senior Affordable (3 Story Building) = 45 units

Proposed Sewer Demand
179 Units x 255 gal/unit/day = **45,645 gpd**
Total Average Wastewater Flow = **45,645 gpd**

Maximum Wastewater Flow
Population = 179 Units x 2.5 Persons Per Unit = 448 Persons
Population = 4.865 acres x 250 cpa = **1,217 Persons**
Using Babbitt formula, flow factor = 4.81
45,645 x 4.81 = **219,553 gpd**
Total Maximum Wastewater Flow = **219,553 gpd**

Dry Weather Infiltration/Inflow:
1,217 persons x 5 pdcd = **6,085 gpd**

Wet Weather Infiltration/Inflow:
4.865 acres x 1,250 gad = **6,082 gpd**

Design Average Flow
45,645 gpd + 6,085 gpd = **51,730 gpd**

Design Maximum Flow
219,553 gpd + 6,085 gpd = **225,638 gpd**

Design Peak Flow
225,638 gpd + 6,082 gpd = **231,720 gpd**

HAWAIʻI STATE PLAN – ASSESSMENT OF PROJECT APPLICABILITY TO GOALS, OBJECTIVES, AND POLICIES

APPENDIX

G-1

APPENDIX "G-1"

HAWAI'I STATE PLAN
ASSESSMENT OF PROJECT APPLICABILITY
TO GOALS, OBJECTIVES, AND POLICIES

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable	DA	IA	N/A
HRS 226-1: Findings and Purpose			
HRS 226-2: Definitions			
HRS 226-3: Overall Theme			
HRS 226-4: State Goals. In order to guarantee, for the present and future generations, those elements of choice and mobility that insure that individuals and groups may approach their desired levels of self-reliance and self determination, it shall be the goal of the State to achieve: (1) A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawaii's present and future generations. (2) A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people. (3) 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.			
Analysis: **The proposed project provides affordable housing opportunities for Maui County families in an area that is close to the government, business, and commercial centers of Wailuku and Kahului.**			
Chapter 226-5 Objective and Policies for Population			
Objective: It shall be the objective in planning for the State's population to guide population growth to be consistent with the achievement of physical, economic and social objectives contained in this chapter.	✓		
Policies:			
(1) Manage population growth statewide in a manner that provides increased opportunities for Hawaii's people to pursue their physical, social, and economic aspirations while recognizing the unique needs of each county.	✓		
(2) Encourage an increase in economic activities and employment opportunities on the neighbor islands consistent with community needs and desires.		✓	
(3) Promote increased opportunities for Hawaii's people to pursue their socio-economic aspirations throughout the islands.		✓	
(4) Encourage research activities and public awareness programs to foster an understanding of Hawaii's limited capacity to accommodate population needs and to address concerns resulting from an increase in Hawaii's population.		✓	
(5) Encourage federal actions and coordination among major governmental agencies to promote a more balanced distribution of immigrants among the states, provided that such actions do not prevent the reunion of immediate family members.			✓
(6) Pursue an increase in federal assistance for states with a greater proportion of foreign immigrants relative to their state's population.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable	DA	IA	N/A
(7) Plan the development and availability of land and water resources in a coordinated manner so as to provide for the desired levels of growth in each geographic area.		✓	
Analysis: **The proposed project indirectly supports the objectives and policies for population as it will be implemented in a developed area in Central Maui, in close proximity to existing government, business, and commercial destinations at Wailuku and Kahului, thus providing employment opportunities for residents of the project.**			
Chapter 226-6 Objectives and policies for the economy – – in general			
Objectives: Planning for the State's economy in general shall be directed toward achievement of the following objectives:			
(1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawaii's people, while at the same time stimulating the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited.			✓
(2) A steadily growing and diversified economic base that is not overly dependent on a few industries, and includes the development and expansion of industries on the neighbor islands.		✓	
Policies:			
(1) Promote and encourage entrepreneurship within Hawaii by residents and nonresidents of the State.			✓
(2) Expand Hawaii's national and international marketing, communication, and organizational ties, to increase the State's capacity to adjust to and capitalize upon economic changes and opportunities occurring outside the State.			✓
(3) Promote Hawaii as an attractive market for environmentally and socially sound investment activities that benefit Hawaii's people.			✓
(4) Transform and maintain Hawaii as a place that welcomes and facilitates innovative activity that may lead to commercial opportunities.			✓
(5) Promote innovative activity that may pose initial risks, but ultimately contribute to the economy of Hawaii.			✓
(6) Seek broader outlets for new or expanded Hawaii business investments.			✓
(7) Expand existing markets and penetrate new markets for Hawaii's products and services.			✓
(8) Assure that the basic economic needs of Hawaii's people are maintained in the event of disruptions in overseas transportation.			✓
(9) Strive to achieve a level of construction activity responsive to, and consistent with, state growth objectives.		✓	
(10) Encourage the formation of cooperatives and other favorable marketing arrangements at the local or regional level to assist Hawaii's small scale producers, manufacturers, and distributors.			✓
(11) Encourage labor-intensive activities that are economically satisfying and which offer opportunities for upward mobility.			✓
(12) Encourage innovative activities that may not be labor-intensive, but may otherwise contribute to the economy of Hawaii.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable	DA	IA	N/A
(13) Foster greater cooperation and coordination between the government and private sectors in developing Hawaii's employment and economic growth opportunities.			✓
(14) Stimulate the development and expansion of economic activities which will benefit areas with substantial or expected employment problems.			✓
(15) Maintain acceptable working conditions and standards for Hawaii's workers.			✓
(16) Provide equal employment opportunities for all segments of Hawaii's population through affirmative action and nondiscrimination measures.			✓
(17) Stimulate the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited.			✓
(18) Encourage businesses that have favorable financial multiplier effects within Hawaii's economy, particularly with respect to emerging industries in science and technology.			✓
(19) Promote and protect intangible resources in Hawaii, such as scenic beauty and the aloha spirit, which are vital to a healthy economy.			✓
(20) Increase effective communication between the educational community and the private sector to develop relevant curricula and training programs to meet future employment needs in general, and requirements of new or innovative potential growth industries in particular.			✓
(21) Foster a business climate in Hawaii--including attitudes, tax and regulatory policies, and financial and technical assistance programs-- that is conducive to the expansion of existing enterprises and the creation and attraction of new business and industry.			✓
Analysis: **The proposed action indirectly supports the general objectives and policies for the economy by supporting construction activity which contributes to increased employment opportunities, job choices, and living standards. Businesses positively affected by the project are those which support construction such as material suppliers, equipment rental companies, and landscape companies.**			
Chapter 226-7 Objectives and policies for the economy – – agriculture.			
Objectives: Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives:			
(1) Viability of Hawaii's sugar and pineapple industries.			✓
(2) Growth and development of diversified agriculture throughout the State.			✓
(3) An agriculture industry that continues to constitute a dynamic and essential component of Hawaii's strategic, economic, and social well-being.			✓
Policies:			
(1) Establish a clear direction for Hawaii's agriculture through stakeholder commitment and advocacy.			✓
(2) Encourage agriculture by making the best use of natural resources.			✓
(3) Provide the governor and the legislature with information and options needed for prudent decision-making for the development of agriculture.			✓
(4) Establish strong relationships between the agricultural and visitor industries for mutual marketing benefits.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable	DA	IA	N/A
(5) Foster increased public awareness and understanding of the contributions and benefits of agriculture as a major sector of Hawaii's economy.			✓
(6) Seek the enactment and retention of federal and state legislation that benefits Hawaii's agricultural industries.			✓
(7) Strengthen diversified agriculture by developing an effective promotion, marketing, and distribution system between Hawaii's food producers and consumers in the State, nation, and world.			✓
(8) Support research and development activities that strengthen economic productivity in agriculture, stimulate greater efficiency, and enhance the development of new products and agricultural by-products.			✓
(9) Enhance agricultural growth by providing public incentives and encouraging private initiatives.			✓
(10) Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs.			✓
(11) Increase the attractiveness and opportunities for an agricultural education and livelihood.			✓
(12) In addition to the State's priority on food, expand Hawaii's agricultural base by promoting growth and development of flowers, tropical fruits and plants, livestock, feed grains, forestry, food crops, aquaculture, and other potential enterprises.			✓
(13) Promote economically competitive activities that increase Hawaii's agricultural self-sufficiency, including the increased purchase and use of Hawaii-grown food and food products by residents, businesses, and governmental bodies as defined under section 103D-104.			✓
(14) Promote and assist in the establishment of sound financial programs for diversified agriculture.			✓
(15) Institute and support programs and activities to assist the entry of displaced agricultural workers into alternative agricultural or other employment.			✓
(16) Facilitate the transition of agricultural lands in economically nonfeasible agricultural production to economically viable agricultural uses.			✓
(17) Perpetuate, promote, and increase use of traditional Hawaiian farming systems, such as the use of loko i'a, māla, and irrigated lo'i, and growth of traditional Hawaiian crops, such as kalo, 'uala, and 'ulu.			✓
(18) Increase and develop small-scale farms.			✓
Analysis: **The project will be situated in urban Kahului. As such, the state's goals with respect to the economy and the role of agriculture are not applicable to the project.**			
Chapter 226-8 Objective and policies for the economy – – visitor industry.			
<u>Objective</u>: Planning for the State's economy with regard to the visitor industry shall be directed towards the achievement of the objective of a visitor industry that constitutes a major component of steady growth for Hawaii's economy.			✓
<u>Policies</u>:			
(1) Support and assist in the promotion of Hawaii's visitor attractions and facilities.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable	DA	IA	N/A
(2) Ensure that visitor industry activities are in keeping with the social, economic, and physical needs and aspirations of Hawaii's people.			✓
(3) Improve the quality of existing visitor destination areas by utilizing Hawaii's strengths in science and technology.			✓
(4) Encourage cooperation and coordination between the government and private sectors in developing and maintaining well-designed, adequately serviced visitor industry and related developments which are sensitive to neighboring communities and activities.			✓
(5) Develop the industry in a manner that will continue to provide new job opportunities and steady employment for Hawaii's people.			✓
(6) Provide opportunities for Hawaii's people to obtain job training and education that will allow for upward mobility within the visitor industry.			✓
(7) Foster a recognition of the contribution of the visitor industry to Hawaii's economy and the need to perpetuate the aloha spirit.			✓
(8) Foster an understanding by visitors of the aloha spirit and of the unique and sensitive character of Hawaii's cultures and values.			✓
Analysis: **The proposed action is not directly or indirectly applicable to the objective and policies for the visitor industry. The proposed action has no implications for enhancement or growth of the visitor industry.**			
Chapter 226-9 Objective and policies for the economy – – federal expenditures.			
Objective: Planning for the State's economy with regard to federal expenditures shall be directed towards achievement of the objective of a stable federal investment base as an integral component of Hawaii's economy.			✓
Policies:			
(1) Encourage the sustained flow of federal expenditures in Hawaii that generates long-term government civilian employment;			✓
(2) Promote Hawaii's supportive role in national defense, in a manner consistent with Hawaii's social, environmental, and cultural goals by building upon dual-use and defense applications to develop thriving ocean engineering, aerospace research and development, and related dual-use technology sectors in Hawaii's economy;			✓
(3) Promote the development of federally supported activities in Hawaii that respect statewide economic concerns, are sensitive to community needs, and minimize adverse impacts on Hawaii's environment;			✓
(4) Increase opportunities for entry and advancement of Hawaii's people into federal government service;			✓
(5) Promote federal use of local commodities, services, and facilities available in Hawaii;			✓
(6) Strengthen federal-state-county communication and coordination in all federal activities that affect Hawaii; and			✓
(7) Pursue the return of federally controlled lands in Hawaii that are not required for either the defense of the nation or for other purposes of national importance, and promote the mutually beneficial exchanges of land between federal agencies, the State, and the counties.			✓

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

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(13) Foster a broader public recognition and understanding of the potential benefits of new or innovative growth-oriented industry in Hawaii;			✓
(14) Encourage the development and implementation of joint federal and state initiatives to attract federal programs and projects that will support Hawaii's social, economic, physical, and environmental objectives;			✓
(15) Increase research and development of businesses and services in the telecommunications and information industries;			✓
(16) Foster the research and development of nonfossil fuel and energy efficient modes of transportation; and			✓
(17) Recognize and promote health care and health care information technology as growth industries.			✓
Analysis: **As a residential project, the proposed action does not directly or indirectly affect the development and expansion of innovative activities to increase and diversify Hawai'i's economic base.**			
Chapter 226-10.5 Objectives and policies for the economy – – information industry.			
Objective: Planning for the State's economy with regard to telecommunications and information technology shall be directed toward recognizing that broadband and wireless communication capability and infrastructure are foundations for an innovative economy and positioning Hawaii as a leader in broadband and wireless communications and applications in the Pacific Region.			✓
Policies:			
(1) Promote efforts to attain the highest speeds of electronic and wireless communication within Hawaii and between Hawaii and the world, and make high speed communication available to all residents and businesses in Hawaii;			✓
(2) Encourage the continued development and expansion of the telecommunications infrastructure serving Hawaii to accommodate future growth and innovation in Hawaii's economy;			✓
(3) Facilitate the development of new or innovative business and service ventures in the information industry which will provide employment opportunities for the people of Hawaii;			✓
(4) Encourage mainland- and foreign-based companies of all sizes, whether information technology-focused or not, to allow their principals, employees, or contractors to live in and work from Hawaii, using technology to communicate with their headquarters, offices, or customers located out-of-state;			✓
(5) Encourage greater cooperation between the public and private sectors in developing and maintaining a well-designed information industry;			✓
(6) Ensure that the development of new businesses and services in the industry are in keeping with the social, economic, and physical needs and aspirations of Hawaii's people;			✓
(7) Provide opportunities for Hawaii's people to obtain job training and education that will allow for upward mobility within the information industry;			✓
(8) Foster a recognition of the contribution of the information industry to Hawaii's economy; and			✓

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(9) Assist in the promotion of Hawaii as a broker, creator, and processor of information in the Pacific.			✓
Analysis: **The proposed action does not directly or indirectly affect Hawai'i's capacity to be a leader in the broadband and wireless communications industries, nor does it affect these innovative industries in advancing Hawai'i's economic position in the Pacific.**			
Chapter 226-11 Objectives and policies for the physical environment – – land based, shoreline, and marine resources.			
Objectives: Planning for the State's physical environment with regard to land-based, shoreline, and marine resources shall be directed towards achievement of the following objectives:			
(1) Prudent use of Hawaii's land-based, shoreline, and marine resources.		✓	
(2) Effective protection of Hawaii's unique and fragile environmental resources.		✓	
Policies:			
(1) Exercise an overall conservation ethic in the use of Hawaii's natural resources.		✓	
(2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.		✓	
(3) Take into account the physical attributes of areas when planning and designing activities and facilities.		✓	
(4) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.			✓
(5) Consider multiple uses in watershed areas, provided such uses do not detrimentally affect water quality and recharge functions.			✓
(6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawaii.		✓	
(7) Provide public incentives that encourage private actions to protect significant natural resources from degradation or unnecessary depletion.			✓
(8) Pursue compatible relationships among activities, facilities, and natural resources.			✓
(9) Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.			✓
Analysis: **The proposed project will utilize Best Management Practices (BMPs) to ensure that natural resources such as the coastal environment are not impacted by construction activities. The use of BMPs also ensures compatibility between land-based and water-based functions, resources, and ecological systems. The biological resources study conducted as part of the environmental review process represents an effort to protect any rare and endangered plant and animal species, and their habitats native to Hawai'i that may be present in the vicinity of the proposed action.**			
Chapter 226-12 Objective and policies for the physical environment – – scenic, natural beauty, and historic resources.			

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Objective: Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawaii's scenic assets, natural beauty, and multi-cultural/historical resources.	✓		
Policies:			
(1) Promote the preservation and restoration of significant natural and historic resources.		✓	
(2) Provide incentives to maintain and enhance historic, cultural, and scenic amenities.			✓
(3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.	✓		
(4) Protect those special areas, structures, and elements that are an integral and functional part of Hawaii's ethnic and cultural heritage.			✓
(5) Encourage the design of developments and activities that complement the natural beauty of the islands.	✓		
Analysis: **The project has been carefully designed taking into consideration building profiles and massing so as to not adversely impact scenic views and vistas. The proposed project will be developed in urban Kahului in the vicinity of business buildings and residential subdivisions. Landscape on the property will be carefully considered to provide aesthetic viewplanes. Archaeological investigations identified no historic properties on the site. Landscaping proposed in connection with the project is intended to enhance the project's visual relationship with its immediate surrounding environs.**			
Chapter 226-13 Objectives and policies for the physical environment – – land, air, and water quality.			
Objectives: Planning for the State's physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objectives.			
(1) Maintenance and pursuit of improved quality in Hawaii's land, air, and water resources.	✓		
(2) Greater public awareness and appreciation of Hawaii's environmental resources.		✓	
Policies:			
(1) Foster educational activities that promote a better understanding of Hawaii's limited environmental resources.			✓
(2) Promote the proper management of Hawaii's land and water resources.		✓	
(3) Promote effective measures to achieve desired quality in Hawaii's surface, ground, and coastal waters.			✓
(4) Encourage actions to maintain or improve aural and air quality levels to enhance the health and well-being of Hawaii's people.		✓	
(5) Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.	✓		
(6) Encourage design and construction practices that enhance the physical qualities of Hawaii's communities.			✓
(7) Encourage urban developments in close proximity to existing services and facilities.	✓		

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(8) Foster recognition of the importance and value of the land, air, and water resources to Hawaii's people, their cultures and visitors.			✓
Analysis: **The proposed project will be implemented in a developed area in Central Maui, in proximity to existing infrastructure and services. Maintaining land, air, and water quality are directly and indirectly advanced by the proposed action. Construction BMPs will be used to manage and control erosion control during grading operations to minimize downstream water quality impacts. Work on the project is not anticipated to be affected by natural hazards, and the highest standards of design and construction practices has been and will be employed for the project.**			
Chapter 226-14 Objective and policies for facility systems – – in general.			
Objective: 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.		✓	
Policies:			
(1) Accommodate the needs of Hawaii's people through coordination of facility systems and capital improvement priorities in consonance with state and county plans.		✓	
(2) Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities.		✓	
(3) Ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user.		✓	
(4) Pursue alternative methods of financing programs and projects and cost-saving techniques in the planning, construction, and maintenance of facility systems.			✓
Analysis: **The proposed action is indirectly applicable to the general objective and policies for facility systems. As an urban infill project, the proposed action can be serviced by existing infrastructure systems.**			
Chapter 226-15 Objectives and policies for facility systems – – solid and liquid waste.			
Objectives: Planning for the State's facility systems with regard to solid and liquid wastes shall be directed towards the achievement of the following objectives:			
(1) Maintenance of basic public health and sanitation standards relating to treatment and disposal of solid and liquid wastes.		✓	
(2) Provision of adequate sewerage facilities for physical and economic activities that alleviate problems in housing, employment, mobility, and other areas.		✓	
Policies:			
(1) Encourage the adequate development of sewerage facilities that complement planned growth.		✓	
(2) Promote re-use and recycling to reduce solid and liquid wastes and employ a conservation ethic.			✓
(3) Promote research to develop more efficient and economical treatment and disposal of solid and liquid wastes.			✓
Analysis: **The proposed project indirectly supports the objectives and goals for solid and liquid waste facility systems as it will connect to the County wastewater system. Coordination will be undertaken with the County Department of Environmental Management (DEM) as it relates**			

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to connection to the County's wastewater system. Furthermore, construction waste will be disposed at the County's Central Maui Landfill or appropriate construction recycling centers.			
Chapter 226-16 Objective and policies for facility systems – – water.			
Objective: Planning for the State's facility systems with regard to water shall be directed towards achievement of the objective of the provision of water to adequately accommodate domestic, agricultural, commercial, industrial, recreational, and other needs within resource capacities.		✓	
Policies:			
(1) Coordinate development of land use activities with existing and potential water supply.		✓	
(2) Support research and development of alternative methods to meet future water requirements well in advance of anticipated needs.			✓
(3) Reclaim and encourage the productive use of runoff water and wastewater discharges.			✓
(4) Assist in improving the quality, efficiency, service, and storage capabilities of water systems for domestic and agricultural use.			✓
(5) Support water supply services to areas experiencing critical water problems.			✓
(6) Promote water conservation programs and practices in government, private industry, and the general public to help ensure adequate water to meet long-term needs.			✓
Analysis: **The project indirectly supports the objective and polices for water facility systems enhancement as it is located in an area that is serviced by existing County water infrastructure. Coordination will be undertaken with the County Department of Water Supply (DWS) regarding connection to the County's water system.**			
Chapter 226-17 Objectives and policies for facility systems – – transportation.			
Objectives: Planning for the State's facility systems with regard to transportation shall be directed towards the achievement of the following objectives:			
(1) An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe, and convenient movement of people and goods.		✓	
(2) A statewide transportation system that is consistent with and will accommodate planned growth objectives throughout the State.			✓
Policies:			
(1) Design, program, and develop a multi-modal system in conformance with desired growth and physical development as stated in this chapter;			✓
(2) Coordinate state, county, federal, and private transportation activities and programs toward the achievement of statewide objectives;			✓
(3) Encourage a reasonable distribution of financial responsibilities for transportation among participating governmental and private parties;			✓
(4) Provide for improved accessibility to shipping, docking, and storage facilities;			✓
(5) Promote a reasonable level and variety of mass transportation services that adequately meet statewide and community needs;			✓

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(6) Encourage transportation systems that serve to accommodate present and future development needs of communities;		✓	
(7) Encourage a variety of carriers to offer increased opportunities and advantages to interisland movement of people and goods;			✓
(8) Increase the capacities of airport and harbor systems and support facilities to effectively accommodate transshipment and storage needs;			✓
(9) Encourage the development of transportation systems and programs which would assist statewide economic growth and diversification;			✓
(10) Encourage the design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawaii's natural environment;			✓
(11) Encourage safe and convenient use of low-cost, energy-efficient, non-polluting means of transportation;			✓
(12) Coordinate intergovernmental land use and transportation planning activities to ensure the timely delivery of supporting transportation infrastructure in order to accommodate planned growth objectives; and			✓
(13) Encourage diversification of transportation modes and infrastructure to promote alternate fuels and energy efficiency.		✓	
Analysis: **The proposed project indirectly supports the objectives and policies of transportation facility systems as it is located in very close proximity to existing public bus routes.**			
Chapter 226-18 Objectives and policies for facility systems – – energy.			
<u>Objectives</u>: Planning for the State's facility systems with regard to energy shall be directed toward the achievement of the following objectives, giving due consideration to all:			
(1) Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people;			✓
(2) Increased energy security and self-sufficiency through the reduction and ultimate elimination of Hawaii's dependence on imported fuels for electrical generation and ground transportation.		✓	
(3) Greater diversification of energy generation in the face of threats to Hawaii's energy supplies and systems;		✓	
(4) Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use; and			✓
(5) Utility models that make the social and financial interests of Hawaii's utility customers a priority.			✓
(b) To achieve the energy objectives, it shall be the policy of this State to ensure the short- and long-term provision of adequate, reasonably prices, and dependable energy services to accommodate demand.			✓
<u>Policies</u>:			
(1) Support research and development as well as promote the use of renewable energy sources;		✓	
(2) Ensure that the combination of energy supplies and energy-saving systems is sufficient to support the demands of growth;			✓

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(3) Base decisions of least-cost supply-side and demand-side energy resource options on a comparison of their total costs and benefits when a least-cost is determined by a reasonably comprehensive, quantitative, and qualitative accounting of their long-term, direct and indirect economic, environmental, social, cultural, and public health costs and benefits;			✓
(4) Promote all cost-effective conservation of power and fuel supplies through measures, including:			
(A) Development of cost-effective demand-side management programs;			✓
(B) Education;			✓
(C) Adoption of energy-efficient practices and technologies; and			✓
(D) Increasing energy efficiency and decreasing energy use in public infrastructure		✓	
(5) Ensure, to the extent that new supply-side resources are needed, that the development or expansion of energy systems uses the least-cost energy supply option and maximizes efficient technologies; and			✓
(6) Support research, development, demonstration, and use of energy efficiency, load management, and other demand-side management programs, practices, and technologies;			✓
(7) Promote alternate fuels and transportation energy efficiency;			✓
(8) Support actions that reduce, avoid, or sequester greenhouse gases in utility, transportation, and industrial sector applications;			✓
(9) Support actions that reduce, avoid, or sequester Hawaii's greenhouse gas emissions through agriculture and forestry initiatives;			✓
(10) Provide priority handling and processing for all state and county permits required for renewable energy projects;			✓
(11) Ensure that liquefied natural gas is used only as a cost-effective transitional, limited-term replacement of petroleum for electricity generation and does not impede the development and use of other cost-effective renewable energy sources; and			✓
(12) Promote the development of indigenous geothermal energy resources that are located on public trust land as an affordable and reliable source of firm power for Hawaii.			✓
Analysis: **The project will utilize energy efficient fixtures and appliances. Should funding be available, photovoltaic solar panels will be installed to reduce the development's dependence on fossil-fuel based energy.**			
Chapter 226-18.5 Objectives and policies for facility systems – – telecommunications.			
<u>Objectives</u>:			
(a) Planning for the State's telecommunications facility systems shall be directed towards the achievement of dependable, efficient, and economical statewide telecommunications systems capable of supporting the needs of the people. (b) To achieve the telecommunications objective, it shall be the policy of this State to ensure the provision of adequate, reasonably priced, and dependable telecommunications services to accommodate demand.			✓
<u>Policies</u>:			

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(1) Facilitate research and development of telecommunications systems and resources;			✓
(2) Encourage public and private sector efforts to develop means for adequate, ongoing telecommunications planning;			✓
(3) Promote efficient management and use of existing telecommunications systems and services; and			✓
(4) Facilitate the development of education and training of telecommunications personnel.			✓
Analysis: **The proposed action does not directly or indirectly affect telecommunications systems dependability, efficiency, and cost parameters. In particular, the project does not promote research and development of telecommunications systems and resources and does not advance efficient management and use of existing telecommunications systems and services.**			
Chapter 226-19 Objectives and policies for socio-cultural advancement – – housing.			
Objectives: Planning for the State's socio-cultural advancement with regard to housing shall be directed toward the achievement of the following objectives:			
(1) Greater opportunities for Hawaii's people to secure reasonably priced, safe, sanitary, and livable homes, located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals, through collaboration and cooperation between government and nonprofit and for-profit developers to ensure that more affordable housing is made available to very low-, low- and moderate-income segments of Hawaii's population.	✓		
(2) The orderly development of residential areas sensitive to community needs and other land uses.	✓		
(3) The development and provision of affordable rental housing by the State to meet the housing needs of Hawaii's people.	✓		
Policies:			
(1) Effectively accommodate the housing needs of Hawaii's people.	✓		
(2) Stimulate and promote feasible approaches that increase housing choices for low-income, moderate-income, and gap-group households.	✓		
(3) Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing.	✓		
(4) Promote appropriate improvement, rehabilitation, and maintenance of existing housing units and residential areas.			✓
(5) Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas.	✓		
(6) Facilitate the use of available vacant, developable, and underutilized urban lands for housing.	✓		
(7) Foster a variety of lifestyles traditional to Hawaii through the design and maintenance of neighborhoods that reflect the culture and values of the community.			✓
(8) Promote research and development of methods to reduce the cost of housing construction in Hawaii.			✓

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Analysis: **The proposed project is directly applicable to the objectives and policies related to housing as it provides needed additional affordable housing in Kahului. In addition, the project will be implemented in a developed area in Central Maui, in proximity to existing infrastructure and services.**			
Chapter 226-20 Objectives and policies for socio-cultural advancement – – health.			
Objectives: Planning for the State's socio-cultural advancement with regard to health shall be directed towards achievement of the following objectives:			
(1) Fulfillment of basic individual health needs of the general public.			✓
(2) Maintenance of sanitary and environmentally healthful conditions in Hawaii's communities.			✓
(3) Elimination of health disparities by identifying and addressing social determinants of health.			✓
Policies:			
(1) Provide adequate and accessible services and facilities for prevention and treatment of physical and mental health problems, including substance abuse.			✓
(2) Encourage improved cooperation among public and private sectors in the provision of health care to accommodate the total health needs of individuals throughout the State.			✓
(3) Encourage public and private efforts to develop and promote statewide and local strategies to reduce health care and related insurance costs.			✓
(4) Foster an awareness of the need for personal health maintenance and preventive health care through education and other measures.			✓
(5) Provide programs, services, and activities that ensure environmentally healthful and sanitary conditions.			✓
(6) Improve the State's capabilities in preventing contamination by pesticides and other potentially hazardous substances through increased coordination, education, monitoring, and enforcement.			✓
(7) Prioritize programs, services, interventions, and activities that address identified social determinants of health to improve native Hawaiian health and well-being consistent with the United States Congress' declaration of policy as codified in title 42 United States Code section 11702, and to reduce health disparities of disproportionately affected demographics, including native Hawaiians, other Pacific Islanders, and Filipinos. The prioritization of affected demographic groups other than native Hawaiians may be reviewed every ten years and revised based on the best available epidemiological and public health data.			✓
Analysis: **The proposed action does not directly or indirectly affect the objectives and policies for health. The proposed action does not affect individual health needs, sanitation and health conditions, and health disparities.**			
Chapter 226-21 Objectives and policies for Socio-cultural advancement – – education.			
Objective: Planning for the State's socio-cultural advancement with regard to education shall be directed towards achievement of the objective of the provision of a variety of educational opportunities to enable individuals to fulfill their needs, responsibilities, and aspirations.		✓	

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Policies:			
(1) Support educational programs and activities that enhance personal development, physical fitness, recreation, and cultural pursuits of all groups.			✓
(2) Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs.		✓	
(3) Provide appropriate educational opportunities for groups with special needs.			✓
(4) Promote educational programs which enhance understanding of Hawaii's cultural heritage.			✓
(5) Provide higher educational opportunities that enable Hawaii's people to adapt to changing employment demands.			✓
(6) Assist individuals, especially those experiencing critical employment problems or barriers, or undergoing employment transitions, by providing appropriate employment training programs and other related educational opportunities.			✓
(7) Promote programs and activities that facilitate the acquisition of basic skills, such as reading, writing, computing, listening, speaking, and reasoning.			✓
(8) Emphasize quality educational programs in Hawaii's institutions to promote academic excellence.			✓
(9) Support research programs and activities that enhance the education programs of the State.			✓
Analysis: **Through the payment of impact fees, the proposed project indirectly supports the objectives and policies for education by supporting the provision of adequate and accessible educational services and facilities in Central Maui.**			
Chapter 226-22 Objective and policies for socio-cultural advancement – – social services.			
Objective: Planning for the State's socio-cultural advancement with regard to social services shall be directed towards the achievement of the objective of improved public and private social services and activities that enable individuals, families, and groups to become more self-reliant and confident to improve their well-being.	✓		
Policies:			
(1) Assist individuals, especially those in need of attaining a minimally adequate standard of living and those confronted by social and economic hardship conditions, through social services and activities within the State's fiscal capacities.	✓		
(2) Promote coordination and integrative approaches among public and private agencies and programs to jointly address social problems that will enable individuals, families, and groups to deal effectively with social problems and to enhance their participation in society.		✓	
(3) Facilitate the adjustment of new residents, especially recently arrived immigrants, into Hawaii's communities.			✓
(4) Promote alternatives to institutional care in the provision of long-term care for elder and disabled populations.			✓
(5) Support public and private efforts to prevent domestic abuse and child molestation, and assist victims of abuse and neglect.			✓
(6) Promote programs which assist people in need of family planning services to enable them to meet their needs.			✓

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Analysis: **The objective and policies for improving public and private social services are directly supported by the proposed action through the provision of affordable housing opportunities. Onsite and offsite case management will be provided by Catholic Charities Hawai'i, as needed. Further, residents will be able to take part in the Hale Mahaolu Housing Counseling program designed to help families with financial planning, budgeting, home buyer education, and credit counseling so they can reach their financial goals. Qualified residents will be able to participate in Hale Mahaolu's Meals Program and the Personal Care Program as well.**			
Chapter 226-23 Objective and policies for socio-cultural advancement – – leisure.			
Objective: Planning for the State's socio-cultural advancement with regard to leisure shall be directed towards the achievement of the objective of the adequate provision of resources to accommodate diverse cultural, artistic, and recreational needs for present and future generations.			✓
Policies:			
(1) Foster and preserve Hawaii's multi-cultural heritage through supportive cultural, artistic, recreational, and humanities-oriented programs and activities.			✓
(2) Provide a wide range of activities and facilities to fulfill the cultural, artistic, and recreational needs of all diverse and special groups effectively and efficiently.			✓
(3) Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance.			✓
(4) Promote the recreational and educational potential of natural resources having scenic, open space, cultural, historical, geological, or biological values while ensuring that their inherent values are preserved.			✓
(5) Ensure opportunities for everyone to use and enjoy Hawaii's recreational resources.			✓
(6) Assure the availability of sufficient resources to provide for future cultural, artistic, and recreational needs.			✓
(7) Provide adequate and accessible physical fitness programs to promote the physical and mental well-being of Hawaii's people.			✓
(8) Increase opportunities for appreciation and participation in the creative arts, including the literary, theatrical, visual, musical, folk, and traditional art forms.			✓
(9) Encourage the development of creative expression in the artistic disciplines to enable all segments of Hawaii's population to participate in the creative arts.			✓
(10) Assure adequate access to significant natural and cultural resources in public ownership.			✓
Analysis: **As a residential project, the proposed action does not directly or indirectly advance the objective and policies for leisure.**			
Chapter 226-24 Objective and policies for socio-cultural advancement – – individual rights and personal well-being.			
Objective: Planning for the State's socio-cultural advancement with regard to individual rights and personal well-being shall be directed towards achievement of the objective of increased opportunities and protection of individual rights to enable individuals to fulfill their socio-economic needs and aspirations.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable	DA	IA	N/A
Policies:			
(1) Provide effective services and activities that protect individuals from criminal acts and unfair practices and that alleviate the consequences of criminal acts in order to foster a safe and secure environment.			✓
(2) Uphold and protect the national and state constitutional rights of every individual.			✓
(3) Assure access to, and availability of, legal assistance, consumer protection, and other public services which strive to attain social justice.			✓
(4) Ensure equal opportunities for individual participation in society.			✓
Analysis: **The proposed residential project does not directly or indirectly affect the objective and policies related to individual rights and personal well-being.**			
Chapter 226-25 Objective and policies for socio-cultural advancement – – culture.			
Objective: Planning for the State's socio-cultural advancement with regard to culture shall be directed toward the achievement of the objective of enhancement of cultural identities, traditions, values, customs, and arts of Hawaii's people.		✓	
Policies:			
(1) Foster increased knowledge and understanding of Hawaii's ethnic and cultural heritages and the history of Hawaii.		✓	
(2) Support activities and conditions that promote cultural values, customs, and arts that enrich the lifestyles of Hawaii's people and which are sensitive and responsive to family and community needs.			✓
(3) Encourage increased awareness of the effects of proposed public and private actions on the integrity and quality of cultural and community lifestyles in Hawaii.			✓
(4) Encourage the essence of the aloha spirit in people's daily activities to promote harmonious relationships among Hawaii's people and visitors.			✓
Analysis: **A Cultural Impact Assessment (CIA) was prepared for the proposed project as part of the environmental review process. The CIA fosters increased knowledge of Native Hawaiian cultural practices, as well as the history of the project area. In this context, the proposed action indirectly advances the objective and policies related to culture.**			
Chapter 226-26 Objectives and policies for socio-cultural advancement – – public safety.			
Objective: Planning for the State's socio-cultural advancement with regard to public safety shall be directed towards the achievement of the following objectives:			✓
(1) Assurance of public safety and adequate protection of life and property for all people.			✓
(2) Optimum organizational readiness and capability in all phases of emergency management to maintain the strength, resources, and social and economic well-being of the community in the event of civil disruptions, wars, natural disasters, and other major disturbances.			✓
(3) Promotion of a sense of community responsibility for the welfare and safety of Hawaii's people.			✓
Policies (Public Safety):			
(1) Ensure that public safety programs are effective and responsive to community needs.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable	DA	IA	N/A
(2) Encourage increased community awareness and participation in public safety programs.			✓
Policies (Public Safety-Criminal Justice):			
(1) Support criminal justice programs aimed at preventing and curtailing criminal activities.			✓
(2) Develop a coordinated, systematic approach to criminal justice administration among all criminal justice agencies.			✓
(3) Provide a range of correctional resources which may include facilities and alternatives to traditional incarceration in order to address the varied security needs of the community and successfully reintegrate offenders into the community.			✓
Policies (Public Safety – Emergency Management):			
(1) Ensure that responsible organizations are in a proper state of readiness to respond to major war-related, natural, or technological disasters and civil disturbances at all times.			✓
(2) Enhance the coordination between emergency management programs throughout the State.			✓
Analysis: **The proposed action does not directly or indirectly affect the objectives and policies for public safety. In particular, the project does not address protection of life and property parameters, organizational readiness and capacity, and community responsibility for peoples' welfare and safety.**			
Chapter 226-27 Objectives and policies for socio-cultural advancement – – government.			
Objectives: Planning the State's socio-cultural advancement with regard to government shall be directed towards the achievement of the following objectives:		✓	
(1) Efficient, effective, and responsive government services at all levels in the State.		✓	
(2) Fiscal integrity, responsibility, and efficiency in the state government and county governments.			✓
Policies:			
(1) Provide for necessary public goods and services not assumed by the private sector.			✓
(2) Pursue an openness and responsiveness in government that permits the flow of public information, interaction, and response.		✓	
(3) Minimize the size of government to that necessary to be effective.			✓
(4) Stimulate the responsibility in citizens to productively participate in government for a better Hawaii.			✓
(5) Assure that government attitudes, actions, and services are sensitive to community needs and concerns.			✓
(6) Provide for a balanced fiscal budget.			✓
(7) Improve the fiscal budgeting and management system of the State.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable	DA	IA	N/A
(8) Promote the consolidation of state and county governmental functions to increase the effective and efficient delivery of government programs and services and to eliminate duplicative services wherever feasible.			✓
Analysis: **The proposed action has indirect applicability to the objectives and policies for government. In particular, the project will comply with regulatory requirements which advance transparency in the flow of project-related information to the public. Such requirements include the Chapter 343, HRS environmental review process.**			

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

HAWAIʻI STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
with governmental regulations.			
(4) Seek to ensure that state business tax and labor laws and administrative policies are equitable, rational, and predictable.			✓
(5) Streamline the processes for building and development permit and review, and telecommunication infrastructure installation approval and eliminate or consolidate other burdensome or duplicative governmental requirements imposed on business, where scientific evidence indicates that public health, safety and welfare would not be adversely affected.			✓
(6) Encourage the formation of cooperatives and other favorable marketing or distribution arrangements at the regional or local level to assist Hawaii's small-scale producers, manufacturers, and distributors.			✓
(7) Continue to seek legislation to protect Hawaii from transportation interruptions between Hawaii and the continental United States.			✓
(8) Provide public incentives and encourage private initiative to develop and attract industries which promise long-term growth potentials and which have the following characteristics:			
(A) An industry that can take advantage of Hawaii's unique location and available physical and human resources.			✓
(B) A clean industry that would have minimal adverse effects on Hawaii's environment.			✓
(C) An industry that is willing to hire and train Hawaii's people to meet the industry's labor needs at all levels of employment.			✓
(D) An industry that would provide reasonable income and steady employment.			✓
(9) Support and encourage, through educational and technical assistance programs and other means, expanded opportunities for employee ownership and participation in Hawaii business.			✓
(10) Enhance the quality of Hawaii's labor force and develop and maintain career opportunities for Hawaii's people through the following actions:			
(A) Expand vocational training in diversified agriculture, aquaculture, information industry, and other areas where growth is desired and feasible.			✓
(B) Encourage more effective career counseling and guidance in high schools and post-secondary institutions to inform students of present and future career opportunities.			✓
(C) Allocate educational resources to career areas where high employment is expected and where growth of new industries is desired.			✓
(D) Promote career opportunities in all industries for Hawaii's people by encouraging firms doing business in the State to hire residents.			✓
(E) Promote greater public and private sector cooperation in determining industrial training needs and in developing relevant curricula and on- the-job training opportunities.			✓
(F) Provide retraining programs and other support services to assist entry of displaced workers into alternative employment.			✓
(b) Priority guidelines to promote the economic health and quality of the visitor industry:			
(1) Promote visitor satisfaction by fostering an environment which enhances the Aloha Spirit and minimizes inconveniences to Hawaii's residents and visitors.			✓
(2) Encourage the development and maintenance of well-designed, adequately serviced hotels and resort destination areas which are sensitive to neighboring communities and activities and which provide for adequate shoreline setbacks and beach access.			✓
(3) Support appropriate capital improvements to enhance the quality of existing resort destination areas and provide incentives to encourage investment in upgrading, repair, and maintenance of visitor facilities.			✓

HAWAIʻI STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(4) Encourage visitor industry practices and activities which respect, preserve, and enhance Hawaii's significant natural, scenic, historic, and cultural resources.			✓
(5) Develop and maintain career opportunities in the visitor industry for Hawaii's people, with emphasis on managerial positions.			✓
(6) Support and coordinate tourism promotion abroad to enhance Hawaii's share of existing and potential visitor markets.			✓
(7) Maintain and encourage a more favorable resort investment climate consistent with the objectives of this chapter.			✓
(8) Support law enforcement activities that provide a safer environment for both visitors and residents alike.			✓
(9) Coordinate visitor industry activities and promotions to business visitors through the state network of advanced data communication techniques.			✓
(c) Priority guidelines to promote the continued viability of the sugar and pineapple industries:			
(1) Provide adequate agricultural lands to support the economic viability of the sugar and pineapple industries.			✓
(2) Continue efforts to maintain federal support to provide stable sugar prices high enough to allow profitable operations in Hawaii.			✓
(3) Support research and development, as appropriate, to improve the quality and production of sugar and pineapple crops.			✓
(d) Priority guidelines to promote the growth and development of diversified agriculture and aquaculture:			
(1) Identify, conserve, and protect agricultural and aquacultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural and aquacultural uses of such lands.			✓
(2) Assist in providing adequate, reasonably priced water for agricultural activities.			✓
(3) Encourage public and private investment to increase water supply and to improve transmission, storage, and irrigation facilities in support of diversified agriculture and aquaculture.			✓
(4) Assist in the formation and operation of production and marketing associations and cooperatives to reduce production and marketing costs.			✓
(5) Encourage and assist with the development of a waterborne and airborne freight and cargo system capable of meeting the needs of Hawaii's agricultural community.			✓
(6) Seek favorable freight rates for Hawaii's agricultural products from interisland and overseas transportation operators.			✓
(7) Encourage the development and expansion of agricultural and aquacultural activities which offer long-term economic growth potential and employment opportunities.			✓
(8) Continue the development of agricultural parks and other programs to assist small independent farmers in securing agricultural lands and loans.			✓
(9) Require agricultural uses in agricultural subdivisions and closely monitor the uses in these subdivisions.			✓
(10) Support the continuation of land currently in use for diversified agriculture.			✓
(11) Encourage residents and visitors to support Hawaii's farmers by purchasing locally grown food and food products.			✓
(e) Priority guidelines for water use and development:			
(1) Maintain and improve water conservation programs to reduce the overall water consumption rate.			✓
(2) Encourage the improvement of irrigation technology and promote the use of			✓

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
nonpotable water for agricultural and landscaping purposes.			
(3) Increase the support for research and development of economically feasible alternative water sources.			✓
(4) Explore alternative funding sources and approaches to support future water development programs and water system improvements.			✓
(f) Priority guidelines for energy use and development:			
(1) Encourage the development, demonstration, and commercialization of renewable energy sources.		✓	
(2) Initiate, maintain, and improve energy conservation programs aimed at reducing energy waste and increasing public awareness of the need to conserve energy.			✓
(3) Provide incentives to encourage the use of energy conserving technology in residential, industrial, and other buildings.			✓
(4) Encourage the development and use of energy conserving and cost-efficient transportation systems.			✓
(g) Priority guidelines to promote the development of the information industry:			
(1) Establish an information network, with an emphasis on broadband and wireless infrastructure and capability that will serve as the foundation of and catalyst for overall economic growth and diversification in Hawaii.			✓
(2) Encourage the development of services such as financial data processing, a products and services exchange, foreign language translations, telemarketing, teleconferencing, a twenty-four-hour international stock exchange, international banking, and a Pacific Rim management center.			✓
(3) Encourage the development of small businesses in the information field such as software development; the development of new information systems, peripherals, and applications; data conversion and data entry services; and home or cottage services such as computer programming, secretarial, and accounting services.			✓
(4) Encourage the development or expansion of educational and training opportunities for residents in the information and telecommunications fields.			✓
(5) Encourage research activities, including legal research in the information and telecommunications fields.			✓
(6) Support promotional activities to market Hawaii's information industry services.			✓
(7) Encourage the location or co-location of telecommunication or wireless information relay facilities in the community, including public areas, where scientific evidence indicates that the public health, safety, and welfare would not be adversely affected.			✓
Analysis: **The proposed action indirectly supports the economic priority guidelines by supporting construction activity which contributes to increased employment opportunities, job choices, and living standards. Pending funding availability, the project will include photovoltaic systems for the development, thereby advancing measures to lessen dependence on fossil fuel based energy.**			
Chapter 226-104: Population growth and land resources priority guidelines.			
(a) Priority guidelines to effect desired statewide growth and distribution:			
(1) Encourage planning and resource management to insure that population growth rates throughout the State are consistent with available and planned resource capacities and reflect the needs and desires of Hawaii's people.			✓
(2) Manage a growth rate for Hawaii's economy that will parallel future employment needs for Hawaii's people.			✓
(3) Ensure that adequate support services and facilities are provided to accommodate the desired distribution of future growth throughout the State.			✓

HAWAIʻI STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(4) Encourage major state and federal investments and services to promote economic development and private investment to the neighbor islands, as appropriate.		✓	
(5) Explore the possibility of making available urban land, low-interest loans, and housing subsidies to encourage the provision of housing to support selective economic and population growth on the neighbor islands.		✓	
(6) Seek federal funds and other funding sources outside the State for research, program development, and training to provide future employment opportunities on the neighbor islands.			✓
(7) Support the development of high technology parks on the neighbor islands.			✓
(b) Priority guidelines for regional growth distribution and land resource utilization:			
(1) Encourage urban growth primarily to existing urban areas where adequate public facilities are already available or can be provided with reasonable public expenditures, and away from areas where other important benefits are present, such as protection of important agricultural land or preservation of lifestyles.	✓		
(2) Make available marginal or nonessential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district.			✓
(3) Restrict development when drafting of water would result in exceeding the sustainable yield or in significantly diminishing the recharge capacity of any groundwater area.			✓
(4) Encourage restriction of new urban development in areas where water is insufficient from any source for both agricultural and domestic use.		✓	
(5) In order to preserve green belts, give priority to state capital-improvement funds which encourage location of urban development within existing urban areas except where compelling public interest dictates development of a noncontiguous new urban core.			✓
(6) Seek participation from the private sector for the cost of building infrastructure and utilities, and maintaining open spaces.			✓
(7) Pursue rehabilitation of appropriate urban areas.			✓
(8) Support the redevelopment of Kakaako into a viable residential, industrial, and commercial community.			✓
(9) Direct future urban development away from critical environmental areas or impose mitigating measures so that negative impacts on the environment would be minimized.	✓		
(10) Identify critical environmental areas in Hawaii to include but not be limited to the following: watershed and recharge areas; wildlife habitats (on land and in the ocean); areas with endangered species of plants and wildlife; natural streams and water bodies; scenic and recreational shoreline resources; open space and natural areas; historic and cultural sites; areas particularly sensitive to reduction in water and air quality; and scenic resources.			✓
(11) Identify all areas where priority should be given to preserving rural character and lifestyle.			✓
(12) Utilize Hawaii's limited land resources wisely, providing adequate land to accommodate projected population and economic growth needs while ensuring the protection of the environment and the availability of the shoreline, conservation lands, and other limited resources for future generations.	✓		
(13) Protect and enhance Hawaii's shoreline, open spaces, and scenic resources.			✓
Analysis: **The proposed project supports population growth and land resources priority guidelines as it will be developed on urban, infill land, in Kahului. In addition, the project will be**			

HAWAIʻI STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
implemented in a developed area in Central Maui, in proximity to existing infrastructure and services.			
Chapter 226-105: Crime and criminal justice.			
Priority guidelines in the area of crime and criminal justice:			
(1) Support law enforcement activities and other criminal justice efforts that are directed to provide a safer environment.			✓
(2) Target state and local resources on efforts to reduce the incidence of violent crime and on programs relating to the apprehension and prosecution of repeat offenders.			✓
(3) Support community and neighborhood program initiatives that enable residents to assist law enforcement agencies in preventing criminal activities.			✓
(4) Reduce overcrowding or substandard conditions in correctional facilities through a comprehensive approach among all criminal justice agencies which may include sentencing law revisions and use of alternative sanctions other than incarceration for persons who pose no danger to their community.			✓
(5) Provide a range of appropriate sanctions for juvenile offenders, including community-based programs and other alternative sanctions.			✓
(6) Increase public and private efforts to assist witnesses and victims of crimes and to minimize the costs of victimization.			✓
Analysis: **The proposed action does not directly or indirectly affect the priority guidelines for crime and criminal justice.**			
Chapter 226-106: Affordable housing.			
Priority guidelines for the provision of affordable housing:			
(1) Seek to use marginal or nonessential agricultural land and public land to meet housing needs of low- and moderate-income and gap-group households.			✓
(2) Encourage the use of alternative construction and development methods as a means of reducing production costs.			✓
(3) Improve information and analysis relative to land availability and suitability for housing.			✓
(4) Create incentives for development which would increase home ownership and rental opportunities for Hawaii's low- and moderate-income households, gap-group households, and residents with special needs.	✓		
(5) Encourage continued support for government or private housing programs that provide low interest mortgages to Hawaii's people for the purchase of initial owner-occupied housing.			✓
(6) Encourage public and private sector cooperation in the development of rental housing alternatives.	✓		
(7) Encourage improved coordination between various agencies and levels of government to deal with housing policies and regulations.			✓
(8) Give higher priority to the provision of quality housing that is affordable for Hawaii's residents and less priority to development of housing intended primarily for individuals outside of Hawaii.			✓
Analysis: **The proposed project directly affects the priority guidelines for affordable housing as it will be developed on urban, infill land, in an area that is close to the government, business, and commercial centers of Wailuku and Kahului.**			
Chapter 226-107: Quality education.			
Priority guidelines to promote quality education:			
(1) Pursue effective programs which reflect the varied district, school, and student needs to strengthen basic skills achievement;			✓

HAWAIʻI STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(2) Continue emphasis on general education "core" requirements to provide common background to students and essential support to other university programs;			✓
(3) Initiate efforts to improve the quality of education by improving the capabilities of the education work force;			✓
(4) Promote increased opportunities for greater autonomy and flexibility of educational institutions in their decision making responsibilities;			✓
(5) Increase and improve the use of information technology in education by the availability of telecommunications equipment for:			
(A) The electronic exchange of information;			✓
(B) Statewide electronic mail; and			✓
(C) Access to the Internet.			✓
(6) Encourage programs that increase the public's awareness and understanding of the impact of information technologies on our lives;			✓
(7) Pursue the establishment of Hawaii's public and private universities and colleges as research and training centers of the Pacific;			✓
(8) Develop resources and programs for early childhood education;			✓
(9) Explore alternatives for funding and delivery of educational services to improve the overall quality of education; and			✓
(10) Strengthen and expand educational programs and services for students with special needs.			✓
Analysis: **The proposed action does not directly or indirectly affect the priority guidelines for education.**			
CHAPTER 226-108: Sustainability			
Priority guidelines and principles to promote sustainability shall include:			
(1) Encouraging balanced economic, social, community, and environmental priorities;			✓
(2) Encouraging planning that respects and promotes living within the natural resources and limits of the State;			✓
(3) Promoting a diversified and dynamic economy;			✓
(4) Encouraging respect for the host culture;			✓
(5) Promoting decisions based on meeting the needs of the present without compromising the needs of future generations;	✓		
(6) Considering the principles of the ahupuaa system; and			✓
(7) Emphasizing that everyone, including individuals, families, communities, businesses, and government, has the responsibility for achieving a sustainable Hawaii.			✓
Analysis: **As an urban infill project, the proposed action supports smart growth principles. A variety of sustainability measures has been incorporated into the project design.**			
CHAPTER 226-109: Climate change adaptation			
Priority guidelines and principles to promote climate change adaptation shall include:			
(1) Ensure that Hawaii's people are educated, informed, and aware of the impacts climate change may have on their communities;			✓
(2) Encourage community stewardship groups and local stakeholders to participate in planning and implementation of climate change policies;			✓
(3) Invest in continued monitoring and research of Hawaii's climate and the impacts of climate change on the State;			✓

HAWAIʻI STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(4) Consider native Hawaiian traditional knowledge and practices in planning for the impacts of climate change;			✓
(5) Encourage the preservation and restoration of natural landscape features, such as coral reefs, beaches and dunes, forests, streams, floodplains, and wetlands, that have the inherent capacity to avoid, minimize, or mitigate the impacts of climate change;		✓	
(6) Explore adaptation strategies that moderate harm or exploit beneficial opportunities in response to actual or expected climate change impacts to the natural and built environments;			✓
(7) Promote sector resilience in areas such as water, roads, airports, and public health, by encouraging the identification of climate change threats, assessment of potential consequences, and evaluation of adaptation options;			✓
(8) Foster cross-jurisdictional collaboration between county, state, and federal agencies and partnerships between government and private entities and other nongovernmental entities, including nonprofit entities;			✓
(9) Use management and implementation approaches that encourage the continual collection, evaluation, and integration of new information and strategies into new and existing practices, policies, and plans; and			✓
(10) Encourage planning and management of the natural and built environments that effectively integrate climate change policy.		✓	
Analysis: The proposed project indirectly supports the climate change priority guidelines as it will be implemented in an area that is outside of natural landscape features such as flood zones as well as the projected sea level rise exposure area in order to avoid impacts related to climate change.			

COUNTYWIDE POLICY PLAN – ASSESSMENT OF PROJECT APPLICABILITY TO GOALS, OBJECTIVES, AND POLICIES

APPENDIX

G-2

APPENDIX "G-2"

COUNTYWIDE POLICY PLAN
ASSESSMENT OF PROJECT APPLICABILITY
TO GOALS, OBJECTIVES, AND POLICIES

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
A. PROTECT THE NATURAL ENVIRONMENT			
Goal: Maui County's natural environment and distinctive open spaces will be preserved, managed, and cared for in perpetuity.		✓	
Objective:			
(1) Improve the opportunity to experience the natural beauty and native biodiversity of the islands for present and future generations.		✓	
Policies:			
(a) Perpetuate native Hawaiian biodiversity by preventing the introduction of invasive species, containing or eliminating existing noxious pests, and protecting critical habitat areas.			✓
(b) Preserve and reestablish indigenous and endemic species' habitats and their connectivity.			✓
(c) Restore and protect forests, wetlands, watersheds, and stream flows, and guard against wildfires, flooding, and erosion.			✓
(d) Protect baseline stream flows for perennial streams, and support policies that ensure adequate stream flow to support Native Hawaiian aquatic species, traditional kalo cultivation, and self-sustaining ahupua'a.			✓
(e) Protect undeveloped beaches, dunes, and coastal ecosystems, and restore natural shoreline processes.			✓
(f) Protect the natural state and integrity of unique terrain, valued natural environments, and geological features.			✓
(g) Preserve and provide ongoing care for important scenic vistas, view planes, landscapes, and open-space resources.		✓	
(h) Expand coordination with the State and nonprofit agencies and their volunteers to reduce invasive species, replant indigenous species, and identify critical habitat.			✓
Implementing Actions:			
(a) Develop island-wide networks of greenways, watercourses, and habitat corridors.			✓
Analysis: **The project indirectly improves the opportunity for Maui County families to experience, live, and thrive in the natural beauty of our island home. This land will be cared for in years to come while also providing much needed affordable housing. The project has been carefully designed taking into consideration building profiles and massing so as to not adversely impact scenic views and vistas. The proposed buildings will blend into the surrounding commercial, urban landscape.**			
Objective:			
(2) Improve the quality of environmentally sensitive, locally valued natural resources and native ecology of each island.		✓	
Policies:			
(a) Protect and restore nearshore reef environments and water quality.			✓
(b) Protect marine resources and valued wildlife.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
(c) Improve the connection between urban environments and the natural landscape, and incorporate natural features of the land into urban design.		✓	
(d) Utilize land-conservation tools to ensure the permanence of valued open spaces.			✓
(e) Mitigate the negative effects of upland uses on coastal wetlands, marine life, and coral reefs.		✓	
(f) Strengthen coastal-zone management, re-naturalization of shorelines, where possible, and filtration or treatment of urban and agricultural runoff.			✓
(g) Regulate the use and maintenance of stormwater-treatment systems that incorporate the use of native vegetation and mimic natural systems.			✓
(h) Advocate for stronger regulation of fishing, boating, cruise ship, and ecotourism activities.			✓
(i) Restore watersheds and aquifer-recharge areas to healthy and productive status, and increase public knowledge about the importance of watershed stewardship, water conservation, and groundwater protection.			✓
Implementing Actions:			
(a) Develop regulations to minimize runoff of pollutants into nearshore waters and reduce nonpoint and point source pollution.			✓
Analysis: **The proposed project will utilize BMPs to ensure that natural resources such as the coastal environment is not impacted by construction activities. The use of BMPs also ensures compatibility between land-based and water-based functions, resources, and ecological systems. The biological resources study conducted as part of the environmental review process represents an effort to protect any rare and endangered plant and animal species, and their habitats that may be present in the vicinity of the proposed action.**			
Objective:			
(3) Improve the stewardship of the natural environment.		✓	
Policies:			
(a) Preserve and protect natural resources with significant scenic, economic, cultural, environmental, or recreational value.			✓
(b) Improve communication, coordination, and collaboration among government agencies, nonprofit organizations, communities, individuals, and land owners that work for the protection of the natural environment.			✓
(c) Evaluate development to assess potential short-term and long-term impacts on land, air, aquatic, and marine environments.		✓	
(d) Improve efforts to mitigate and plan for the impact of natural disasters, human influenced emergencies, and global warming.			✓
(e) Regulate access to sensitive ecological sites and landscapes.			✓
(f) Reduce air, noise, light, land, and water pollution, and reduce Maui County's contribution to global climate change.		✓	
(g) Plan and prepare for and educate visitors and residents about the possible effects of global warming.			✓
(h) Provide public access to beaches and shorelines for recreational and cultural purposes where appropriate.			✓
(i) Educate the construction and landscape industries and property owners about the use of best management practices to prevent erosion and nonpoint source pollution.		✓	

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
(j) Support the acquisition of resources with scenic, environmental, and recreational value, and encumber their use.			✓
(k) Improve enforcement activities relating to the natural environment.			✓
(l) For each shoreline community, identify and prioritize beach-conservation objectives, and develop action plans for their implementation.			✓
Implementing Actions:			✓
(a) Document, record, and monitor existing conditions, populations, and locations of flora and fauna communities.			✓
(b) Implement Federal and State policies that require a reduction of greenhouse-gas emissions.			✓
(c) Establish a baseline inventory of available natural resources and their respective carrying capacities.			✓
Analysis: **The proposed project indirectly meets the objective of improving the stewardship of the natural environment. The project will employ BMPs to prevent impacts from construction, including temporary erosion control, stormwater management and dust control. In addition, the EA thoroughly evaluated the proposed action's potential impacts on the environment, and where applicable, advances mitigative measures aimed at reducing impacts.**			
Objective:			
(4) Educate residents and visitors about responsible stewardship practices and the interconnectedness of the natural environment and people.			✓
Policies:			
(a) Expand education about native flora, fauna, and ecosystems.			✓
(b) Align priorities to recognize that the health of the natural environment and the health of people are inextricably linked.			✓
(c) Promote programs and incentives that decrease greenhouse-gas emissions and improve environmental stewardship.			✓
Analysis: **The proposed project does not have direct or indirect relationships to the objective of educating residents and visitors about responsible stewardship practices and the interconnectedness of the natural environment and people.**			
B. PRESERVE LOCAL CULTURES AND TRADITIONS			
Goal: Maui County will foster a spirit of pono and protect, perpetuate, and reinvigorate its residents" multi-cultural values and traditions to ensure that current and future generations will enjoy the benefits of their rich island heritage.		✓	
Objective:			
(1) Perpetuate the Hawaiian culture as a vital force in the lives of residents.		✓	
Policies:			
(a) Protect and preserve access to mountain, ocean, and island resources for traditional Hawaiian cultural practices.			✓
(b) Prohibit inappropriate development of cultural lands and sites that are important for traditional Hawaiian cultural practices, and establish mandates for the special protection of these lands in perpetuity.		✓	
(c) Promote the use of ahupua'a and moku management practices.			✓
(d) Encourage the use of traditional Hawaiian architecture and craftsmanship.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
(e) Promote the use of the Hawaiian language.			✓
(f) Recognize and preserve the unique natural and cultural characteristics of each ahupua'a or district.			✓
(g) Encourage schools to promote broader incorporation of Hawaiian and other local cultures' history and values lessons into curriculum.			✓
(h) Ensure the protection of Native Hawaiian rights.			✓
(i) Promote, encourage, and require the correct use of traditional place names, particularly in government documents, signage, and the tourism industry.			✓
Implementing Actions:			
(a) Establish alternative land use and overlay zoning designations that recognize and preserve the unique natural and cultural characteristics of each ahupua'a or district.			✓
(b) Develop requirements for all County applicants to perpetuate and use proper traditional place names in all applications submitted.			✓
Analysis: **This development is an appropriate development in an urban area, away from culturally sensitive areas. A CIA was prepared for the proposed project as part of the environmental review process. The CIA fosters increased knowledge of Native Hawaiian cultural practices, as well as the history of the project area. In this context, the proposed action advances the objective and policies related to preserving local cultures and traditions.**			
Objective:			
(2) Emphasize respect for our island lifestyle and our unique local cultures, family, and natural environment.		✓	
Policies:			
(a) Acknowledge the Hawaiian culture as the host culture, and foster respect and humility among residents and visitors toward the Hawaiian people and their practices.			✓
(b) Perpetuate a respect for diversity, and recognize the historic blending of cultures and ethnicities.			✓
(c) Encourage the perpetuation of each culture's unique cuisine, attire, dance, music, and folklore, and other unique island traditions and recreational activities.			✓
(d) Recognize the interconnectedness between the natural environment and the cultural heritage of the islands.		✓	
(e) Protect and prioritize funding for recreational activities that support local cultural practices, such as surfing, fishing, and outrigger-canoe paddling.			✓
Analysis: **The project indirectly supports this objective and policy as the CIA acknowledges the relationship between the natural environment and cultural resources found in the project vicinity.**			
Objective:			
(3) Preserve for present and future generations the opportunity to know and experience the arts, culture, and history of Maui County.			✓
Policies:			
(a) Foster teaching opportunities for cultural practitioners to share their knowledge and skills.			✓
(b) Support the development of cultural centers.			✓
(c) Broaden opportunities for public art and the display of local artwork.			✓
(d) Foster the Aloha Spirit by celebrating the Hawaiian host culture and other Maui County cultures through support of cultural-education programs, festivals, celebrations, and ceremonies.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
(e) Support the perpetuation of Hawaiian arts and culture.			✓
(f) Support programs and activities that record the oral and pictorial history of residents.			✓
(g) Support the development of repositories for culture, history, genealogy, oral history, film, and interactive learning.			✓
Implementing Actions:			
(a) Establish incentives for the display of public art.			✓
(b) Establish centers and programs of excellence for the perpetuation of Hawaiian arts and culture.			✓
Analysis: **The proposed project does not have direct or indirect relationships to the objective of preserving the arts, culture, and history of Maui County for present and future generations. This is a multifamily residential project that will help meet the housing need in Maui.**			
Objective:			
(4) Preserve and restore significant historic architecture, structures, cultural sites, cultural districts, and cultural landscapes.		✓	
Policies:			
(a) Support the development of island-wide historic, archaeological, and cultural resources inventories.		✓	
(b) Promote the rehabilitation and adaptive reuse of historic sites, buildings, and structures to perpetuate a traditional sense of place.			✓
(c) Identify a sustainable rate of use and set forth specific policies to protect cultural resources.			✓
(d) Protect and preserve lands that are culturally or historically significant.			✓
(e) Support programs that protect, record, restore, maintain, provide education about, and interpret cultural districts, landscapes, sites, and artifacts in both natural and museum settings.			✓
(f) Perpetuate the authentic character and historic integrity of rural communities and small towns.			✓
(g) Seek solutions that honor the traditions and practices of the host culture while recognizing the needs of the community.			✓
(h) Support the development of an Archaeological District Ordinance.			✓
(i) Protect summits, slopes, and ridgelines from inappropriate development.			✓
(j) Support the registering of important historic sites on the State and Federal historic registers.			✓
(k) Provide opportunities for public involvement with restoration and enhancement of all types of cultural resources.			✓
(l) Foster partnerships to identify and preserve or revitalize historic and cultural sites.			✓
Implementing Actions:			
(a) Identify, develop, map, and maintain an inventory of locally significant natural, cultural, and historical resources for protection.		✓	

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
(b) Prepare, continually update, and implement a cultural-management plan for cultural sites, districts, and landscapes, where appropriate.			✓
(c) Enact an Archaeological District Ordinance.			✓
(d) Nominate important historic sites to the State and Federal historic registers.			✓
Analysis: **The proposed action is indirectly applicable to these objectives and related policies and implementing actions. Archaeological investigations were conducted and determined that there are no historic properties on the site. Consultation is ongoing with the State Historic Preservation Division pursuant to Chapter 6E, HRS.**			
C. IMPROVE EDUCATION			
Goal: Residents will have access to lifelong formal and informal educational options enabling them to realize their ambitions.		✓	
Objective:			
(1) Encourage the State to attract and retain school administrators and educators of the highest quality.			✓
Policies:			
(a) Encourage the State to provide teachers with nationally competitive pay and benefit packages.			✓
(b) Encourage the State to ensure teachers will have the teaching tools and support staff needed to provide students with an excellent education.			✓
(c) Explore Maui County district- and school-based decision making in public education.			✓
Analysis: **The objective and policies related to retaining administrators and educators are not directly or indirectly applicable to the proposed action.**			
Objective:			
(2) Provide nurturing learning environments that build skills for the 21st century.		✓	
Policies:			
(a) Expand professional-development opportunities in disciplines that support the economic-development goals of Maui County.			✓
(b) Plan for demographic, social, and technological changes in a timely manner.			✓
(c) Encourage collaborative partnerships to improve conditions of learning environments.			✓
(d) Promote development of neighborhood schools and educational centers.		✓	
(e) Integrate schools, community parks, and playgrounds, and expand each community's use of these facilities.			✓
(f) Support coordination between land use and school-facility planning agencies.			✓
(g) Encourage the upgrade and ongoing maintenance of public-school facilities.		✓	
(h) Encourage the State Department of Education to seek reliable, innovative, and alternative methods to support a level of per-pupil funding that places Hawai'i among the top tier of states nationally for its financial support of public schools.			✓
(i) Encourage the State to promote healthier, more productive learning environments, including by providing healthy meals, more physical activity, natural lighting, and passive cooling.			✓
(j) Encourage the State to support the development of benchmarks to measure the success of Hawai'i's public-education system and clarify lines of accountability.			✓
(k) Design school and park facilities in proximity to residential areas.			✓
(l) Support technology- and natural-environment-based learning.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
(m) Encourage the State to support lower student-teacher ratios in public schools.			✓
(n) Encourage alternative learning and educational opportunities.			✓
Implementing Actions:			
(a) Develop safe walking and bicycling programs for school children.			✓
Analysis: **Through the payment of impact fees to the Department of Education, the proposed project indirectly ensures the provision of adequate and accessible educational services and facilities in Central Maui.**			
Objective:			
(3) Provide all residents with educational opportunities that can help them better understand themselves and their surroundings and allow them to realize their ambitions.		✓	
Policies:			
(a) Encourage the State to improve Maui Community College as a comprehensive community college that will serve each community.			✓
(b) Broaden the use of technology and telecommunications to improve educational opportunities throughout the County.			✓
(c) Attract graduate-level research programs and institutions.			✓
(d) Promote the teaching of traditional practices, including aquaculture; subsistence agriculture; Pacific Island, Asian, and other forms of alternative health practices; and indigenous Hawaiian architecture.			✓
(e) Integrate cultural and environmental values in education, including self-sufficiency and sustainability.			✓
(f) Foster a partnership and ongoing dialogue between business organizations, formal educational institutions, and vocational training centers to tailor learning and mentoring programs to County needs.			✓
(g) Ensure teaching of the arts to all ages.			✓
(h) Expand and develop vocational learning opportunities by establishing trade schools.			✓
(i) Encourage the State to integrate financial and economic literacy in elementary, secondary, and higher-education levels.			✓
Implementing Actions:			
(a) Encourage the State to establish a four-year university, and support the development of other higher-education institutions to enable residents to obtain bachelor degrees and postgraduate degrees in Maui County.			✓
Analysis: The proposed project indirectly supports the objective and policies as it will afford many families the opportunity to be closer in proximity to schools and services that can support their educational experience.			
Objective:			
(4) Maximize community-based educational opportunities.		✓	
Policies:			
(a) Encourage the State and others to expand pre-school, after-school, and homebased (parent-child) learning.			✓
(b) Support public-private partnerships to develop youth-internship, -apprenticeship, and -mentoring programs.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
(c) Support the development of a wide range of informal educational and cultural programs for all residents.			✓
(d) Improve partnerships that utilize the skills and talents at Hawai'i's colleges and universities to benefit the County.			✓
(e) Support career-development and job-recruitment programs and centers.		✓	
(f) Attract learning institutions and specialty schools to diversify and enhance educational opportunities.			✓
(g) Expand education of important life skills for the general public.			✓
(h) Support community facilities such as museums, libraries, nature centers, and open spaces that provide interactive-learning opportunities for all ages.			✓
Analysis: **This project indirectly applies to the objectives and goals of community-based educational opportunities. The proposed project is within walking distance of the County's American Job Center at Maui Mall, thus giving access to employment opportunities to residents.**			
D. STRENGTHEN SOCIAL AND HEALTHCARE SERVICES			
Goal: Health and social services in Maui County will fully and comprehensively serve all segments of the population.		✓	
Objective:			
(1) In cooperation with the Federal and State governments and nonprofit agencies, broaden access to social and healthcare services and expand options to improve the overall wellness of the people of Maui County.		✓	
Policies:			
(a) Work with other levels of government and the nonprofit sector to expand services to address hunger, homelessness, and poverty.			✓
(b) Support the improvement of opportunities for disadvantaged youth, encourage the tradition of hanai relatives, and support expanded opportunities for foster care.			✓
(c) Support expanded long-term-care options, both in institutions and at home, for patients requiring ongoing assistance and medical attention.			✓
(d) Encourage the expansion and improvement of local hospitals, facilitate the establishment of new healthcare facilities, and facilitate prompt and high-quality emergency- and urgent-care services for all.			✓
(e) Support broadened access to affordable health insurance and health care, and recognize the unique economic challenges posed to families when healthcare services are provided off-island.			✓
(f) Encourage equal access to social and healthcare services through both technological and traditional means.			✓
Analysis**: Indirectly, this proposed project will support access to services. By providing affordable housing to families in a centrally located area, they will have easier access to utilize social and healthcare services, if needed.**			
Objective:			
(2) Encourage the Federal and State governments and the private sector to improve the quality and delivery of social and healthcare services.			✓
Policies:			
(a) Strengthen partnerships with government, nonprofit, and private organizations to provide funding and to improve counseling and other assistance to address substance abuse, domestic violence, and other pressing social challenges.			✓
(b) Encourage the State to improve the quality of medical personnel, facilities, services, and equipment.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
(c) Encourage investment to improve the recruitment of medical professionals and the quality of medical facilities and equipment throughout Maui County.			✓
(d) Promote the development of continuum-of-care facilities that provide assisted living, hospice, home-care, and skilled-nursing options allowing the individual to be cared for in a manner congruent with his or her needs and desires.			✓
(e) Support improved social, healthcare, and governmental services for special needs populations.			✓
(f) Plan for the needs of an aging population and the resulting impacts on social services, housing, and healthcare delivery.			✓
(g) Improve coordination among the police, the courts, and the public in the administration of social and healthcare services.			✓
(h) Support programs that address needs of veterans.			✓
(i) Support programs that address the needs of immigrants.			✓
Implementing Actions:			
(a) Invest in programs designed to improve the general welfare and quality of life of Native Hawaiians.			✓
(b) Assist and facilitate the State Department of Public Safety and others in efforts to strengthen programs and facilities that will improve the mental and social health of incarcerated people and assist in prison inmates' successful transition back into Maui County communities.			✓
(c) Develop and maintain a comprehensive index that will measure the health and wellness needs of families.			✓
(d) Provide heliports countywide for emergency health and safety purposes.			✓
Analysis: **The objective and policies related to the quality and delivery of social services and healthcare are not applicable to the proposed project.**			
Objective:			
(3) Strengthen public-awareness programs related to healthy lifestyles and social and medical services.			✓
Policies:			
(a) Expand public awareness about personal safety and crime prevention.			✓
(b) Encourage residents to pursue education and training for careers in the healthcare, social services, and community-development fields.			✓
(c) Expand public awareness and promote programs to achieve healthy eating habits and drug-free lifestyles.			✓
Analysis: **The objective and policies related to strengthening public-awareness programs related to healthy lifestyles and social and medical services are not directly or indirectly applicable to this affordable housing project.**			
E. EXPAND HOUSING OPPORTUNITIES FOR RESIDENTS			
Goal: Quality, island-appropriate housing will be available to all residents.			
Objective:			
(1) Reduce the affordable housing deficit for residents.	✓		
Policies:			
(a) Ensure that an adequate and permanent supply of affordable housing, both new and existing units, is made available for purchase or rental to our resident and/or workforce population, with special emphasis on providing housing for low- to moderate-income	✓		

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
families, and ensure that all affordable housing remains affordable in perpetuity.			
(b) Seek innovative ways to lower housing costs without compromising the quality of our island lifestyle.		✓	
(c) Seek innovative methods to secure land for the development of low- and moderate-income housing.		✓	
(d) Provide the homeless population with emergency and transitional shelter and other supportive programs.			✓
(e) Provide for a range of senior-citizen and special needs housing choices on each island that affordably facilitates a continuum of care and services.			✓
(f) Support the Department of Hawaiian Home Lands' development of homestead lands.			✓
(g) Manage property-tax burdens to protect affordable resident homeownership.			✓
(h) Explore taxation mechanisms to increase and maintain access to affordable housing.			✓
(i) Improve awareness regarding available affordable homeowner's insurance.			✓
(j) Redevelop commercial areas with a mixture of affordable residential and business uses, where appropriate.			✓
(k) Ensure residents are given priority to obtain affordable housing units developed in their communities, consistent with all applicable regulations.	✓		
(l) Establish pricing for affordable housing that is more reflective of Maui County's workforce than the United States Housing and Urban Development's median-income estimates for Maui County.			✓
(m) Develop neighborhoods with a mixture of accessible and integrated community facilities and services.		✓	
(n) Provide alternative regulatory frameworks to facilitate the use of Kuleana lands by the descendants of Native Hawaiians who received those lands pursuant to the Kuleana Act of 1850.			✓
(o) Work with lending institutions to expand housing options and safeguard the financial security of homeowners.			✓
(p) Promote the use of the community land trust model and other land-lease and land-financing options.			✓
(q) Support the opportunity to age in place by providing accessible and appropriately designed residential units.		✓	
Analysis: **The proposed project supports this objective and related policies and implementing actions as it provides additional affordable home opportunities for Maui County families in an area that is close to the government, business, and commercial centers of Wailuku and Kahului. In addition, the project will be implemented in a developed area in Central Maui, in proximity to existing infrastructure and services.**			
Objective:			
(2) Increase the mix of housing types in towns and neighborhoods to promote sustainable land use planning, expand consumer choice, and protect the County's rural and small town character.	✓		
Policies:			
(a) Seek innovative ways to develop 'ohana cottages and accessory-dwelling units as affordable housing.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
(b) Design neighborhoods to foster interaction among neighbors.			✓
(c) Encourage a mix of social, economic, and age groups within neighborhoods.			✓
(d) Promote infill housing in urban areas at scales that capitalize on existing infrastructure, lower development costs, and are consistent with existing or desired patterns of development.	✓		
(e) Encourage the building industry to use environmentally sustainable materials, technologies, and site planning.			✓
(f) Develop workforce housing in proximity to job centers and transit facilities.	✓		
(g) Provide incentives to developers and owners who incorporate green building practices and energy-efficient technologies into their housing developments.			✓
Implementing Actions:			
(a) Revise laws to support neighborhood designs that incorporate a mix of housing types that are appropriate for island living.			✓
Analysis: **The project provides affordable housing opportunities in Kahului. In addition, the project will be implemented in a developed area in Central Maui, in proximity to existing infrastructure and services.**			
Objective:			
(3) Increase and maintain the affordable housing inventory.	✓		
Policies:			
(a) Recognize housing as a basic human need, and work to fulfill that need.	✓		
(b) Prioritize available infrastructure capacity for affordable housing.			✓
(c) Improve communication, collaboration, and coordination among housing providers and social-service organizations.			✓
(d) Study future projected housing needs, monitor economic cycles, and prepare for future conditions on each island.		✓	
(e) Develop public-private and nonprofit partnerships that facilitate the construction of quality affordable housing.	✓		
(f) Streamline the review process for high-quality, affordable housing developments that implement the goals, objectives, and policies of the General Plan.			✓
(g) Minimize the intrusion of housing on prime, productive, and potentially productive agricultural lands and regionally valuable agricultural lands.		✓	
(h) Encourage long-term residential use of existing and future housing to meet residential needs.	✓		
Implementing Actions:			
(a) Develop policies to even out the peaks and valleys in Maui County's construction-demand cycles.			✓
Analysis: **The proposed project will be developed on urban, infill land in Kahului. This project provides an opportunity for Maui County families to rent housing close to businesses, schools, and commercial centers.**			
Objective:			
(4) Expand access to education related to housing options, homeownership, financing, and residential construction.			✓
Policies:			
(a) Broaden access to information about County, State, and Federal programs that provide financial assistance to renters and home buyers.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
(b) Expand access to information about opportunities for homeownership and self-help housing.			✓
(c) Educate residents about making housing choices that support their individual needs, the needs of their communities, and the health of the islands' natural systems.			✓
(d) Improve home buyers' education on all aspects of homeownership.			✓
Analysis: **This project is not directly or indirectly related to the objective and policies of expanding access to education related to housing options, homeownership, financing, and residential construction. The Hale Pilina Family Affordable Rental Housing Project will provide rental units to families at 60% County's HUD AMI and under.**			
F. STRENGTHEN THE LOCAL ECONOMY			
Goal: Maui County's economy will be diverse, sustainable, and supportive of community values.		✓	
Objective:			
(1) Promote an economic climate that will encourage diversification of the County's economic base and a sustainable rate of economic growth.		✓	
Policies:			
(a) Support economic decisions that create long-term benefits.		✓	
(b) Promote lifelong education, career development, and technical training for existing and emerging industries.			✓
(c) Invest in infrastructure, facilities, and programs that foster economic diversification.			✓
(d) Support and promote locally produced products and locally owned operations and businesses that benefit local communities and meet local demand.			✓
(e) Support programs that assist industries to retain and attract more local labor and facilitate the creation of jobs that offer a living wage.			✓
(f) Encourage work environments that are safe, rewarding, and fulfilling to employees.			✓
(g) Support home-based businesses that are appropriate for and in character with the community.			✓
(h) Encourage businesses that promote the health and well-being of the residents, produce value-added products, and support community values.			✓
(i) Foster an understanding of the role of all industries in our economy.			✓
(j) Support efforts to improve conditions that foster economic vitality in our historic small towns.			✓
(k) Support and encourage traditional host-culture businesses and indigenous agricultural practices.			✓
(l) Support public and private entities that assist entrepreneurs in establishing locally operated businesses.			✓
Implementing Actions:			
(a) Develop regulations and programs that support opportunities for local merchants, farmers, and small businesses to sell their goods and services directly to the public.			✓
(b) Monitor the carrying capacity of the islands' social, ecological, and infrastructure systems with respect to the economy.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
Analysis: **During construction, this project will provide job opportunities. After completion, families residing in the project will support the businesses surrounding them, thus indirectly impacting the economy.**			
Objective:			
(2) Diversify and expand sustainable forms of agriculture and aquaculture.			✓
Policies:			
(a) Support programs that position Maui County's agricultural products as premium export products.			✓
(b) Prioritize the use of agricultural land to feed the local population, and promote the use of agricultural lands for sustainable and diversified agricultural activities.			✓
(c) Capitalize on Hawai'i's economic opportunities in the ecologically sensitive aquaculture industries.			✓
(d) Assist farmers to help make Maui County more self-sufficient in food production.			✓
(e) Support ordinances, programs, and policies that keep agricultural land and water available and affordable to farmers.			✓
(f) Support a tax structure that is conducive to the growth of the agricultural economy.			✓
(g) Enhance County efforts to monitor and regulate important agricultural issues.			✓
(h) Support education, research, and facilities that strengthen the agricultural industry.			✓
(i) Maintain the genetic integrity of existing food crops.			✓
(j) Encourage healthy and organic farm practices that contribute to land health and regeneration.			✓
(k) Support cooperatives and other types of nontraditional and communal farming efforts.			✓
(l) Encourage methods of monitoring and controlling genetically modified crops to prevent adverse effects.			✓
(m) Work with the State to ease the permitting process for the revitalization of traditional fish ponds.			✓
Implementing Actions:			
(a) Redirect efforts in the Office of Economic Development to further facilitate the development of the agricultural section and to monitor agricultural legislation and issues.			✓
(b) Publicly identify, with signage and other means, the field locations of all genetically modified crops.			✓
(c) Create agricultural parks in areas distant from genetically modified crops.			✓
Analysis: **The objective and policies as it relates to diversification and expansion of sustainable forms of agriculture and aquaculture are not directly or indirectly applicable to the proposed project.**			
Objective:			
(3) Support a visitor industry that respects the resident culture and the environment.			✓
Policies:			
(a) Promote traditional Hawaiian practices in visitor-related facilities and activities.			✓
(b) Encourage and educate the visitor industry to be sensitive to island lifestyles and cultural values.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
(c) Encourage a spirit of welcome for residents at visitor facilities, such as by offering kamaʻāina incentives and discount programs.			✓
(d) Support the renovation and enhancement of existing visitor facilities.			✓
(e) Support policies, programs, and a tax structure that redirect the benefits of the visitor industry back into the local community.			✓
(f) Encourage resident ownership of visitor-related businesses and facilities.			✓
(g) Develop partnerships to provide educational and training facilities to residents employed in the visitor industry.			✓
(h) Foster an understanding of local cultures, customs, and etiquette, and emphasize the importance of the Aloha Spirit as a common good for all.			✓
(i) Support the diversification, development, evolution, and integration of the visitor industry in a way that is compatible with the traditional, social, economic, spiritual, and environmental values of island residents			✓
(j) Improve collaboration between the visitor industry and the other sectors of Maui County's economy.			✓
(k) Perpetuate an authentic image of the Hawaiian culture and history and an appropriate recognition of the host culture.			✓
(l) Support the programs and initiatives outlined in the Maui County Tourism Strategic Plan 2017-2025.			✓
(m) Promote water conservation, beach conservation, and open-space conservation in areas providing services for visitors.			✓
(n) Recognize the important contributions that the visitor industry makes to the County's economy, and support a healthy and vibrant visitor industry.			✓
Analysis: **The proposed action is an affordable housing project. The objectives and policies around supporting a visitor industry is not applicable to the project.**			
Objective:			
(4) Expand economic sectors that increase living-wage job choices and are compatible with community values.			✓
Policies:			
(a) Support emerging industries, including the following: • Health and wellness industry; • Sports and recreation industry; • Film and entertainment industry; • Arts and culture industry; • Renewable-energy industry; • Research and development industry; • High-technology and knowledge-based industries; • Education and training industry; • Ecotourism industry; and • Agritourism industry.		✓	
Analysis: **The objective of expanding economic sectors that increase living-wage job choices compatible with community values are indirectly applicable to the proposed residential project. The developer will seek installing photovoltaic panels to support the renewable energy industry, if funding allows.**			
G. IMPROVE PARKS AND PUBLIC FACILITIES			
Goal: A full range of island-appropriate public facilities and recreational opportunities will be provided to improve the quality of life for residents and visitors.		✓	
Objective:			
(1) Expand access to recreational opportunities and community facilities to meet the present and future needs of residents of all ages and physical abilities.		✓	
Policies:			

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
(a) Protect, enhance, and expand access to public shoreline and mountain resources.			✓
(b) Expand and enhance the network of parks, multi-use paths, and bikeways.		✓	
(c) Assist communities in developing recreational facilities that promote physical fitness.		✓	
(d) Expand venue options for recreation and performances that enrich the lifestyles of Maui County's people.			✓
(e) Expand affordable recreational and after-school programs for youth.			✓
(f) Encourage and invest in recreational, social, and leisure activities that bring people together and build community pride.			✓
(g) Promote the development and enhancement of community centers, civic spaces, and gathering places throughout our communities.		✓	
(h) Expand affordable access to recreational opportunities that support the local lifestyle.		✓	
Implementing Actions:			
(a) Identify and reserve lands for cemeteries, and preserve existing cemeteries on all islands, appropriately accommodating varying cultural and, faith-based traditions.			✓
Analysis: **The proposed residential project will indirectly support the goal, objective, and policies of expanding access to recreational opportunities and community facilities to meet the needs of residents. The central location of the site of this project will provide easy access to existing recreational activities and community facilities. The project will also incorporate an onsite park and multipurpose room for residents.**			
Objective:			
(2) Improve the quality and adequacy of community facilities.		✓	
Policies:			
(a) Provide an adequate supply of dedicated shelters and facilities for disaster relief.			✓
(b) Provide and maintain community facilities that are appropriately designed to reflect the traditions and customs of local cultures.			✓
(c) Ensure that parks and public facilities are safe and adequately equipped for the needs of all ages and physical abilities to the extent reasonable.			✓
(d) Maintain, enhance, expand, and provide new active and passive recreational facilities in ways that preserve the natural beauty of their locations.		✓	
(e) Redesign or retrofit public facilities to adapt to major shifts in environmental or urban conditions to the extent reasonable.			✓
Analysis: **The objective and policies related to improving the quality and adequacy of community facilities are indirectly applicable. The project seeks to incorporate a park within the complex for residents.**			
Objective:			
(3) Enhance the funding, management, and planning of public facilities and park lands.			✓
Policies:			
(a) Identify and encourage the establishment of regulated and environmentally sound campgrounds.			✓
(b) Manage park use and control access to natural resources in order to rest sensitive places and utilize the resources in a sustainable manner.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
(c) Provide public-recreational facilities that are clean and well-maintained.			✓
(d) Develop partnerships to ensure proper stewardship of the islands' trails, public lands, and access systems.			✓
(e) Ensure that there is an adequate supply of public restrooms in convenient locations.			✓
Implementing Actions:			
(a) Encourage the State to allow for overnight fishing along the shoreline in accordance with management plans and regulations.			✓
(b) Develop and regularly update functional plans, including those relating to public facilities, parks, and campgrounds.			✓
(c) Develop and adopt local level-of service standards for public facilities and parks.			✓
(d) Identify, acquire, and develop lands for parks, civic spaces, and public uses.			✓
Analysis: **The proposed project does not meet the objective of enhancing funding, management, and planning of public facilities and park lands. The policies outlined to meet this objective does not apply to the proposed project.**			
H. DIVERSIFY TRANSPORTATION OPTIONS			
Goal: Maui County will have an efficient, economical, and environmentally sensitive means of moving people and goods.		✓	
Objective:			
(1) Provide an effective, affordable, and convenient ground-transportation system that is environmentally sustainable.		✓	
Policies:			
(a) Execute planning strategies to reduce traffic congestion.		✓	
(b) Plan for the efficient relocation of roadways for the public benefit.			✓
(c) Support the use of alternative roadway designs, such as traffic-calming techniques and modern roundabouts.			✓
(d) Increase route and mode options in the ground-transportation network.		✓	
(e) Ensure that roadway systems are safe, efficient, and maintained in good condition.		✓	
(f) Preserve roadway corridors that have historic, scenic, or unique physical attributes that enhance the character and scenic resources of communities.			✓
(g) Design new roads and roadway improvements to retain and enhance the existing character and scenic resources of the communities through which they pass.		✓	
(h) Promote a variety of affordable and convenient transportation services that meet countywide and community needs and expand ridership of transit systems.			✓
(i) Collaborate with transit agencies, government agencies, employers, and operators to provide planning strategies that reduce peak-hour traffic.			✓
(j) Develop and expand an attractive, island-appropriate, and efficient public transportation system.			✓
(k) Provide and encourage the development of specialized transportation options for the young, the elderly, and persons with disabilities.			✓
(l) Evaluate all alternatives to preserve quality of life before widening roads.			✓
(m) Encourage businesses in the promotion of alternative transportation options for resident and visitor use.			✓
(n) Support the development of carbon-emission standards and an incentive program aimed at achieving County carbon-emission goals.			✓
Implementing Actions:			

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
(a) Create incentives and implement strategies to reduce visitor dependence on rental cars.			✓
(b) Establish efficient public-transit routes between employment centers and primary workforce residential areas.		✓	
(c) Create attractive, island-appropriate, conveniently located park-and-ride and ride- share facilities.			✓
Analysis: **The TIAR prepared for this project determined that the impact of this project on existing and projected traffic is minimal. As such, it was concluded that road improvements were not needed. The project is directly and indirectly applicable to the goals and objectives around providing affordable, effective, and convenient ground transportation. The urban location of the project also allows for easy access to public transit for residents.**			
Objective:			
(2) Reduce the reliance on the automobile and fossil fuels by encouraging walking, bicycling, and other energy-efficient and safe alternative modes of transportation.		✓	
Policies:			
(a) Make walking and bicycling transportation safe and easy between and within communities.		✓	
(b) Require development to be designed with the pedestrian in mind.		✓	
(c) Design new and retrofit existing rights-of-way with adequate sidewalks, bicycle lanes, or separated multi-use transit corridors.		✓	
(d) Support the development of a countywide network of bikeways, equestrian trails, and pedestrian paths.			✓
(e) Support the reestablishment of traditional trails between communities, to the ocean, and through the mountains for public use.			✓
(f) Encourage educational programs to increase safety for pedestrians and bicyclists.			✓
Implementing Actions:			
(a) Design, build, and modify existing bikeways to improve safety and separation from automobiles.			✓
(b) Increase enforcement to reduce abuse of bicycle and pedestrian lanes by motorized vehicles.			✓
(c) Identify non-motorized transportation options as a priority for new sources of funding.			✓
Analysis: **The proposed affordable housing project is centrally located in Kahului and will provide for adequate sidewalks along adjacent streets to encourage the use of alternative forms of transportation.**			
Objective:			
(3) Improve opportunities for affordable, efficient, safe, and reliable air transportation.			✓
Policies:			
(a) Discourage private helicopter and fixed-wing landing sites to mitigate environmental and social impacts.			✓
(b) Encourage the use of quieter aircraft and noise-abatement procedures for arrivals and departures.			✓
(c) Encourage the modernization and maintenance of air-transportation facilities for general-aviation activities.			✓
(d) Encourage a viable and competitive atmosphere for air carriers to expand service and ensure sufficient intra-County flights and affordable fares for consumers.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
(e) Continue to support secondary airports, and encourage the State to provide them with adequate funding.			✓
(f) During Community Plan updates, explore the use of the smaller airports.			✓
(g) Encourage the State to provide efficient, adequate, and affordable parking and transit connections within and around airports.			✓
Analysis: **This residential project does not meet the objective and policies of improving opportunities for affordable, efficient, safe, and reliable air transportation.**			
Objective:			
(4) Improve opportunities for affordable, efficient, safe, and reliable ocean transportation.			✓
Policies:			
(a) Support programs and regulations that reduce the disposal of maritime waste and prevent spills into the ocean.			✓
(b) Encourage the upgrading of harbors to resist damage from natural hazards and disasters.			✓
(c) Encourage the State to study the use of existing harbors and set priorities for future use.			✓
(d) Explore all options to protect the traditional recreational uses of harbors, and mitigate harbor-upgrade impacts to recreational uses where feasible.			✓
(e) Encourage the upgrading of harbors and the separation of cargo and bulk materials from passenger and recreational uses.			✓
(f) Encourage the State to provide for improved capacity at shipping, docking, and storage facilities.			✓
(g) Encourage the State to provide adequate parking facilities and transit connections within and around harbor areas.			✓
(h) Encourage the redevelopment and revitalization of harbors while preserving historic and cultural assets in harbor districts.			✓
(i) Encourage the State to provide adequate facilities for small-boat operations, including small-boat launch ramps, according to community needs.			✓
(j) Support the maintenance and cleanliness of harbor facilities.			✓
(k) Support the redevelopment of harbors as pedestrian-oriented gathering places.			✓
Analysis: **Improving opportunities for affordable, efficient, safe, and reliable ocean transportation is not applicable to the goal of providing affordable housing for Maui County families.**			
Objective:			
(5) Improve and expand the planning and management of transportation systems.		✓	
Policies:			
(a) Encourage progressive community design and development that will reduce transportation trips.		✓	
(b) Require new developments to contribute their pro rata share of local and regional infrastructure costs.		✓	
(c) Establish appropriate user fees for private enterprises that utilize public transportation facilities for recreational purposes.			✓
(d) Support the revision of roadway-design criteria and standards so that roads are compatible with surrounding neighborhoods and the character of rural areas.			✓
(e) Plan for multi-modal transportation and utility corridors on each island.			✓
(f) Support designing all transportation facilities, including airport, harbor, and mass- transit stations, to reflect Hawaiian architecture.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
(g) Utilize transportation-demand management as an integral part of transportation planning.			✓
(h) Accommodate the planting of street trees and other appropriate landscaping in all public rights-of-way.		✓	
Analysis: **The proposed project will indirectly support the improvement of transportation systems. The project is centrally located near transit and will allow families to be closer to work, school, activities, and services, thereby limiting long distance road trips.**			
I. IMPROVE PHYSICAL INFRASTRUCTURE			
Goal: Maui County's physical infrastructure will be maintained in optimum condition and will provide for and effectively serve the needs of the County through clean and sustainable technologies.		✓	
Objective:			
(1) Improve water systems to assure access to sustainable, clean, reliable, and affordable sources of water.		✓	
Policies:			
(a) Ensure that adequate supplies of water are available prior to approval of subdivision or construction documents.		✓	
(b) Develop and fund improved water-delivery systems.			✓
(c) Ensure a reliable and affordable supply of water for productive agricultural uses.			✓
(d) Promote the reclamation of gray water, and enable the use of reclaimed, gray, and brackish water for activities that do not require potable water.			✓
(e) Retain and expand public control and ownership of water resources and delivery systems.			✓
(f) Improve the management of water systems so that surface-water and groundwater resources are not degraded by overuse or pollution.			✓
(g) Explore and promote alternative water-source-development methods.			✓
(h) Seek reliable long-term sources of water to serve developments that achieve consistency with the appropriate Community Plans.			✓
Implementing Actions:			
(a) Develop a process to review all applications for desalination.			✓
Analysis: **The project indirectly supports this objective and related policies as it is located in an area that is serviced by existing County water infrastructure. Coordination will be undertaken with the DWS to determine if certain improvements to the County's water system will be required to service the project.**			
Objective:			
(2) Improve waste-disposal practices and systems to be efficient, safe, and as environmentally sound as possible.		✓	
Policies:			
(a) Provide sustainable waste-disposal systems and comprehensive, convenient recycling programs to reduce the flow of waste into landfills.		✓	
(b) Support innovative and alternative practices in recycling solid waste and wastewater and disposing of hazardous waste.			✓
(c) Encourage vendors and owners of automobile, appliance, and white goods to participate in the safe disposal and recycling of such goods, and ensure greater accountability for large waste producers.			✓
(d) Develop strategies to promote public awareness to reduce pollution and litter, and encourage residents to reduce, reuse, recycle, and compost waste materials.			✓
(e) Pursue improvements and upgrades to existing wastewater and solid-waste systems consistent with current and future plans and the County's Capital Improvement Program.		✓	
Implementing Actions:			

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
(a) Establish recycling, trash-separation, and materials recovery programs and facilities to reduce the flow of waste into landfills.			✓
(b) Study the feasibility of developing environmentally safe waste-to-energy facilities.			✓
(c) Utilize taxes and fees as means to encourage conservation and recycling.			✓
(d) Implement and regularly update the Integrated Solid Waste Management Plan.			✓
(e) Phase out the use of injection wells.			✓
Analysis: **The objectives, policies and actions are indirectly applicable to the proposed project. The project proposes connection to the County wastewater system. Coordination will be undertaken with the DEM regarding connection. Construction waste will be disposed at the County's Central Maui Landfill or appropriate construction recycling centers.**			
Objective:			
(3) Significantly increase the use of renewable and green technologies to promote energy efficiency and energy self-sufficiency.		✓	
Policies:			
(a) Promote the use of locally renewable energy sources, and reward energy efficiency.		✓	
(b) Consider tax incentives and credits for the development of sustainable- and renewable-energy sources.			✓
(c) Expand education about energy conservation and self-sufficiency.			✓
(d) Encourage small-scale energy generation that utilizes wind, sun, water, biowaste, and other renewable sources of energy.		✓	
(e) Expand renewable-energy production.		✓	
(f) Develop public-private partnerships to ensure the use of renewable energy and increase energy efficiency.			✓
(g) Require the incorporation of locally appropriate energy-saving and green building design concepts in all new developments by providing energy efficient urban design guidelines and amendments to the Building Code.			✓
(h) Encourage the use of sustainable energy to power vehicles.			✓
(i) Promote the retrofitting of existing buildings and new development to incorporate energy-saving design concepts and devices.		✓	
(j) Encourage green footprint practices.			✓
(k) Reduce Maui County's dependence on fossil fuels and energy imports.		✓	
(l) Support green building practices such as the construction of buildings that aim to minimize carbon dioxide production, produce renewable energy, and recycle water.			✓
(m) Promote and support environmentally friendly practices in all energy sectors.			✓
Implementing Actions:			
(a) Adopt an energy-efficiency policy for Maui County government as a model for other jurisdictions.			✓
(b) Adopt a Green Building Code, and support green building practices.			✓
Analysis: **The proposed development may include solar photovoltaic panels for electricity, if feasible. These actions indirectly supports this objective and related policies by advancing measures to lessen dependence on fossil fuel based energy.**			
Objective:			
(4) Direct growth in a way that makes efficient use of existing infrastructure and to areas where there is available infrastructure capacity.		✓	
Policies:			

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
(a) Capitalize on existing infrastructure capacity as a priority over infrastructure expansion.		✓	
(b) Planning for new towns should only be considered if a region's growth is too large to be directed into infill and adjacent growth areas.			✓
(c) Utilize appropriate infrastructure technologies in the appropriate locations.			✓
(d) Promote land use patterns that can be provided with infrastructure and public facilities in a cost-effective manner.		✓	
(e) Support catchment systems and on-site wastewater treatment in rural areas and aggregated water and wastewater systems in urban areas if they are appropriately located.			✓
Implementing Actions:			
(a) Develop a streamlining system for urban infill projects.			✓
(b) Identify appropriate areas for urban expansion of existing towns where infrastructure and public facilities can be provided in a cost-effective manner.	✓		
Analysis: **The proposed project will be implemented in a developed area in Central Maui, in proximity to existing infrastructure and services. Families will be centrally located near jobs, schools, recreation, and other services.**			
Objective:			
(5) Improve the planning and management of infrastructure systems.		✓	
Policies:			
(a) Provide a reliable and sufficient level of funding to enhance and maintain infrastructure systems.			✓
(b) Require new developments to contribute their pro rata share of local and regional infrastructure costs.			✓
(c) Improve coordination among infrastructure providers and planning agencies to minimize construction impacts.			✓
(d) Maintain inventories of infrastructure capacity, and project future infrastructure needs.			✓
(e) Require social-justice and -equity issues to be considered during the infrastructure-planning process.			✓
(f) Discourage the development of critical infrastructure systems within hazard zones and the tsunami-inundation zone to the extent practical.			✓
(g) Ensure that infrastructure is built concurrent with or prior to development.		✓	
(h) Ensure that basic infrastructure needs can be met during a disaster.			✓
(i) Locate public facilities and emergency services in appropriate locations that support the health, safety, and welfare of each community and that minimize delivery inefficiencies.			✓
(j) Promote the undergrounding of utility and other distribution lines for health safety, and aesthetic reasons.			✓
Implementing Actions:			
(a) Develop and regularly update functional plans for infrastructure systems.			✓
(b) Develop, adopt, and regularly update local or community-sensitive level-of service standards for infrastructure systems.			✓
Analysis: **The proposed project will be implemented in a developed area in Central Maui, in proximity to existing infrastructure and services. Maui County families to provide access to housing. The project will also be implementing infrastructure improvements to service the proposed development.**			
J. PROMOTE SUSTAINABLE LAND USE AND GROWTH MANAGEMENT			

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
Goal: Community character, lifestyles, economies, and natural assets will be preserved by managing growth and using land in a sustainable manner.		✓	
Objective:			
(1) Improve land use management and implement a directed-growth strategy.		✓	
Policies:			
(a) Establish, map, and enforce urban- and rural-growth limits.		✓	
(b) Direct urban and rural growth to designated areas.		✓	
(c) Limit the number of visitor-accommodation units and facilities in Community Plan Areas.			✓
(d) Maintain a sustainable balance between the resident, part-time resident, and visitor populations.			✓
(e) Encourage redevelopment and infill in existing communities on lands intended for urban use to protect productive farm land and open-space resources.		✓	
(f) Discourage new entitlements for residential, resort, or commercial development along the shoreline.			✓
(g) Restrict development in areas that are prone to natural hazards, disasters, or sea-level rise.		✓	
(h) Direct new development in and around communities with existing infrastructure and service capacity, and protect natural, scenic, shoreline, and cultural resources.		✓	
(i) Establish and maintain permanent open space between communities to protect each community's identity.			✓
(j) Support the dedication of land for public uses.			✓
(k) Preserve the public's rights of access to and continuous lateral access along all shorelines.			✓
(l) Enable existing and future communities to be self-sufficient through sustainable land use planning and management practices.			✓
(m) Protect summits, slopes, and ridgelines from inappropriate development.			✓
Implementing Actions:			
(a) Regularly update urban- and rural-growth boundaries and their maps.			✓
(b) Establish transfer and purchase of development rights programs.			✓
(c) Develop and adopt a green infrastructure plan.			✓
(d) Develop studies to help determine a sustainable social, environmental, and economic carrying capacity for each island.			✓
(e) Identify and define resort-destination areas.			✓
Analysis: **The proposed Hale Pilina Family Affordable Rental Housing project will be developed on urban, infill land in Kahului, within the Urban Growth Boundary as designated by the County of Maui's Maui Island Plan. The Project is located in a developed area in Central Maui, in proximity to existing infrastructure and services. The project will be developed in an area outside of the sea level rise exposure area.**			
Objective:			
(2) Improve planning for and management of agricultural lands and rural areas.			✓
Policies:			
(a) Protect prime, productive, and potentially productive agricultural lands to maintain the islands' agricultural and rural identities and economies.			✓
(b) Provide opportunities and incentives for self-sufficient and subsistence homesteads and farms.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
(c) Discourage developing or subdividing agriculturally designated lands when non-agricultural activities would be primary uses.			✓
(d) Conduct agricultural-development planning to facilitate robust and sustainable agricultural activities.			✓
Implementing Actions:			
(a) Inventory and protect prime, productive, and potentially productive agricultural lands from competing non-agricultural land uses.			✓
Analysis: **As previously discussed, the project will be developed on urban, infill land in Kahului. In the context of the amount of viable agriculture lands on the island of Maui, implementation of the proposed action is not considered to adversely affect agricultural productivity on Maui. As such, the objective of improving planning for and managing agriculture lands and rural areas are not applicable to this project.**			
Objective:			
(3) Design all developments to be in harmony with the environment and to protect each community's sense of place.		✓	
Policies:			
(a) Support and provide incentives for green building practices.			✓
(b) Encourage the incorporation of green building practices and technologies into all government facilities to the extent practicable.			✓
(c) Protect and enhance the unique architectural and landscape characteristics of each Community Plan Area, small town, and neighborhood.		✓	
(d) Ensure that adequate recreational areas, open spaces, and public-gathering places are provided and maintained in all urban centers and neighborhoods.		✓	
(e) Ensure business districts are distinctive, attractive, and pedestrian-friendly destinations.			✓
(f) Use trees and other forms of landscaping along rights-of-way and within parking lots to provide shade, beauty, urban-heat reduction, and separation of pedestrians from automobile traffic in accordance with community desires.		✓	
(g) Where appropriate, integrate public-transit, equestrian, pedestrian, and bicycle facilities, and public rights-of-way as design elements in new and existing communities.		✓	
(h) Ensure better connectivity and linkages between land uses.		✓	
(i) Adequately buffer and mitigate noise and air pollution in mixed-use areas to maintain residential quality of life.			✓
(j) Protect rural communities and traditional small towns by regulating the footprint, locations, site planning, and design of structures.			✓
(k) Support small-town revitalization and preservation.			✓
(l) Facilitate safe pedestrian access, and create linkages between destinations and within parking areas.			✓
Implementing Actions:			
(a) Establish design guidelines and standards to enhance urban and rural environments.			✓
(b) Provide funding for civic-center and civic-space developments.			✓
(c) Establish and enhance urban forests in neighborhoods and business districts.		✓	
Analysis: **The project will incorporate landscaping to enhance residents' sense of place within an urban setting. The proposed project also desires to incorporate a park and trees to provide reprive from the surrounding urban feel.**			
Objective:			
(4) Improve and increase efficiency in land use planning and management.		✓	

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
Policies:			
(a) Assess the cumulative impact of developments on natural ecosystems, natural resources, wildlife habitat, and surrounding uses.		✓	
(b) Ensure that new development projects requiring discretionary permits demonstrate a community need, show consistency with the General Plan, and provide an analysis of impacts.		✓	
(c) Encourage public and private partnerships to preserve lands of importance, develop housing, and meet the needs of residents.	✓		
(d) Promote creative subdivision designs that implement best practices in land development, sustainable management of natural and physical resources, increased pedestrian and bicycle functionality and safety, and the principles of livable communities.		✓	
(e) Coordinate with Federal, State, and County officials in order to ensure that land use decisions are consistent with County plans and the vision local populations have for their communities.			✓
(f) Enable greater public participation in the review of subdivisions.			✓
(g) Improve land use decision making through the use of land- and geographic information systems.			✓
Implementing Actions:			
(a) Institute a time limit and sunsetting stipulations on development entitlements and their implementation.			✓
Analysis: **The proposed Hale Pilina Family Affordable Rental Housing project entails the development of affordable housing for Maui County families. As an urban infill project, the proposed action supports smart growth principles.**			
K. STRIVE FOR GOOD GOVERNANCE			
Objective:			
(1) Strengthen governmental planning, coordination, consensus building, and decision making.		✓	
Policies:			
(a) Plan and prepare for the effects of social, demographic, economic, and environmental shifts.			✓
(b) Plan for and address the possible implications of Hawaiian sovereignty.			✓
(c) Encourage collaboration among government agencies to reduce duplication of efforts and promote information availability and exchange.		✓	
(d) Expand opportunities for the County to be involved in and affect State and Federal decision making.			✓
(e) Plan and prepare for large-scale emergencies and contingencies.			✓
(f) Improve public awareness about preparing for natural hazards, disasters, and evacuation plans.			✓
(g) Improve coordination among Federal, State, and County agencies.			✓
Implementing Actions:			
(a) Develop policies, regulations, and programs to protect and enhance the unique character and needs of the County's various communities.			✓
(b) Evaluate and if necessary, recommend modifications to the County Charter that could result in a possible change to the form of governance for Maui County.			✓
(c) Study and evaluate the feasibility and implications of voting in Maui County Council elections.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
(d) Study and evaluate the feasibility of authorizing town governments in Maui County.			✓
Analysis: **The objective of strengthening governmental planning, coordination, consensus building, and decision making along with the policies that support this objective is not directly applicable to the proposed project. However, it is important to note that continuing coordination between government entities is critical to the success of the Project.**			
Objective:			
(2) Promote civic engagement.		✓	
Policies:			
(a) Foster consensus building through in-depth, innovative, and accessible public participatory processes.		✓	
(b) Promote and ensure public participation and equal access to government among all citizens.			✓
(c) Encourage a broad cross-section of residents to volunteer on boards and commissions.			✓
(d) Encourage the State to improve its community-involvement processes.			✓
(e) Support community-based decision making.		✓	
(f) Expand advisory functions at the community level.			✓
(g) Expand opportunities for all members of the public to participate in public meetings and forums.		✓	
(h) Facilitate the community's ability to obtain relevant documentation.			✓
(i) Increase voter registration and turnout.			✓
Implementing Actions:			
(a) Implement two-way communication using audio-visual technology that allows residents to participate in the County's planning processes.			✓
(b) Ensure and expand the use of online notification of County business and public meetings, and ensure the posting of all County board and commission meeting minutes.			✓
(c) Explore funding mechanisms to improve participation by volunteers on boards and commissions.			✓
(d) Develop a project-review process that mandates early and ongoing consultation in and with communities affected by planning and land use activities.			✓
Analysis: **As mentioned previously, the design and environmental review processes involves opportunities for the public to provide input throughout the environmental review process. Public meetings and requests for comments were included which provided the space for engagement and feedback opportunities. Furthermore, community input was welcomed in two (2) virtual meetings for the public to provide input and comment on the proposed Hale Pilina Family Affordable Rental Housing project.**			
Objective:			
(3) Improve the efficiency, reliability, and transparency of County government's internal processes and decision making.			✓
Policies:			
(a) Use advanced technology to improve efficiency.			✓
(b) Simplify and clarify the permitting process to provide uniformity, reliability, efficiency, and transparency.			✓
(c) Improve communication with Lānaʻi and Molokaʻi through the expanded use of information technologies, expanded staffing, and the creation and expansion of government-service centers.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
(d) Ensure that laws, policies, and regulations are internally consistent and effectuate the intent of the General Plan.			✓
Implementing Actions:			
(a) Update the County Code to be consistent with the General Plan.			✓
(b) Identify and update County regulations and procedures to increase the productivity and efficiency of County government.			✓
(c) Develop local level-of-service standards for infrastructure, public facilities, and services.			✓
(d) Implement plans through programs, regulations, and capital improvements in a timely manner.			✓
(e) Expand government online services.			✓
Analysis: **The objective and policies as it relates to improving the efficiency, reliability, and transparency of County government's internal processes and decision making is not applicable to the proposed project.**			
Objective:			
(4) Adequately fund in order to effectively administer, implement, and enforce the General Plan.			✓
Policies:			
(a) Adequately fund, staff, and support the timely update and implementation of planning policy, programs, functional plans, and enforcement activities.			✓
(b) Ensure that the County's General Plan process provides for efficient planning at the County, island, town, and neighborhood level.			✓
(c) Encourage ongoing professional development, education, and training of County employees.			✓
(d) Encourage competitive compensation packages for County employees to attract and retain County personnel.			✓
(e) Enable the County government to be more responsive in implementing our General Plan and Community Plans.			✓
(f) Review discretionary permits for compliance with the Countywide Policy Plan.			✓
(g) Strengthen the enforcement of County, State, and Federal land use laws.			✓
Implementing Actions:			
(a) Establish penalties to ensure compliance with County, State, and Federal land use laws.			✓
Analysis: **The objective and policies regarding the funding of the General Plan do not apply to the proposed action. The project acknowledges the importance of this objective and the importance of the General Plan.**			
Objective:			
(5) Strive for County government to be a role model for implementing cultural and environmental policies and practices.			✓
Policies:			
(a) Educate residents on the benefits of sustainable practices.			✓
(b) Encourage the retention and hiring of qualified professionals who can improve cultural and environmental practices.			✓
(c) Incorporate environmentally sound and culturally appropriate practices in government operations and services.			✓
(d) Encourage all vendors with County contracts to incorporate environmentally sound and culturally appropriate practices.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable)	DA	IA	N/A
Analysis: **The objective and policies regarding the County of Maui implementing cultural and environmental practices does not apply to the proposed project.**			

MAUI ISLAND PLAN – ASSESSMENT OF PROJECT APPLICABILITY TO GOALS, OBJECTIVES, AND POLICIES

APPENDIX G-3

APPENDIX "G-3"
MAUI ISLAND PLAN
ASSESSMENT OF PROJECT APPLICABILITY
TO GOALS, OBJECTIVES, AND POLICIES

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable		DA	IA	NA
CHAPTER 1 – POPULATION				
Goal:				
1.1	Maui's people, values, and lifestyles thrive through strong, healthy, and vibrant island communities.	✓		
Objective:				
1.1.1	Greater retention and return of island residents by providing viable work, education, and lifestyle options.	✓		
Policies:				
1.1.1.a	Expand programs that enable the community to meet the education, employment, housing, and social goals of youth and young adults.		✓	
1.1.1.b	Expand housing, transportation, employment, and social opportunities to ensure residents are able to comfortably age within their communities.	✓		
1.1.1.c	Measure and track resident satisfaction through surveys and community indicators.			✓
1.1.1.d	Support funding for transportation, housing, health care, recreation, and social service programs that help those with special needs (including the elderly and disabled).			✓
Analysis: The proposed project provides additional affordable housing opportunities for Maui county families in Kahului. Further, the proposed project will provide for additional housing options for local families seeking to live on Maui island to be closer to their families and local employment, education, and social opportunities.				
CHAPTER 2 – HERITAGE RESOURCES				
CULTURAL, HISTORICAL, AND ARCHAEOLOGICAL RESOURCES ISSUES				
Goal:				
2.1	Our community respects and protects archaeological and cultural resources while perpetuating diverse cultural identities and traditions.		✓	
Objective:				
2.1.1	An island culture and lifestyle that is healthy and vibrant as measured by the ability of residents to live on Maui, access and enjoy the natural environment, and practice Hawaiian customs and traditions in accordance with Article XII, Section 7, Hawai'i State Constitution, and Section 7-1, Hawai`i Revised Statutes (HRS).			✓
Policies:				
2.1.1.a	Perpetuate the spirit of aloha and celebrate the host Hawaiian culture and other ethnic cultures.			✓
2.1.1.b	Perpetuate a respect for diversity and recognize the broad blending of cultures and ethnicities as vital to the quality of life on Maui.			✓
2.1.1.c	Ensure traditional public access routes, including native Hawaiian trails, are maintained for public use.			✓

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
2.1.1.d Support the education of visitors and new residents about the customs and etiquette of the Hawaiian culture, as well as other cultures.			✓
Objective:			
2.2 A more effective and efficient planning and review process that incorporates the best available cultural resources inventory, protection techniques, and preservation strategies.		✓	
Policies:			
2.1.2.a Ensure that the island has a comprehensive and up-to-date inventory of historic and archaeological resources, and their cultural significance.		✓	
2.1.2.b Require the update of existing planning and regulatory mechanisms to protect the natural, cultural, scenic, and historic resources within designated Heritage Areas (see Cultural Resources Overlay/Scenic Corridor Protection Technical Reference Map).			✓
2.1.2.c Ensure that cultural, historic, and archaeological resources are protected for the benefit of present and future generations.		✓	
Objective:			
2.3 Enhance the island's historic, archaeological, and cultural resources.		✓	
Policies:			
2.1.3.a Identify and pursue a listing of the properties and sites on the State and National Register of Historic Places.			✓
2.1.3.b Support the use of easements, dedications, and other mechanisms to acquire, maintain, and protect lands with cultural, archaeological, and historic significance.			✓
2.1.3.c Support regulations to require developers, when appropriate, to prepare an Archaeological Inventory Survey, Cultural Impact Assessment, and Ethnographic Inventories that are reviewed and commented upon by the Office of Hawaiian Affairs, Native Hawaiian advisory bodies, the State Historic Preservation Division (SHPD), and the Office of Environmental Quality Control, and systematically comply with the steps listed in SHPD's administrative rules, including consultation and monitoring during construction phases of projects.		✓	
2.1.3.d Promote the rehabilitation and adaptive reuse of historic sites, buildings, and structures.			✓
2.1.3.e Encourage property owners to register historic and archaeological sites on the State and National Register.			✓
2.1.3.f Support opportunities for public involvement with the intent to facilitate the protection and restoration of historic and archeological sites, including consultation with stakeholders.		✓	
2.1.3.g Encourage the resolution of land title questions relating to Land Commission Awards and Royal patents.			✓
2.1.3.h Ensure compliance with historic preservation laws, and discourage demolition of properties that are determined to be eligible for listing on the National or State Register of Historic Places.		✓	

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
Analysis: The objectives and policies relating to respecting and protecting archaeological and cultural resources are indirectly applicable to the proposed project. A CIA was prepared for the proposed project as part of the environmental review process. The CIA fosters increased knowledge of Native Hawaiian cultural practices, as well as the history of the project area. In this context, the proposed action advances the objective and policies related to preserving local cultures and traditions. Archaeological investigations identified no historic properties within the project site. Landscaping proposed in connection with the project is intended to enhance the project's visual relationship with its immediate surrounding environs.			
SHORELINE, REEFS, AND NEARSHORE WATERS			
Goal:			
2.2 An intact, ecologically functional system of reef, shoreline, and nearshore waters that are protected in perpetuity.		✓	
Objective:			
2.2.1 A more comprehensive and community-based ICZM program.			✓
Policies:			
2.2.1.a Encourage a management system that protects and temporarily rests the reef ecosystems from overuse.			✓
2.2.1.b Support the establishment of additional MMAs and reef replenishment areas.			✓
2.2.1.c Work with appropriate agencies and community members to protect any special managed conservation areas from overuse and ensure that surrounding land uses do not contribute to the degradation of the natural resources, such as ʻAhihi-Kinaʻu Natural Area Reserve, Honolua-Mokulēʻia Bay Marine Life Conservation District, and Mākena State Park.			✓
2.2.1.d Incorporate the following into the MIP, where consistent with the MIP:			
(1) Beach Management Plan for Maui;			✓
(2) Coastal Nonpoint Pollution Control Program Management Plan;			✓
(3) Implementation Plan for Polluted Runoff Control; and			✓
(4) Ocean Resource Management Plan.			✓
2.2.1.e Support greater coordination among governmental agencies involved with the protection of the island's marine resources.			✓
Objective:			
2.2.2 Improved reef health, coastal water quality, and marine life.		✓	
Policies:			
2.2.2.a Create additional mechanisms where needed to contain and control runoff and pollution.		✓	
2.2.2.b Allow extraction of high quality, Class A, low silt sands only when they will be used to protect or restore Maui's shorelines and beaches.			✓
2.2.2.c Carefully manage beach nourishment activities to protect the coastal and marine ecosystem.			✓

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
2.2.2.d Require, where appropriate, a buffer between landscaped areas and the shoreline, gulches, and streams to reduce the runoff of fertilizers, pesticides, herbicides, and other pollutants into coastal waters.			✓
2.2.2.e Strictly regulate shoreline armoring in accordance with adopted Shoreline Rules, with an intent to protect the coastal and marine ecosystem.			✓
2.2.2.f Support greater protection of Keālia Pond National Wildlife Refuge through the following:			
(1) Enhancement of marine ecosystems;			✓
(2) Beach and sand dune restoration; and			✓
(3) Expansion of habitat for Maui's threatened or endangered sea turtles, birds, and other species.			✓
2.2.2.g Support the development of regulations to prevent the excessive depletion of fish stocks due to non-sustainable practices and gear such as SCUBA spear-fishing and lay nets, within the context of nearshore ecosystems.			✓
2.2.2.h Encourage the State to conduct a regular census of fish populations and monitor coral health.			✓
2.2.2.i Encourage the State to significantly increase the number of park rangers, enforcement officers, and marine biologists to protect coastal resources.			✓
2.2.2.j Encourage the State to prohibit the collection and exportation of fish, coral, algae, and other marine species for the ornamental and aquarium trade.			✓
Objective:			
2.2.3 Water quality that meets or exceeds State Clean Water Act standards.		✓	
Policies:			
2.2.3.a Reduce the amount of impervious surface and devise site plan standards that aim to minimize storm runoff and NPS pollution.		✓	
2.2.3.b Support the revision of existing regulations to require an Erosion and Sedimentation Control Plan (ESCP) for development activities that may pose a threat to water quality.			✓
2.2.3.c Require an on-site monitoring program, where applicable, when grading may pose a threat to water quality or when recommended in the ESCP.			✓
2.2.3.d Avoid development actions that impair Maui's reef systems and remove identified stressors.			✓
2.2.3.e Phase out cesspools and restrict the use of septic systems in ecologically sensitive coastal areas by converting to environmentally-friendly alternative sewage treatment systems, and connecting to central sewerage systems when and where feasible.			✓
2.2.3.f Prohibit the development of new wastewater injection wells, except when unavoidable for public health and safety purposes.			✓
2.2.3.g Ensure that the County upholds its affirmative duty under the Clean Water Act by monitoring and reducing point and NPS pollution to help safeguard coastal waters.			✓
Objective:			
2.2.4 Acquire additional shoreline lands and shoreline access rights.			✓

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
Policies:			
2.2.4.a Promote the use of conservation easements, land trusts, transfer and purchase of development rights, and mitigation banking.			✓
2.2.4.b Require the dedication of public beach and rocky shoreline access ways to and along the shoreline where it serves a practical public interest as a condition of development or subdivision approval; future subdivisions and developments shall be consistent with and effectuate, to the extent practicable, the *Shoreline Access Inventory Update - Final Report* (March 2005), and its updates.			✓
2.2.4.c Incorporate the *Shoreline Access Inventory Update - Final Report* (March 2005), and its regular updates, into this plan.			✓
2.2.4.d Identify access points while further acquiring key shoreline parcels and easement rights to enhance and protect beach access and shoreline recreation.			✓
Analysis: The proposed project is located inland, and not in close proximity to the shoreline. With the spatial separation, there are no direct project considerations as it relates to shoreline management programming, reef health, coastal water quality, marine life or shoreline lands and access rights. However, inasmuch as the proposed action does involve grading and earth moving activities, the project may be considered to have indirect applicability to objectives and policies relating to coastal water quality. As such, appropriate BMPs will be implemented during construction to ensure that soil erosion and runoff do not adversely affect coastal waters.			
WATERSHEDS, STREAMS, AND WETLANDS ISSUES			
Goal:			
2.3 Healthy watersheds, streams, and riparian environments.			✓
Objective:			
2.3.1 Greater protection and enhancement of watersheds, streams, and riparian environments.			✓
Policies:			
2.3.1.a All present and future watershed management plans shall incorporate concepts of ahupua‘a management based on the interconnectedness of upland and coastal ecosystems/species.			✓
2.3.1.b Continue to support and be an active member of watershed partnerships.			✓
2.3.1.c Support the establishment of regional water trusts, composed of public and private members, to manage water resources.			✓
2.3.1.d Support regulations to require developments to utilize ahupua‘a management practices.			✓
2.3.1.e Work with private and non-profit entities to educate the public about the connection between upland activities within the watershed and the impacts on nearshore ecosystems and coral reefs.			✓
2.3.1.f Provide adequate funding and staff to develop and implement watershed protection plans and policies, including acquisition and management of watershed resources and land.			✓
2.3.1.g Encourage the State to mandate instream assessment to provide adequate water for native species.			✓

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
2.3.1.h Maui will protect all watersheds and streams in a manner that guarantees a healthy, sustainable riparian environment.			✓
Objective:			
2.3.2 Decreased NPS and point source pollution.			✓
Policies:			
2.3.2.a Enforce water pollution related standards and codes.			✓
2.3.2.b Support the use of LID Techniques such as those described in the State of Hawai'i LID Practitioner's Guide (June 2006), as amended.			✓
2.3.2.c Encourage farmers and ranchers to use agricultural BMPs to address NPS pollution.			✓
Objective:			
2.3.3 Preserve existing wetlands and improve and restore degraded wetlands.			✓
Policies:			
2.3.3.a Prohibit the destruction and degradation of existing upland, mid-elevation, and coastal wetlands.			✓
2.3.3.b Support and fund wetland protection and improvement, and restoration of degraded wetlands.			✓
2.3.3.c Where applicable, require developers to provide a wetland protection buffer and/or other protective measures around and between development and wetland resources.			✓
Objective:			
2.3.4 Greater preservation of native flora and fauna biodiversity to protect native species.			✓
Policies:			
2.3.4.a Work with appropriate agencies to eliminate feral ungulate populations and invasive species.			✓
2.3.4.b Encourage the State to provide adequate funding to preserve biodiversity, protect native species, and contain or eliminate invasive species.			✓
2.3.4.c Support the work of conservation groups and organizations that protect, reestablish, manage, and nurture sensitive ecological areas and threatened indigenous ecosystems.			✓
Objective:			
2.3.5 Limited development in critical watershed areas.			✓
Policies:			
2.3.5.a Discourage development and subdivision of land within critical watersheds and in areas susceptible to high erosion and sediment loss.			✓
2.3.5.b Designate critical watershed areas as conservation lands.			✓
2.3.5.c Strongly encourage new subdivisions and developments that are proximate to environmentally sensitive watershed resources to prepare and implement CSD plans.			✓

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
Objective:			
2.3.6 Enhance the vitality and functioning of streams, while balancing the multiple needs of the community.			✓
Policies			
2.3.6.a Protect and enhance natural streambeds and discourage stream alteration.			✓
2.3.6.b Work with appropriate agencies to establish minimum stream flow levels and ensure adequate stream flow to sustain riparian ecosystems, traditional kalo cultivation, and self-sustaining ahupua‘a.			✓
2.3.6.c Respect and participate in the resolution of native Hawaiian residual land and water rights issues (kuleana lands, ceded lands, and historic agricultural and gathering rights).			✓
2.3.6.d Ensure that stream flows implement laws and policies found in the State Constitution and Water Code.			✓
2.3.6.e Work with appropriate agencies and stakeholders to establish minimum stream flow levels, promote actions to support riparian habitat and the use of available lo‘i, and maintain adequate flows for the production of healthy kalo crops.			✓
Analysis: The proposed project is not directly or indirectly applicable to the goal of maintaining healthy watersheds, streams, and riparian environments.			
WILDLIFE AND NATURAL AREAS			
Goal:			
2.4 Maui’s natural areas and indigenous flora and fauna will be protected.		✓	
Objective:			
2.4.1 A comprehensive management strategy that includes further identification, protection, and restoration of indigenous wildlife habitats.		✓	
Policies:			
2.4.1.a Identify and inventory the following:			
(1) Natural, recreational, and open space resources;			✓
(2) Flora and fauna with medium, high, and very high concentrations of threatened or endangered species; and			✓
(3) Location and extent of invasive species.			✓
2.4.1.b Require flora and fauna assessment and protection plans for development in areas with concentrations of indigenous flora and fauna; development shall comply with the assessment and protection plan and shall use the avoidance, minimization, and mitigation approach respectively, with an emphasis on avoidance.		✓	
2.4.1.c Support the implementation of Hawai`i’s Comprehensive Wildlife Conservation Strategy (October 2005).			✓
Objective:			
2.4.2 A decrease in invasive species through programs and partnerships that eradicate undesirable species and protect native habitat.			✓
Policies:			

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
2.4.2.a Prevent the introduction of invasive species at all of Maui's airports and harbors.			✓
2.4.2.b Encourage the State to increase funding in support of invasive species interception, control, and eradication.			✓
2.4.2.c Encourage the State to develop programs that allow students to participate in invasive species eradication projects.			✓
Objective:			
2.4.3 Greater protection of sensitive lands, indigenous habitat, and native flora and fauna.		✓	
Policies:			
2.4.3.a Secure an interconnected network of sensitive lands, greenways, watercourses, and habitats.			✓
2.4.3.b Protect Maui's sensitive lands (see Sensitive Lands on Protected Areas Diagrams).			✓
2.4.3.c Promote innovative environmental-planning methods and site-planning standards that preserve and re-establish indigenous flora and fauna habitat, to preserve and restore connected habitat corridors and open space.			✓
2.4.3.d Utilize protection tools such as conservation easements, land trusts, land banks, Purchase of Developments Rights (PDRs), Transfer of Development Rights (TDRs), and other stewardship tools to acquire natural areas			✓
2.4.3.e Encourage discussions with communities to designate heritage areas that protect recreational and cultural lifestyles and resources.			✓
2.4.3.f Support the expansion of Haleakalā National Park, and the creation of new national parks, where appropriate and supported by local communities.			✓
2.4.3.g Encourage reforestation efforts that increase native species' habitat.			✓
2.4.3.h Utilize the Natural Area Partnership Program (NAPP) and other programs to protect natural lands.			✓
2.4.3.i Support increased dedicated funding for the acquisition, protection, restoration, or preservation of important natural areas or open space through the following: grants from the Land and Water Conservation Fund; dedicated funding from real property taxes or other appropriate revenues; bond issues; real estate transfer tax; revenues from the Transient Accommodations Tax; development mitigation fees; and other appropriate funding sources.			✓
Analysis: The environmental review process for the proposed action included a flora and fauna survey addressing biological resources in the project area. This assessment addresses the objective of identification and protection (as applicable) restoration of wildlife habitats.			
SCENIC RESOURCES			
Goal:			
2.5 Maui will continue to be a beautiful island steeped in coastal, mountain, open space, and historically significant views that are preserved to enrich the residents' quality of life, attract visitors, provide a connection to the past, and promote a sense of place.		✓	
Objective:			
2.5.1 A greater level of protection for scenic resources.		✓	

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
Policies:			
2.5.1.a Protect views to include, but not be limited to, Haleakalā, ʻĪao Valley, the Mauna Kahalawai (West Maui Mountains), Puʻu Ōʻlaʻi, Kahoʻolawe, Molokini, Molokaʻi, and Lānaʻi, Mauna Kea, Mauna Loa, sea stacks, the Pacific Ocean, and significant water features, ridgelines, and landforms.		✓	
2.5.1.b Identify, preserve, and provide ongoing management of important scenic vistas and open space resources, including mauka-to-makai and makai-to-mauka view planes.			✓
2.5.1.c Protect "night sky" resources by encouraging the implementation of ambient light ordinances and encouraging conversion of all sources that create excessive light pollution, affecting our ability to view the stars.			✓
2.5.1.d Protect ridgelines from development where practicable to facilitate the protection of public views.			✓
2.5.1.e Protect scenic resources along Maui's scenic roadway corridors.		✓	✓
Objective:			
2.5.2. Reduce impacts of development projects and public-utility improvements on scenic resources.		✓	
Policies:			
2.5.2.a Enforce the policies and guidelines of the SMA regarding the protection of views.			✓
2.5.2.b Require any new subdivision of land, development, or redevelopment adjacent to a "high" or "exceptional" scenic corridor to submit an impact assessment of the project's scenic impacts; this assessment shall use the avoidance, minimization, and mitigation steps respectively, with an emphasis on avoidance.			✓
2.5.2.c Require appropriate building setbacks and limits on wall heights to protect views along scenic corridors.		✓	
2.5.2.d Encourage the State of Hawai`i Board of Land and Natural Resources to deny any development within the State Conservation District that interferes with a scenic landscape or disrupts important open space resources.			✓
2.5.2.e Require Urban Design and Review Board (UDRB) review and approval of utility poles, facilities, and other visible infrastructure improvements along scenic corridors.			✓
2.5.2.f Ensure little or no effect on scenic resources from utility improvements, primarily power poles.			✓
2.5.2.g Protect scenic vistas from intrusion by power poles.			✓
Objective:			
2.5.3 Greater protection of and access to scenic vistas, access points, and scenic lookout points.		✓	
Policy:			
2.5.3.a Protect, enhance, and acquire access to Maui's scenic vistas and resources.		✓	

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
Analysis: The objectives and policies relating to protecting and maintaining scenic resources are indirectly applicable to the proposed project. The proposed project will be implemented along Pu'unēnē Avenue, which provides views of Haleakalā and Mauna Kahalawai (the West Maui Mountains). The project has been carefully designed taking into consideration building profiles and massing so as to not adversely impact scenic views and vistas.			
CHAPTER 3 – NATURAL HAZARDS			
Goal:			
3.1 Maui will be disaster resilient.			✓
Objective:			
3.1.1 Increased inter-agency coordination.			✓
Policy:			
3.1.1.a Reinforce the island's preparedness capacity by:			✓
(1) Applying the latest data-gathering techniques/technology;			✓
(2) Pursuing funding opportunities;			✓
(3) Improving monitoring and advance warning systems;			✓
(4) Fostering public awareness; and			✓
(5) Working with external agencies to coordinate disaster mitigation and response.			✓
Objective:			
3.1.2 Greater protection of life and property.			✓
Policies:			
3.1.2.a Identify critical infrastructure, lifelines, roads, and populations that are vulnerable to coastal hazards, and encourage strategic retreat and relocation to safer areas.			✓
3.1.2.b Consider the location of dams, reservoirs, holding ponds, and other water-containing entities that are upstream of inhabited areas to anticipate, avoid, and mitigate inundation risks, and discourage new development in areas where possible inundation hazards may exist.			✓
3.1.2.c Strengthen current development standards to minimize destruction of land and property.			✓
3.1.2.d Encourage the use of construction techniques that reduce the potential for damage from natural hazards.			✓
3.1.2.e Increase the County's resilience to drought.			✓
3.1.2.f Increase food and energy security through local production and storage.			✓
Objective:			
3.1.3 A more coordinated emergency response system that includes clearly defined and mapped evacuation routes.			✓
Policy:			

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
3.1.3.a Identify and expand shelter facilities and evacuation routes away from areas susceptible to natural hazards.			✓
Objective:			
3.1.4 A more educated and involved public that is aware of and prepared for natural hazards.			✓
Policies:			
3.1.4.a Promote public education and involvement related to natural hazards awareness and preparedness.			✓
3.1.4.b Coordinate a multi-agency effort to establish and promote a comprehensive public education program that will focus on practical approaches to preparedness, damage prevention, and hazard mitigation.			✓
Analysis: The objectives and policies related to making Maui disaster-resilient are not directly or indirectly applicable to the proposed project. The proposed action is limited to the development of a new multifamily affordable housing project for Maui County families.			
CHAPTER 4 – ECONOMIC DEVELOPMENT			
ECONOMIC DIVERSIFICATION			
Goal:			
4.1 Maui will have a balanced economy composed of a variety of industries that offer employment opportunities and well-paying jobs and a business environment that is sensitive to resident needs and the island's unique natural and cultural resources.	✓		
Objective:			
4.1.1 A more diversified economy.		✓	
Policies:			
4.1.1.a Encourage an economy that is driven by innovation, research and development, and human resource development, including but not limited to, increasing technology- and knowledge-based sectors to be a major component in Maui County's economic base.			✓
4.1.1.b Support the creation of new jobs and industries that provide a living wage.		✓	
4.1.1.c Facilitate and expedite permits and approvals.			✓
4.1.1.d Develop linkages and partnerships among international research and development activities and Maui businesses.			✓
Objective:			
4.1.2 Increase activities that support principles of sustainability.			✓
Policies:			
4.1.2.a Support industries that are sustainable, and culturally and environmentally sensitive.			✓
4.1.2.b Encourage and support local businesses.		✓	
4.1.2.c Substitute imports with locally-produced services and products where practicable.			✓

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
4.1.2.d Support the development of economic development clusters in targeted industry sectors.			✓
4.1.2.e Encourage all businesses to save energy, water, and other resources.			✓
Objective:			
4.1.3 Improve the island's business climate.		✓	
Policies:			
4.1.3.a Upgrade, maintain the quality of, and improve access to telecommunications infrastructure.			✓
4.1.3.b Ensure an adequate supply of affordable workforce housing.	✓		
4.1.3.c Develop neighborhoods and communities that are attractive to the workforce of a diversified economy.	✓		
4.1.3.d Encourage, nurture, and reward entrepreneurship and innovation.			✓
4.1.3.e Encourage employers to establish incentive programs. Support flexibility in workforce policies compatible with business and quality of life goals.			✓
4.1.3.f Assist community development organizations with revitalization and development of neighborhoods and communities that are attractive to the workforce of a diversified economy.			✓
Analysis: The proposed project will generate short term construction-related employment opportunities, as well as supporting the construction industry as a whole, including local businesses that rely on said industry. Further, the proposed action will indirectly affect the local economy, as it is anticipated that residents of the project will support small businesses nearby. The proposed project also provides affordable housing options for Maui County families.			
TOURISM			
Goal:			
4.2 A healthy visitor industry that provides economic well-being with stable and diverse employment opportunities.			✓
Objective:			
4.2.1 Increase the economic contribution of the visitor industry to the island's environmental well-being for the island's residents' quality of life.			✓
Policies:			
4.2.1.a Engage the visitor industry in the growth of emerging sectors where practicable.			✓
4.2.1.b Support the implementation of the Maui County TSP, when consistent with the MIP.			✓
4.2.1.c Focus economic growth in the visitor industry through enhanced visitor experiences and an emphasis on attracting higher-spending.			✓
4.2.1.d Provide a rich visitor experience, while protecting the island's natural beauty, culture, lifestyles, and aloha spirit.			✓
4.2.1.e Diversify the tourism industry by supporting appropriate niche activities such as ecotourism, cultural tourism, voluntourism, ag-tourism, health and wellness			✓

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
tourism, educational tourism, medical tourism, and other viable tourism-related businesses in appropriate locations.			
4.2.1.f Recognize the important economic contributions that the visitor industry makes and support a healthy and vibrant visitor industry.			✓
4.2.1.g Support the increased availability of kamaʻāina discount programs.			✓
Objective:			
4.2.2 Comprehensively manage future visitor-unit expansion.			✓
Policies:			
4.2.2.a Mitigate the impact of tourism on the host culture, natural environment, and resident lifestyles.			✓
4.2.2.b Allow, where permitted by the community plan, the development of business hotels and small, sensitively-designed inns.			✓
4.2.2.c Manage impacts from transient vacation rentals, hotels, bed and breakfast units, timeshares, and resort condominiums on residential communities, public infrastructure, and community facilities.			✓
4.2.2.d Discourage supplanting of existing island housing to visitor accommodations that may have a negative impact on long-term rental housing, price of housing, and price of land.			✓
4.2.2.e Allow the designation of retreat/mini-conference centers in appropriate locations through the community plan process.			✓
4.2.2.f Community plans should consider establishing standards such as limits on building size, room count, and the number of inns, if any, that will be allowed in small towns.			✓
Objective:			
4.2.3 Maximize residents' benefits from the visitor industry.			✓
Policies:			
4.2.3.a Promote a desirable island population by striving to not exceed an island-wide visitor population of roughly 33 percent of the resident population.			✓
4.2.3.b Use the required General Plan Annual Status Report to monitor trends related to residents and visitors.			✓
Analysis: The proposed project does not have direct or indirect relationships to the goal for tourism and its accompanying objectives for increasing the visitor industry's contributions to our island's quality of life, managing future visitor unit expansion, and maximizing residents' benefits from the visitor industry.			
AGRICULTURE			
Goal:			
4.3 Maui will have a diversified agricultural industry contributing to greater economic, food, and energy security and prosperity.			✓
Objective:			
4.3.1 Strive for at least 85 percent of locally-consumed fruits and vegetables and 30 percent of all other locally-consumed foods to be grown in-State.			✓
Policies:			

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4.3.1.a Strive to substitute food/agricultural product imports with a reliable supply of locally produced food and agricultural products.			✓
4.3.1.b Facilitate and support the direct marketing/sale of the island's agricultural products to local consumers, through farmers markets and similar venues.			✓
4.3.1.c Encourage growing a diverse variety of crops and livestock to ensure the stewardship of our land while safeguarding consumer safety.			✓
4.3.1.d Work with the State to regulate and monitor genetically-modified-organism (GMO) crops to ensure the safety of all crops and label all GMO products.			✓
Objective:			
4.3.2 Maintain or increase agriculture's share of the total island economy.			✓
Policies:			
4.3.2.a Encourage the export of the island's agricultural products to offshore markets.			✓
4.3.2.b Support infrastructure investments at harbors, such as ferry service, airports, and other facilities for the rapid and cost-effective export of island-grown products.			✓
4.3.2.c Encourage the continued viability of sugar cane production, or other agricultural crops, in central Maui and all of Maui Island.			✓
4.3.2.d Work with the State to reduce excise taxes for commercial agricultural products produced within the State.			✓
4.3.2.e Coordinate with appropriate State and Federal Departments and agencies, private shipping companies, and farmers associations to assist in the rapid and cost-effective export of Maui's agricultural products to off-island markets.			✓
Objective:			
4.3.3 Expand diversified agriculture production at an average annual rate of 4 percent.			✓
Policies:			
4.3.3.a Promote the development of locally-grown and ecologically-sound biofuels, aquaculture, and forest products.			✓
4.3.3.b Support the development of farming associations/cooperatives.			✓
4.3.3.c Work with educational institutions and appropriate agencies to provide education and training for farm owners and entrepreneurs.			✓
Analysis: The proposed project does not have direct or indirect relationships to the goal for agriculture and its related objectives for consumption for locally produced fruits and vegetables, maintaining or increasing agriculture's share in the local economy, and expanding diversified agricultural production. The proposed project is located on urban infill land. Further, the proposed action is a prudent use of land that has been vacant for many years to benefit Maui County families.			
EMERGING SECTORS			
Goal:			
4.4 A diverse array of emerging economic sectors.			✓
Objective:			

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4.4.1 Support increased investment and expanded activity in emerging industries.			✓
Policies:			
4.4.1.a Support the development of and access to state-of-the-art voice, video, and data telecommunications systems and high-speed Internet.			✓
4.4.1.b Attract and assist industries to compete in high technology activities such as those related to renewable energy, green technologies, diversified agriculture, ocean sciences, health sciences, space technologies, and other knowledge-based industries.			✓
4.4.1.c Support new industries that are environmentally and culturally sensitive such as health and wellness, sports and outdoor activities, cultural activities, the arts, film-making, entertainment, and digital media.			✓
4.4.1.d Support a sustainable, culturally sensitive, astronomy industry.			✓
4.4.1.e Support the continued development of the Maui Research and Technology Park in Kihei, as a center for research and development, education, and diversified economic development, as provided by the Maui County Code.			✓
4.4.1.f Work with appropriate organizations to support the development of high technology clusters around renewable energy, diversified agriculture, ocean sciences, health sciences, and other knowledge-based industries.			✓
Objective:			
4.4.2 Increase the development of renewable energy technologies that are supported by the local community.			✓
Policies:			
4.4.2.a Support the expansion of the renewable energy sector and the use of solar, wind, wave, and biofuel technologies.			✓
4.4.2.b Provide incentives to encourage renewable energy development, the use of green energy technologies, and energy conservation.			✓
4.4.2.c Ensure an adequate supply of land and facilitate permitting to meet the needs for renewable energy technologies such as solar, wind, wave, biofuel, and other technologies, provided that environmental, view plane, and cultural impacts are addressed.			✓
4.4.2.d Support the Maui County Energy Alliance Plan where consistent with the MIP.			✓
Analysis: The proposed project does not have direct or indirect relationships to the goal for emerging sectors. The accompanying objectives for increased investment in and expansion of emerging industries, and increased development of renewable energy technologies are not affected by the proposed action.			
SMALL BUSINESS DEVELOPMENT			
Goal:			
4.5 Small businesses will play a key role in Maui's economy.		✓	
Objective:			
4.5.1 Increase the number of and revenue generated by small businesses and decrease the percentage of small business failures.		✓	
Policies:			

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4.5.1.a Provide incentives and support for small businesses and entrepreneurs that incorporate sustainable technologies and practices into their operations, utilize local materials, or produce and sell locally-made goods or services.			✓
4.5.1.b Assist traditional “mom and pop” business establishments.		✓	
4.5.1.c Reduce barriers to small business development.			✓
4.5.1.d Require, where feasible, the government procurement of goods and services from locally-owned, small businesses.			✓
4.5.1.e Support community markets and venues that sell locally-made produce, goods, and services.		✓	
Analysis: The proposed project consists of the development of a new multifamily affordable housing complex in urban Kahului. Though the goal of making small businesses play a key role in Maui's economy is not directly applicable to the proposed project, it is anticipated that residents of the project will support small, locally-owned businesses that are in the vicinity. As such, the objective and policies related to small-business development are indirectly applicable to the proposed action.			
HEALTH CARE SECTOR			
Goal:			
4.6 Maui will have a health care industry and options that broaden career opportunities that are reliable, efficient, and provide social well-being.			✓
Objective:			
4.6.1 Expand the economic benefits of the health care sector.			✓
Policies:			
4.6.1.a Encourage expanded services at MMMC and at other medical facilities.			✓
4.6.1.b Support expansion of federally qualified health centers with the direct involvement of the residents of the communities served.			✓
4.6.1.c Support the use of multimedia as a means to provide healthcare information.			✓
4.6.1.d Encourage digitalization of all diagnostic equipment at all facilities on Maui to enable sharing of data and more efficient use of limited provider workforce, consistent with data protection and patient privacy.			✓
4.6.1.e Support the expansion of telemedicine.			✓
4.6.1.f Encourage expansion and improved access to emergency care in all communities.			✓
Objective:			
4.6.2 Be more efficient in the delivery of health care services and in minimizing health care costs.			✓
Policies:			
4.6.2.a Support expansion of health care providers and facilities to improve access to quality care throughout the island.			✓
4.6.2.b Encourage the expansion of veteran health care services.			✓

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4.6.2.c Allow home-based out-patient medical care that does not interfere with surrounding neighborhoods.			✓
Objective:			
4.6.3. Expand Maui's alternative health care services, including spiritual practices.			✓
Policies:			
4.6.3.a Support efforts to promote alternative medicine.			✓
4.6.3.b Allow small-scale home-alternative medicine businesses such as massage, chiropractic care, traditional Hawaiian healing, and acupuncture that do not interfere with surrounding neighborhoods.			✓
Analysis: The proposed project does not have direct or indirect relationships to the goal for the health care and its related objectives for expanding the economic benefits of the health care sector, increasing efficiency of the health care delivery system, minimizing the costs of health care, and expanding Maui's alternative health care system.			
EDUCATION AND WORKFORCE DEVELOPMENT			
Goal:			
4.7 Maui will have effective education and workforce development programs and initiatives that are aligned with economic development goals.			✓
Objective:			
4.7.1 Improve preschool and K-12 education to allow our youth to develop the skills needed to successfully navigate the 21st century.			✓
Objective:			
4.7.1.a Encourage the State to implement programs such as:			
(1) Universally available preschool for children between the ages of one and five;			✓
(2) Mandatory kindergarten;			✓
(3) Mandatory K-5th grade classroom size limits of 1 teacher to 20 students;			✓
(4) Mandatory nutrition programs; and			✓
(5) Mandatory Native Hawaiian programs at all grade levels.			✓
4.7.1.b Encourage the DOE to extend the school day by at least an hour.			✓
4.7.1.c Encourage the State to increase funding for public education so that Hawai'i is among the top 10 states nationally as measured by investment per pupil.			✓
4.7.1.d Encourage the State to ensure teacher certifications relate to effective delivery and improved student performances, and develop an industry experience/equivalency certification to assure our DOE students have access to career technical education and training.			✓
4.7.1.e Encourage the UHMC to provide dormitory space for high school students.			✓
4.7.1.f Encourage the development and implementation of curriculum on native Hawaiian history, culture, and practices, in consultation with native Hawaiian groups and associations.			✓

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Objective:			
4.7.2 Encourage an increase in the number of certificate recipients and associate, bachelors, and graduate degrees conferred.			✓
Policies:			
4.7.2.a Encourage the State to increase the number of articulation agreements between the UHMC and four-year universities, particularly the University of Hawai'i at Manoa.			✓
4.7.2.b Encourage the State to expand accredited 2-year, 4-year, and graduate programs through the UHMC.			✓
4.7.2.c Encourage the education and training of our residents to meet the needs of a diversified economy.			✓
4.7.2.d Support education and training programs such as student internships, vocational training, and career development opportunities to ensure a highly skilled workforce			✓
4.7.2.e Work with educational institutions to improve and expand access to education and training through multiple modes, including distance learning.			✓
Objective:			
4.7.3 Strive to ensure that more of Maui's jobs are developed in STEM-related sectors by 2030.			✓
Policies:			
4.7.3.a Support the development of STEM-related certificates and degrees at the two- and four year levels.			✓
4.7.3.b Support the education initiatives of the Maui Agricultural Development Plan.			✓
4.7.3.c Expand and seek funding for internships, mentoring, job shadowing, etc. to foster interest in health and green workforce careers.			✓
4.7.3.d Work with MEDB, UHMC, and other similar organizations to expand internship/education programs to support STEM careers.			✓
4.7.3.e Continue to partner with the MEDB and other similar organizations to recruit, assist, and retain emerging industries, research and development activities, and educational/workforce opportunities.			✓
Analysis: The goal for education and workforce development is not directly or indirectly applicable to the proposed action. As well, the related objectives of improving preschool and K-12 education, increasing higher education certificates and degrees, and developing more jobs in the STEM-related sectors are not affected by the proposed project.			
CHAPTER 5 – HOUSING			
Goal:			
5.1 Maui will have safe, decent, appropriate, and affordable housing for all residents developed in a way that contributes to strong neighborhoods and a thriving island community.	✓		
Objective:			
5.1.1 More livable communities that provide for a mix of housing types, land uses, income levels, and age.	✓		
Policies:			

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5.1.1.a Promote livable communities (compact/walkable/bikeable, access to transit) that provide for a mix of housing types and land uses, including parks, open space, and recreational areas.	✓		
5.1.1.b Promote planning approaches that provide a mix of multifamily and single-family housing units to expand housing choices.			✓
5.1.1.c Discourage gated communities.		✓	
5.1.1.d Provide incentives for the rehabilitation or adaptive reuse of historic structures to facilitate more housing choices.			✓
5.1.1.e Use planning and regulatory approaches to provide higher housing densities.	✓		
Objective:			
5.1.2 Better monitoring, evaluation, and refinement of affordable housing policy in conjunction with the economic cycle.	✓		
Policies:			
5.1.2.a Improve data on resident and nonresident housing.			✓
5.1.2.b Utilize the following approaches to promote resident housing and to minimize offshore market impacts:			
(1) Ensure that the future housing stock is composed of a mix of housing types (multifamily, small lots, ohana units, co-housing, cottage houses, etc.);			✓
(2) Encourage new housing in proximity to jobs and services, in places that are conducive/affordable to island residents; and	✓		
(3) Explore taxation alternatives and building fee structures.			✓
Objective:			
5.1.3 Provide affordable housing, rental or in fee, to the broad spectrum of our island community.	✓		
Policies:			
5.1.3.a Consider regulations that can help keep affordable housing available at affordable rents.			✓
5.1.3.b Seek to have ownership of affordable for-sale and rental housing vested in a non-profit community land trust, or other qualified housing provider, committed to keeping such housing affordable in perpetuity.	✓		
5.1.3.c Facilitate the use of public lands in urban areas that are suitable for affordable housing.			✓
5.1.3.d Develop or support partnerships and initiatives that provide housing-related education/outreach.			✓
5.1.3.e Support the continuing efforts of the County and its community partners to:			
(1) Disseminate information on different housing/financial assistance programs (loans, grants, etc.) including information on housing rehabilitation/restoration/adaptive reuse;			✓
(2) Provide housing-related counseling including budget, credit, and financial planning assistance; and			✓

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(3) Create and maintain a comprehensive/master list of available affordable housing to help residents secure a unit that satisfies their need.			✓
Objective:			
5.1.4 Provide infrastructure in a more timely manner to support the development of affordable housing.			✓
Policies:			
5.1.4.a Prioritize the development of infrastructure that supports the development of affordable housing.			✓
5.1.4.b Utilize appropriate financing approaches and assistance tools to encourage the development of infrastructure and public facilities.			✓
5.1.4.c Tailor infrastructure requirements to correspond with appropriate level-of-service standards to help control housing costs and to maintain safety.			✓
Objective:			
5.1.5 A wider range of affordable housing options and programs for those with special needs.			✓
Policies:			
5.1.5.a Ensure that residents with special needs have access to appropriate housing.			✓
5.1.5.b Encourage housing to be built or rehabilitated to allow the elderly and those with special needs to live in their homes.			✓
5.1.5.c Ensure and facilitate programs to assist those with special needs from becoming homeless.			✓
5.1.5.d Promote programs that stimulate the production of sustainable homeless shelters and alternative housing technologies.			✓
5.1.5.e Support programs that offer home modification counseling on low-interest retrofit loans and grants to those with special needs.			✓
Objective:			
5.1.6 Reduce the cost to developers of providing housing that is affordable to families with household incomes 160 percent and below of annual median income.	✓		
Policies:			
5.1.6.a Support fast-track processing procedures for the following housing-related entitlements: affordable housing projects/units; indigenous Hawaiian housing/units; and special-needs housing units (seniors, disabled, homeless, etc.).	✓		
5.1.6.b Require the construction of affordable for-sale and rental housing units as part of the construction of new housing developments.			✓
5.1.6.c Offer extra incentives in boom periods and withdraw incentives during slack periods.			✓
Objective:			
5.1.7 Increased preservation and promotion of indigenous Hawaiian housing and architecture.		✓	
Policies:			

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5.1.7.a Preserve, promote, and give priority to Hawaiian housing/architecture forms to preserve Hawaiian culture.			✓
5.1.7.b Provide for indigenous architecture as an allowable structure for native Hawaiian uses to include hula and lāʻau lapaʻau.			✓
Analysis: The proposed project provides affordable housing opportunities for Maui County families in Kahului and Wailuku. The proposed development will be located near other urban areas, making prudent use of existing infrastructure and resources.			
CHAPTER 6 – INFRASTRUCTURE AND PUBLIC FACILITES			
SOLID WASTE			
Goal:			
6.1 Maui will have implemented the ISWMP thereby diverting waste from its landfills, extending their capacities.		✓	
Objective:			
6.1.1 Meet our future solid waste needs with a more comprehensive planning and management strategy.		✓	
Policies:			
6.1.1.a Update and publicize the ISWMP every ten years.			✓
6.1.1.b Strengthen inter-agency coordination including Planning and Environmental Management departments.			✓
6.1.1.c Divert waste from the landfills and educate the public about the recommendations of the ISWMP.		✓	
6.1.1.d Minimize future active, unlined landfill cells to the extent feasible.			✓
Objective:			
6.1.2 Divert at least 60 percent of solid waste from the island's landfills.			✓
Policies:			
6.1.2.a Require residents and commercial enterprises that generate waste to pay a fair proportion of disposal costs.			✓
6.1.2.b Encourage environmentally safe waste-to-energy solutions.			✓
6.1.2.c Facilitate the reduction of solid waste generated by packaging, food service products, construction waste, etc.			✓
6.1.2.d Educate residents and visitors about the impacts of and methods to reduce, reuse, and recycle.			✓
6.1.2.e Discourage the disposal of landfill leachate by diversion to wastewater treatment plants, where practicable.			✓
Analysis: Solid waste generated by the project during construction will be recycled to the extent practicable and disposed at appropriately permitted construction waste disposal sites.			
WASTEWATER			
Goal:			
6.2 Maui will have wastewater systems that comply with or exceed State and Federal regulations; meet levels-of-service needs; provide adequate capacity to		✓	

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accommodate projected demand; ensure efficient, effective, and environmentally sensitive operation; and maximize wastewater reuse where feasible.			
Objective:			
6.2.1 A wastewater planning program capable of efficiently providing timely and adequate capacity to service projected demand where economically feasible and practicable.		✓	
Policies:			
6.2.1.a Encourage the use of renewable energy in support of wastewater treatment facilities.			✓
6.2.1.b Focus the expansion of wastewater systems to accommodate planned growth consistent with the MIP Directed Growth Strategy.		✓	
6.2.1.c Establish new wastewater treatment plant(s) outside the tsunami zone.			✓
Objective:			
6.2.2 Adequate levels of wastewater service with minimal environmental impacts.			✓
Policies:			
6.2.2.a Meet or exceed all State and Federal standards regulating wastewater disposal or reuse.			✓
6.2.2.b Encourage tertiary treatment for all municipal wastewater that is disposed through deep injection wells. Phase out all municipal and private injection wells in coordination with water reuse programs, where feasible, by 2020.			✓
6.2.2.c Improve and upgrade the County's existing wastewater collection, treatment, and reuse facilities consistent with current and future plans and the County's CIP.			✓
6.2.2.d Maintain an ongoing sewer inspection program for public and private multi-user systems to identify potential problems and forecast each system's residual life.			✓
6.2.2.e Require all new developments to fund system improvements in proportion to the development impact and in accordance with the County's wastewater functional plan.			✓
6.2.2.f Require appropriate funding mechanisms, such as a sinking fund, to adequately maintain or replace aging water-system components.			✓
6.2.2.g Strongly encourage the phase out of cesspools.			✓
Objective:			
6.2.3 Increase the reuse of wastewater.			✓
Policies:			
6.2.3.a Strengthen coordination between the Department of Water Supply (DWS) and the WWRD to promote reuse/recycling of wastewater.			✓
6.2.3.b Expand the reuse of wastewater from the Central Maui, Kīhei, Lahaina, and other wastewater systems.			✓
Analysis: The proposed project will connect to the County wastewater system. Coordination will be undertaken with the DEM regarding connection to the County system.			

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WATER			
Goal:			
6.3 Maui will have an environmentally sustainable, reliable, safe, and efficient water system.		✓	
Objective:			
6.3.1 More comprehensive approach to water resources planning to effectively protect, recharge, and manage water resources including watersheds, groundwater, streams, and aquifers.			✓
Policies:			
6.3.1.a Ensure that DWS actions reflect its public trust responsibilities toward water.			✓
6.3.1.b Ensure the WUDP implements the State Water Code and MIP's goals, objectives, and policies.			✓
6.3.1.c Regularly update the WUDP, to maintain compliance with the General Plan.			✓
6.3.1.d Ensure that the County's CIP for water-source development is consistent with the WUDP and the MIP.			✓
6.3.1.e Where desirable, retain and expand public ownership and management of watersheds and fresh-water systems.			✓
6.3.1.f Encourage and improve data exchange and coordination among Federal, State, County, and private land use planning and water resource management agencies.			✓
Objective:			
6.3.2 Increase the efficiency and capacity of the water systems in striving to meet the needs and balance the island's water needs.		✓	
Policies:			
6.3.2.a Ensure the efficiency of all water system elements including well and stream intakes, water catchment, transmission lines, reservoirs, and all other system infrastructure.			✓
6.3.2.b Encourage increased education about and use of private catchment systems where practicable for nonpotable uses.			✓
6.3.2.c Maximize the efficient use of reclaimed wastewater to serve nonpotable needs.			✓
6.3.2.d Work with appropriate State and County agencies to achieve a balance in resolving the needs of water users in keeping with the water allocation priorities of the MIP.		✓	
6.3.2.e Ensure water conservation through education, incentives, and regulations.			✓
6.3.2.f Acquire and develop additional sources of potable water.			✓
Objective:			
6.3 Improve water quality and the monitoring of public and private water systems.			✓
Policy:			
6.3.3.a Protect and maintain water delivery systems.			✓

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Analysis: The goal related to water systems is indirectly applicable to the project. The project is located in an area that is serviced by existing County water infrastructure. Coordination will be undertaken with the DWS regarding connection to the County's water system.			
TRANSPORTATION			
Goal:			
6.4 An interconnected, efficient, and well-maintained, multimodal transportation system.		✓	
Objective:			
6.4.1 Provide for a more integrated island-wide transportation and land use planning program that reduces congestion and promotes more efficient (transit-friendly) land use patterns.		✓	
Policies:			
6.4.1.a Plan for an integrated multi-modal transportation system comprised of public transit, bicycle, pedestrian, automobile, and other transportation modes.		✓	
6.4.1.b Refocus transportation investment from the construction of additional roadways only for the automobile to the expansion of a multimodal transportation system.			✓
6.4.1.c Encourage the use of "complete streets" design methods.		✓	
6.4.1.d Encourage employers to implement TDM strategies.			✓
Objective:			
6.4.2 Safe, interconnected transit, roadway, bicycle, equestrian, and pedestrian network.		✓	
Policies:			
6.4.2.a Ensure transit-, roadway-, and pedestrian-facilities design and level-of-service standards respect the unique character of our communities.		✓	
6.4.2.b Prioritize transportation improvements list to cost-effectively meet existing and future needs consistent with the MIP.			✓
6.4.2.c Require new development, where appropriate, to integrate sidewalks, pathways, bikeways, and transit infrastructure into new commercial and residential projects while enhancing community character.		✓	
6.4.2.d Identify and improve hazardous and substandard sections of roadways, drainage infrastructure, and bridges, provided that the historical integrity of the roads and bridges are protected.			✓
6.4.2.e Consider identification, acquisition where appropriate, and utilization of abandoned right of-ways for bikeways, pedestrian pathways, and open-space networks.			✓
6.4.2.f Support the implementation of the *Central Maui Pedestrian & Bicycle Master Plan* (March 2012), when consistent with the MIP.			✓
Objective:			
6.4.3 An island-wide, multimodal transportation system that respects and enhances the natural environment, scenic views, and each community's character.		✓	
Policies:			

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
6.4.3.a Ensure that the roadway and transit alignments respect the natural environment and scenic views.		✓	
6.4.3.b Ensure that roadways and transit systems in rural areas and small towns enhance community character.			✓
6.4.3.c Design all transit systems to respect visual corridors and Maui's character.			✓
Analysis: The Project site is located in close proximity to bus stops at the Kahului Shopping Center and the proposed Central Maui Bus Hub. Pedestrian connectivity will be provided by sidewalks fronting the project site. There is a bicycle lane on Kamehameha Avenue in the vicinity of the project site. Given its location, the project indirectly supports the objectives of providing a safe, interconnected roadway, bicycle, and pedestrian network, as well as a multimodal transportation system that respects and enhances the natural environment, scenic views, and the surrounding community's character.			
TRANSIT			
Goal:			
6.5 An island-wide transit system that addresses the needs of residents and visitors and contributes to healthy and livable communities.		✓	
Objective:			
6.5.1 An integrated transit system that better serves all mobility needs of Maui's residents and visitors.		✓	
Policies:			
6.5.1.a Maximize access to public transit in town centers, commercial districts, and employment centers.		✓	
6.5.1.b Expand regional and inter-regional transit services, where appropriate, in heavily traveled corridors and within communities			✓
6.5.1.c Increase the frequency of current service, add additional bus routes as demand requires, and transition to nonpolluting transit vehicles, as funding permits.			✓
6.5.1.d Provide adequate transit infrastructure (e.g., bus pullouts, waiting benches and shelters, signs) along existing and future transit right-of-ways.			✓
6.5.1.e Require new development where appropriate, to provide right-of-ways (ROWs) to accommodate transit circulation and support facilities.		✓	
6.5.1.f Identify, protect, and preserve, or acquire corridors for future inter-community transit use, including but not limited to, rail and also multimodal use corridors.			✓
6.5.1.g Establish transit corridors by planning for and securing right-of-way when appropriate for alternative modes of transportation (such as rail and water ferry service).			✓
6.5.1.h Pursue improvements and upgrades to the existing transit system consistent with updated MDOT planning studies/transit plans (within the framework of comprehensive island-wide multimodal transportation plans).			✓
6.5.1.i Increase inter-agency coordination between the Department of Planning, State Department of Transportation, County Department of Public Works, and other applicable agencies.			✓
Objective:			
6.5.2 Plan for a more diversified and stable funding base to support transportation goals.			✓

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Policies:			
6.5.2.a Support alternative methods and sources of funding transportation improvements (including impact fees, higher taxes, fare adjustments, dedicated sources of funding, and assessments).			✓
6.5.2.b Collaborate with public-private entities or nonprofit organizations to reduce public transit operational expenses.			✓
6.5.2.c Coordinate with appropriate Federal, State, and County agencies to fund transportation projects in areas where growth is anticipated.			✓
Analysis: The proposed project will indirectly affect the goals and objectives for transit, specifically those relating to the advancement of an integrated island-wide transit system. The project is located in close proximity to the new Maui Transit Hub Station and existing bus stops on Kamehameha Avenue.			
PARKS			
Goal:			
6.6 Maui will have a diverse range of active and passive recreational parks, wilderness areas, and other natural-resource areas linked, where feasible, by a network of greenways, bikeways, pathways, and roads that are accessible to all.		✓	
Objective:			
6.6.1 More effective, long-range planning of parks and recreation programs able to meet community needs.			✓
Policies:			
6.6.1.a Support, consistent with the MIP, the implementation of open-space and recreational plans, such as the *Pali to Puamana Parkway* Master Plan and the *Upcountry Greenways Master Plan*.			✓
6.6.1.b Utilize the ahupuaʻa approach by integrating mauka-to-makai natural landscapes into an island-wide parks and recreation functional plan.			✓
6.6.1.c Provide a balanced mix of passive and active parks, including neighborhood, community, and regional parks, in each community plan area.		✓	
6.6.1.d Support the expansion of Haleakala National Park, where supported by affected communities.			✓
6.6.1.e Support loʻi and dryland taro restoration in County, State, and Federal parks.			✓
6.6.1.f Encourage private landowners to dedicate land to Federal, State, or County governments, or nonprofit land trusts, for parks and open-space protection consistent with the MIP.			✓
6.6.1.g Strengthen inter-agency coordination including State and County departments, such as resolving joint use of facilities and properties.			✓
6.6.1.h Work with the State to prepare and implement a master management plan for ʻĀhihi-Kīnaʻu and La Perouse-Keoneʻōʻio Bay to Kanaloa Point region.			✓
Objective:			
6.6.2 Achieve parks and recreation opportunities to meet the diverse needs of our community.		✓	
Policies:			

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
6.6.2.a Establish appropriate level-of-service standards at the neighborhood, community, and regional levels.			✓
6.6.2.b Identify and acquire parks and recreational facilities that address existing park inadequacies and complement and enhance neighborhoods, communities, and natural land features.			✓
6.6.2.c Design park facilities to preserve and enhance natural site characteristics, maximize views, protect environmental and cultural sites, and minimize water demands.		✓	
6.6.2.d Acquire lands along the shoreline, between coastal roadways and the ocean.			✓
6.6.2.e Encourage the development of regional parks, district parks, and greenways in a manner that helps to contain sprawl, provide separation between distinct communities, or offer open space within urban communities.		✓	
6.6.2.f Require large master-planned communities that incorporate a mixture of park facilities pursuant to parks standards and functional plans.		✓	
6.6.2.g Support appropriate areas for cultural parks (e.g., Kepaniwai) in each community plan area.			✓
6.6.2.h Incorporate community input to determine the appropriate location, design, and long-term stewardship of parks and recreation facilities.			✓
6.6.2.i Manage commercial activities at public parks to minimize impacts to residents.			✓
6.6.2.j Support public-private partnerships to implement the acquisition and development of parks when consistent with the General Plan.		✓	
6.6.2.k Support a coordinated program to improve, operate, and maintain joint-use facilities and grounds.			✓
Objective:			
6.6.3 An expanded network of greenways, trails, pathways, and bikeways.		✓	
Policies:			
6.6.3.a Link existing and future park sites, natural areas, the shoreline, and residential areas with a network of bikeways, pedestrian paths, trails, and greenways.		✓	
6.6.3.b Support the implementation of plans and programs that facilitate pedestrian mobility and access to active and passive recreation areas and sites.		✓	
6.6.3.c Collaborate with the State and private land owners to ensure perpetual access and proper stewardship of traditional trails and access systems.			✓
6.6.3.d Facilitate the development of well-managed noncommercial campgrounds throughout the island.			✓
6.6.3.e Consider requiring commercial bike rental businesses to provide funding that supports a mauka-to-makai Haleakalā bikeway improvement program.			✓
6.6.3.f Ensure ADA compliance and seek opportunities to make all parks and recreational facilities accessible to people with disabilities.			✓
Analysis: Though the proposed project mainly consists of the development of a new multifamily affordable housing complex, the proposed action also consists of the inclusion of a park for residents. The project site is located next to the Coach Spencer Shiraishi Memorial Pool, a County owned and maintained park facility. With the inclusion of sidewalks to connect			

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the development to existing parks and infrastructure, the objective and policies relating to linking existing residential areas is directly and indirectly supported by this project.			
PUBLIC FACILITIES			
Goal:			
6.7 Maui will have adequate public facilities that meet the diverse needs of residents.			✓
Objective:			
6.7.1 More effective planning for public facilities to meet community needs.			✓
Policies:			
6.7.1.a Ensure the development and update of island-wide public facilities functional plans that incorporate prioritized facilities, programs, and a financial component.			✓
6.7.1.b Establish appropriate level-of-service standards for public facilities provided by the County.			✓
6.7.1.c Pursue improvements and upgrades of County public facilities consistent with the public facilities functional plan.			✓
6.7.1.d Recognize Wailuku Town as Maui's Civic Center and support the revitalization of the Civic Center District by consolidating government office spaces, enhancing landscape beautification, and providing adequate public parking.			✓
6.7.1.e Support, with community input, the relocation of the Maui Community Correctional Center from Wailuku to an appropriate location in Pu'unēnē.			✓
6.7.1.f Adequately plan and fund public safety facilities (fire, police, ambulance, civil defense) to meet community needs.			✓
6.7.1.g Increase joint facilities utilization and program coordination between State and County agencies such as baseyards, communication centers, recreational facilities, etc., where feasible.			✓
6.7.1.h Focus future expenditures for additional government office space, parking, and related facilities in Wailuku's Civic Center District.			✓
6.7.1.i Encourage continuous and safe walkways for children within one mile of each school.			✓
6.7.1.j Encourage public-private partnerships to identify and resolve public facility plan shortcomings when consistent with the General Plan.			✓
6.7.1.k Incorporate community/area residents' input to determine the appropriate location and design of public facilities.			✓
Analysis: The proposed action does not have direct or indirect relationships to the goal for public facilities. In this context, the Project does not advance or promote the objective or more effective planning for public facilities which meet community needs.			
SCHOOLS AND LIBRARIES			
Goal:			
6.8 Maui will have school and library facilities that meet residents' needs and goals.		✓	
Objective:			
6.8.1 Assist in providing appropriate school and library facilities in a timely manner and in strategic locations.		✓	

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Policies:			
6.8.1.a Work in partnership with all educational institutions to meet current and future needs including appropriate location, timing, and design of future facilities.			✓
6.8.1.b Allow for the expansion and intensification of uses at the UHMC including satellite campuses operating in remote areas.			✓
6.8.1.c Encourage the DOE to build and maintain smaller, community-oriented schools.			✓
6.8.1.d Encourage better cooperation by the State and County for use of State and County facilities.			✓
6.8.1.e Encourage the State to upgrade, modernize, and expand school facilities, including those in remote communities.		✓	
6.8.1.f Work with the State to develop a master plan for the expansion of UHMC in accordance with the MIP.			✓
6.8.1.g Support partnerships (public/private/nonprofit) to build and staff new schools and improve existing facilities.			✓
6.8.1.h Work with the BOE HSPLS to provide centralized library services (including telecommunications) to all areas of Maui.			✓
6.8.1.i Work with the State to expedite planning and construction of Kīhei High School, including the integration of the high school with the Maui Research and Technology Park.			✓
6.8.1.j Work with the State to identify intermediate school sites in Central Maui and other areas where needed.			✓
Objective:			
6.8.2 Provide a more expansive network of safe and convenient pedestrian-friendly streets, trails, pathways, and bikeways between neighborhoods and schools where appropriate.		✓	
Policies:			
6.8.2.a Encourage the State to build new school facilities in appropriate locations that minimize time and distance for students to travel to and from school.			✓
6.8.2.b Encourage the State to implement the Safe Routes to School initiative with funding commitments to help the County plan and fund projects that ensure safe access routes to school.		✓	
Analysis: Through the payment of impact fees to the DOE, the proposed project indirectly ensures the provision of adequate and accessible educational services and facilities in Central Maui. Further, the objective and policy related to providing a more expansive network of safe and convenient pedestrian-friendly streets, trails, pathways, and bikeways between neighborhoods and schools is indirectly supported by the proposed action, as there are sidewalks along the project site.			
HEALTH CARE			
Goal:			
6.9 All of Maui residents will have the best possible health care to include healthy living, disease prevention, as well as acute and long-term care.			✓
Objective:			
6.9.1 Greater autonomy to the Maui region in their efforts to improve medical care on the island.			✓

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Policies:			
6.9.1.a Encourage the State to give greater autonomy to the Maui region in their efforts to improve medical care on the island.			✓
6.9.1.b Support innovative financial solutions, such as capital partnerships, joint ventures, and consolidations for MMMC and other health institutions.			✓
6.9.1.c Support MMMC as a major core medical center that provides a greater range of services.			✓
6.9.1.d Support the immediate development of a critical access hospital in West Maui.			✓
6.9.1.e Support the expansion of regional critical-access facilities, where allowed by Federal regulations.			✓
6.9.1.f Improve medical service to remote and outlying regions.			✓
6.9.1.g Support transportation services for dialysis patients and community dialysis programs.			✓
6.9.1.h Work with the State to determine the feasibility of appropriate medical facilities in South Maui and Hāna, including the possible reestablishment of a small community hospital in Hāna, the establishment of a hospital in South Maui, and assist the State in securing funding to meet Maui's health care needs.			✓
Objective:			
6.9.2 An expansion of long-term care facilities and long-term care alternatives to meet the needs of our aging population.			✓
Policies:			
6.9.2.a Support efforts to increase Maui's long-term care bed capacity to cover current and future needs, close to large population centers.			✓
6.9.2.b Recognize that facilities for low-income elders who need long-term care are a needed form of affordable and subsidized housing.			✓
6.9.2.c Evaluate the needs of the long-term disabled and provide planning support for their care, if there is a need for long-term care facilities.			✓
6.9.2.d Consider long-term care facilities as a major potential employment base and encourage the recruitment and training of potential employees.			✓
Objective:			
6.9.3 More support to home-care and community-based programs so they become alternatives to traditional nursing homes.			✓
Policies:			
6.9.3.a Support the establishment of a program to assist the elderly and people with disabilities to remain in their homes or in a home-like setting.			✓
6.9.3.b Support the establishment of senior and adult-day-care centers and senior housing.			✓
6.9.3.c Continue to support existing senior centers (e.g. Kaunoa), and establish new senior centers that will provide day-care sites and programs for the disabled and elderly.			✓
6.9.3.d Support funding alternatives for community-based services that assist home-care efforts.			✓

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6.9.3.e Encourage the State to adopt the recommendations contained within the Legislative Reference Bureau's report entitled "Gimme a Break: Respite Care Services in Other States," (December 2007) where appropriate, feasible, and consistent with the MIP.			✓
Objective:			
6.9.4 Improved preventative medicine and primary health care.			✓
Policies:			
6.9.4.a Develop and utilize health-status benchmarks to measure prevention and primary health care service delivery.			✓
6.9.4.b Support programs that provide family planning assistance.			✓
Analysis: The proposed action does not have direct or indirect relationships to the goal for healthcare. In this context, the project does not advance or promote the objectives for greater healthcare system autonomy, increase long-term care capacity and alternatives, support home care and community based programs, and improve preventative medicine and primary health care.			
ENERGY			
Goal:			
6.10 Maui will meet its energy needs through local sources of clean, renewable energy, and through conservation.		✓	
Objective:			
6.10.1 Reduce fossil fuel consumption. Using the 2005 electricity consumption as a baseline, reduce by 15 percent in 2015; 20 percent by 2020; and 30 percent by 2030.		✓	
Policies:			
6.10.1.a Support energy efficient systems, processes, and methods in public and private operations, buildings, and facilities.		✓	
6.10.1.b Support the Maui Solar Rooftop initiative.		✓	
6.10.1.c Support Hawai`i Energy and other Public Utility Commission (PUC) approved energy efficiency programs.		✓	
Objective:			
6.10.2 Increase the minimum percentage of electricity obtained from clean, renewable energy sources. By 2015, more than 15 percent of Maui's electricity will be produced from locally-produced, clean, renewable energy sources, 25 percent by 2020, and 40 percent by 2030.		✓	
Policies:			
6.10.2.a Evaluate available renewable energy resource sites and applicable technologies.			✓
6.10.2.b Encourage the installation of renewable energy systems, where appropriate.		✓	
6.10.2.c Support the establishment of new renewable energy facilities at appropriate locations provided that environmental, view plane, and cultural impacts are addressed.			✓

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6.10.2.d Encourage all new County facilities completed after January 1, 2015, to produce at least 15 percent of their projected electricity needs with onsite renewable energy.			✓
Objective:			
6.10.3 Increased use of clean, renewable energy.		✓	
Policies:			
6.10.3.a Support efforts in the PUC to upgrade Maui's power grid to integrate renewable energy from multiple sources and wheeling of electricity.			✓
6.10.3.b Encourage the PUC to work with the County to implement and expedite community supported renewable energy projects.			✓
6.10.3.c Encourage efforts to produce more renewable energy using distributed generation.			✓
6.10.3.d Encourage import substitution by MECO and the broader community to become more self-sufficient in energy production.			✓
6.10.3.e Educate the public on the economic and environmental benefits from the increased use of renewable energy.			✓
6.10.3.f Encourage support from the Federal government, State, and the private sector for Maui's renewable energy objectives.			✓
6.10.3.g Encourage incentives to support the development and use of renewable energy.			✓
Objective:			
6.10.4 More efficient distribution of power throughout the island while preserving island beauty.			✓
Analysis: The proposed project will incorporate the use of energy efficient fixtures and appliances and will potentially install photovoltaic panels, if feasible. With this information in mind, the objectives and policies of the goal to meeting Maui's energy needs through local sources of clean, renewable energy and through conservation are indirectly applicable to the proposed project.			
HARBORS AND AIRPORT			
Goal:			
6.11 Maui will have harbors and airports that will efficiently, dependably, and safely facilitate the movement of passengers and cargo.			✓
Objective:			
6.11.1 Upgraded harbor facilities to handle larger volumes of freight and passengers and additional small boat harbors.			✓
Policies:			
6.11.1.a Support the expansion and upgrade of Kahului Harbor through the following, provided that any expansion is respectful of cultural practices and existing recreational uses and supports improved water quality:			✓
(1) Accommodate increasing volumes of cargo;			✓
(2) Provide deeper pier depths and greater fuel-receiving and storing capacities; and			✓

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(3) Ensure safe and efficient work areas, including separating passenger operations from fuel and cargo operations.			✓
6.11.1.b Work with public and private entities to provide adequate pier slips, utilities, repair facilities, and waste-disposal capabilities.			✓
6.11.1.c Encourage the State to safely separate passenger (cruise and ferry) operations from hazardous bulk fuels and heavy cargo transporting operations, while not decreasing harbor's capacity to safely support various recreational uses.			✓
6.11.1.d Encourage the State to develop cargo inspecting sites and facilities for efficient cargo and container processing and transportation and to prevent alien species entry.			✓
6.11.1.e Support a State and County task force to study the feasibility of a second commercial harbor on Maui.			✓
Objective:			
6.11.2 Establish more economically thriving and environmentally sensitive small boat harbors accommodating resident and business activity, including fishing, recreation, and tour boats.			✓
Policy:			
6.11.2.a Provide for needed shore-side facilities and capabilities to support small boat harbor users (e.g. repair facilities, parking, cold storage, and mass-transit connections).			✓
Objective:			
6.11.3 Upgraded airport facilities and navigation aids to serve the needs of passengers, freight movements, and general aviation.			✓
Policies:			
6.11.3.a Protect the island's airports from encroaching urbanization that may negatively impact the airport operations.			✓
6.11.3.b Support State efforts to improve Kahului Airport operations to better serve passenger and cargo needs.			✓
6.11.3.c Support State efforts to identify sites and plan to relocate and accommodate small and rotary wing aircraft.			✓
6.11.3.d Encourage the State to improve airport safety including lighting, fuel transmission, fuel safety, etc.			✓
6.11.3.e Consider expansion of rental car facilities in West and South Maui.			✓
6.11.3.f Consider expansion of mass transit (bus, fixed-rail, shuttle, and taxis, bicycle, and pedestrian facilities) to and from Kahului Airport and not limited to passenger movements (allowing for luggage and cargo).			✓
6.11.3.g Encourage the State to maintain airport capacity and to encourage more responsive air services to Hāna and Kapalua.			✓
Analysis: The goal for harbors and airports are not applicable to the proposed project. In particular, the project does not advance or promote the upgrading of harbor and airport facilities, and establishing appropriately planned and functional small boat harbors.			
CHAPTER 7 – LAND USE			
AGRICULTURAL LANDS			
Goal:			

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
7.1 Maui will have a prosperous agricultural industry and will protect agricultural lands.			✓
Objective:			
7.1.1 Significantly reduce the loss of productive agricultural lands.			✓
Policies:			
7.1.1.a Allow, where appropriate, the clustering of development on agricultural lands when approved as a CSD plan or similar approval mechanism.			✓
7.1.1.b Require, where appropriate, the review and approval of CSD plans prior to the subdivision of agricultural land.			✓
7.1.1.c Discourage developing or subdividing productive agricultural lands for residential uses in which the residence would be the primary use and any agricultural activities would be secondary uses.			✓
7.1.1.d Consider requirements for public notification and review of the subdivision of agricultural land into four or more lots.			✓
7.1.1.e Focus urban growth, to the extent practicable, away from productive and important agricultural lands.			✓
7.1.1.f Strongly discourage the conversion of productive and important agricultural lands (such as sugar, pineapple, and other produce lands) to rural or urban use, unless justified during the General Plan update, or when other overriding factors are present.			✓
7.1.1.g Further develop the requirements for agricultural assessments found under Section 19.510, MCC.			✓
7.1.1.h Provide incentives for landowners to preserve and protect agricultural lands from development through the use of TDR/PDR, tax credits, easement programs, or similar means.			✓
7.1.1.i Promote the use of U.S.D.A. Farm and Ranch Lands Protection Program grants to fund the acquisition of conservation easements on eligible agricultural lands.			✓
7.1.1.j Require all major developments adjacent to agricultural lands to provide an appropriate and site-specific agricultural protection buffer as part of a required site plan.			✓
7.1.1.k Support and promote the viability of Maui's agricultural businesses through property tax incentives and other programs and subsidies.			✓
7.1.1.l Encourage future community plan efforts to identify lands within the County Agricultural zoning district that are primarily being used for large-lot residential or rural use and consider such lands for reclassification to an appropriate County Rural zone.			✓
Objective:			
7.1.2 Reduction of the island's dependence on off-island agricultural products and expansion of export capacity.			✓
Policies:			
7.1.2.a Coordinate with the agricultural community, associations/community groups, agricultural landowners, and the State to designate IALs.			✓
7.1.2.b Support an incentive package for productive Agricultural Lands which aims to ensure agricultural viability for small- and commercial-scale agricultural			✓

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
producers.			
7.1.2.c Actively look to acquire land and provide infrastructure to expand the agricultural park and establish new agricultural parks.			✓
7.1.2.d Support the designation of a research and development area within agricultural parks to help farmers stay attuned to new technology and research.			✓
7.1.2.e Support local cooperative extension services to facilitate timely technology transfer opportunities.			✓
7.1.2.f Support plans and programs to develop additional sources of water for irrigation purposes.			✓
7.1.2.g Consider appropriate subdivision requirements (gravel roads, above-ground utilities, etc.) in those subdivisions creating Agricultural Parks where lots are limited to agricultural production with no dwellings.			✓
7.1.2.h Support the recommendations, policies, and actions contained within the Maui Agricultural Development Plan, July 2009, when consistent with the MIP.			✓
7.1.2.i Allow water and tax discounts for legitimate farming operations on rural and agricultural land.			✓
7.1.2.j Give priority in delivery and use of agricultural water and agricultural land within County agricultural parks to cultivation of food crops for local consumption.			✓
7.1.2.k Support programs that control pests and diseases that affect agriculture.			✓
7.1.2.l Support the development of training and apprenticeship programs to encourage an adequate supply of agricultural workers.			✓
Objective:			
7.1.3 Support and facilitate connectivity between communities.			✓
Policies:			
7.1.3.a Evaluate the impact of gated communities on interconnectivity.			✓
7.1.3.b Discourage land use and urban design that impedes interconnectivity between adjacent communities.			✓
Analysis: The project will be developed on urban infill land in Kahului, situated between residential neighborhoods and commercial buildings. Implementation of the proposed project will not adversely affect agriculture productivity on Maui.			
RURAL AREAS			
Goal:			
7.2 Maui will have a rural landscape and lifestyle where natural systems, cultural resources and farm lands are protected and development enhances and compliments the viability and character of rural communities.		✓	
Objective:			
7.2.1 Reduce the proliferation and impact of residential development outside of urban, small town, and rural growth boundaries.		✓	
Policies:			
7.2.1.a Focus development to areas inside urban, small town, and rural growth boundaries to preserve natural, cultural, and agricultural resources.	✓		

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
7.2.1.b Encourage cluster development with a mandatory buffer requirement/clear edge at the interface of country towns, agricultural uses, and surrounding rural landscapes.			✓
7.2.1.c Encourage or require, where appropriate, CSDs and the use of green spaces/natural separations to protect the character of rural landscapes.			✓
7.2.1.d Encourage basic goods/services in business country towns.			✓
7.2.1.e Allow for mixed uses, including residential uses, within Business Country Town Districts.			✓
7.2.1.f Encourage the use of alternative stormwater management techniques that minimize land disturbance and preserve natural drainage features.			✓
7.2.1.g Encourage green belts, open space buffers, and riparian zones to minimize conflicts between agriculture and residential uses.			✓
7.2.1.h Evaluate the impact of gated communities on inter-connectivity.			✓
Objective:			
7.2.2 More appropriate service/infrastructure standards to enhance and protect the island's rural character and natural systems.			✓
Policies:			
7.2.2.a Minimize impermeable surfaces within rural areas.			✓
7.2.2.b Protect and support the character, economic viability, and historic integrity of Maui's small towns.			✓
7.2.2.c Use infrastructure, public service, and design standards that are appropriate to rural areas.			✓
7.2.2.d Discourage land use and urban design that impede interconnectivity between adjacent communities.		✓	
Analysis: The proposed project is located within the Urban Growth Boundaries as designated by the County of Maui MIP. The proposed project is directly and indirectly applicable with these policies related to keeping Maui's rural landscape protected. A main goal of the Hale Pilina Family Affordable Rental Housing project is to connect this development to existing infrastructure and the surrounding community.			
URBAN AREAS			
Goal:			
7.3 Maui will have livable human-scale urban communities, an efficient and sustainable land use pattern, and sufficient housing and services for Maui residents.	✓		
Objective:			
7.3.1 Facilitate and support a more compact, efficient, human-scale urban development pattern.	✓		
Policies:			
7. 3.1.a Ensure higher-density compact urban communities, infill, and redevelopment of underutilized urban lots within Urban Growth Boundaries.	✓		
7.3.1.b Maintain a distinct separation between communities, such as but not limited to, Wailuku and Waikapū; Wailuku and Waiheʻe; Pukalani and Makawao; Pukalani and Kula; Makawao and Hāliʻimaile; Lahaina and Kāʻanapali; Kīhei and			✓

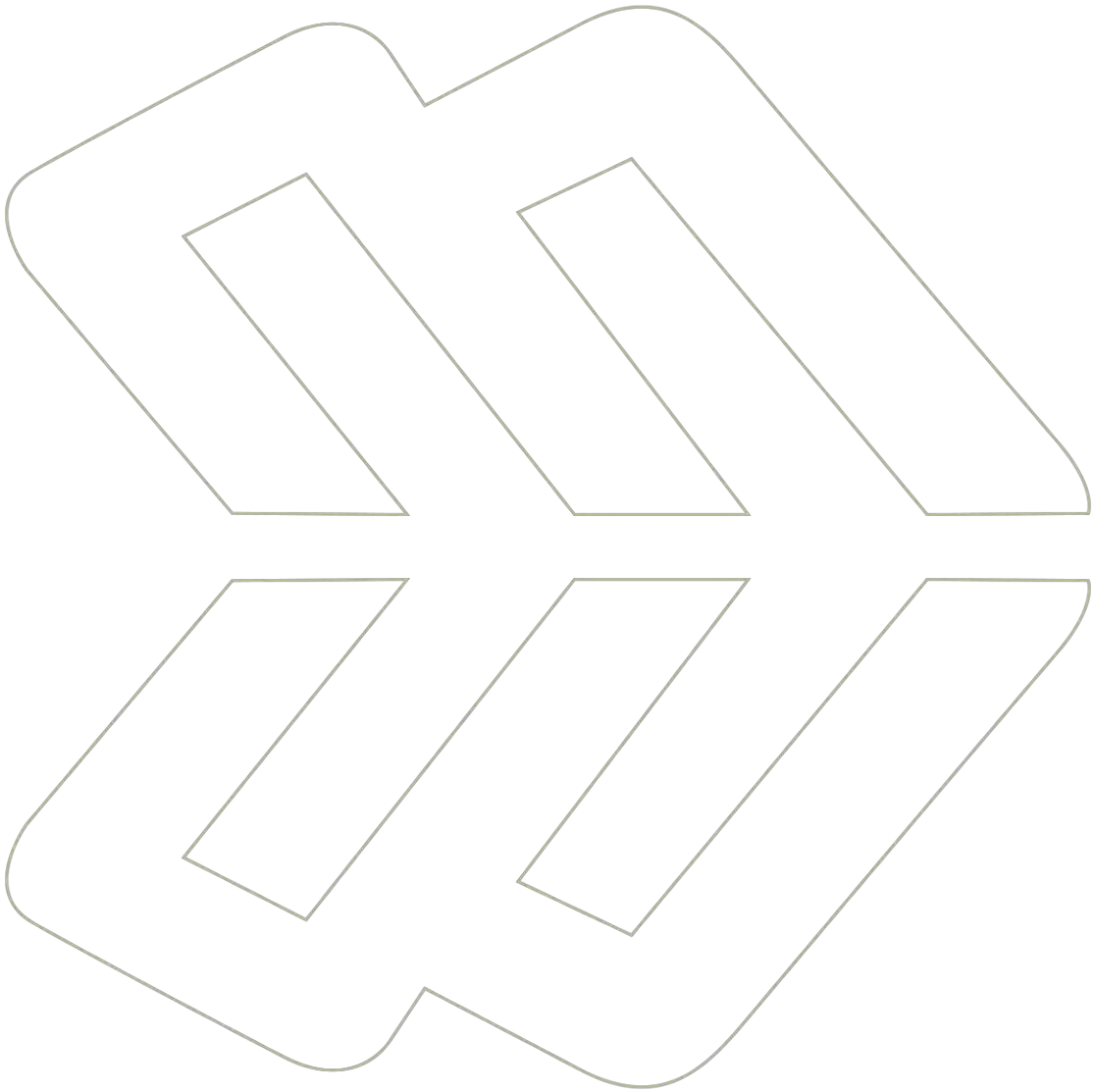
Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
Mā‘alaea; and Mā‘alaea and Waikapū, to protect the character and identity of Maui’s communities.			
7.3.1.c Strengthen evaluation requirements for new urban expansion, new towns, and major urban infill projects within urban growth areas. Tailor submittal requirements to reflect the impact or scale of different projects.		✓	
7.3.1.d Ensure future amendments to urban growth boundaries achieve the following: (1) provide a beneficial extension of the existing community; (2) are in areas where it is cost-effective to provide and operate infrastructure/public service facilities; and (3) do not promote automobile-oriented land use patterns.			✓
7.3.1.e Evaluate the impact of gated communities on inter-connectivity.			✓
7.3.1.f Encourage the development and implementation of neighborhood design standards that are environmentally friendly, such as LEED for Neighborhood Development (LEED – ND) standards.			✓
7.3.1.g Discourage future pyramid zoning within the industrial zoning districts, while allowing accessory commercial uses and grandfathering existing uses.			✓
7.3.1.h Promote agriculture by encouraging community gardening, community-supported agricultural programs, and farmers markets within and adjacent to urban areas.			✓
7.3.1.i Discourage land use and urban design that impedes inter-connectivity between adjacent communities.		✓	
Objective:			
7.3.2 Facilitate more self-sufficient and sustainable communities.	✓		
Policies:			
7.3.2.a When developing new communities, provide sufficient lands for commercial, appropriate industrial, educational, spiritual, and non-profit uses to serve the daily needs of community residents.			✓
7.3.2.b Site community facilities such as schools, parks, libraries, and community centers within walking and biking distance of residences.		✓	
7.3.2.c Facilitate self-sufficient communities and shorten commutes by:			
(1) Directing residential development to job-rich areas;		✓	
(2) Allowing for appropriate commercial development and community services to shorten commutes; and			✓
(3) Allowing home occupations or home-based businesses that are compatible with surrounding neighborhoods and lifestyles.			✓
7.3.2.d Ensure, where appropriate, that affordable employee housing and multi-modal transportation opportunities are located near major employment centers.	✓		
7.3.2.e Discourage the establishment of bedroom communities where long commutes are required to employment centers.			✓
7.3.2.f Facilitate the development of housing by focusing projects in locations where land and infrastructure costs facilitate the development of affordably-priced housing.	✓		
7.3.2.g Provide incentives to facilitate the development of multifamily housing.		✓	

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
7.3.2.h Encourage the placement of rental housing projects in the same areas as for-sale housing to facilitate mixed-income communities.	✓		
7.3.2.i Develop communities that provide sufficient parks, schools, libraries, and other essential public facilities and services to serve resident needs.			✓
7.3.2.j Promote agriculture by encouraging community gardening, edible landscaping, community-supported agricultural programs, and farmers markets within and adjacent to urban areas.			✓
Objective:			
7.3.3 Strengthen the island's sense of place.		✓	
Policies:			
7.3.3.a Protect and enhance the unique architectural and landscape characteristics of each community.			✓
7.3.3.b Encourage Hawaiian architecture and tropical building designs.			✓
7.3.3.c Support the continued revitalization of historic country towns, Wailuku Town, and Kahului's commercial core and harbor-front without displacing traditional, cultural, recreational and customary uses.		✓	
7.3.3.d Strongly encourage the preservation of buildings, structures, and sites of historic significance.			✓
7.3.3.e Require community input through Design Workshops for major new urban expansion, new towns, and major urban infill projects.		✓	
7.3.3.f Require design enhancement, landscaping, and integration of park and rides, bicycle parking areas, and mass-transit infrastructure to mitigate the effect of parking lots and structured parking on the urban landscape.		✓	
7.3.3.g Ensure that safe and attractive public spaces (e.g., plazas, parks, town/village squares) are provided throughout the island's urban areas.		✓	
Objective:			
7.3.4 Strengthen planning and management for the visitor industry to protect resident quality of life and enhance the visitor experience.			✓
Policies:			
7.3.4.a Discourage the conversion of hotel units to timeshares and fractional ownership.			✓
7.3.4.b Monitor and manage the amount of, and impacts from, timeshares and fractional ownership.			✓
7.3.4.c Manage short-term rentals and bed-and-breakfast homes through a permitting and regulatory process in accordance with adopted ordinances and community plan policies.			✓
7.3.4.d Limit large-scale resort development to the four existing resort destination areas of Wailea, Mākena, Kapalua and Kā'anapali. "Large Scale Resort" is defined as complexes that include multiple accommodation facilities, activity businesses, retail complexes, and other amenities.			✓
Objective:			
7.3.5 Ensure that Maui's planning and development review process becomes more transparent, efficient, and innovative.			✓

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
Policies:			
7.3.5.a Encourage greater community involvement in land use planning and decision making.		✓	
7.3.5.b Establish a predictable and timely development review process that facilitates the approval of projects that meet planning and regulatory requirements.			✓
7.3.5.c Increase inter-agency coordination between the Department of Planning and all State and County agencies responsible for infrastructure and public facilities provision, particularly as it relates to the mitigation of long-term cumulative impacts resulting from development projects.		✓	
7.3.5.d Provide greater certainty and transparency in the development review process.			✓
7.3.5.e Expand and maintain land use and geographic information system databases for improved decisions, and make data and products available to the public.			✓
Analysis: The proposed project provides affordable housing opportunities for Maui County families in Kahului. The project site is in urban Kahului, in proximity to businesses and public facilities that are offered to the community. This multifamily development will be consistent with the character of Kahului while also staying respectful of open space by including a park within the complex. Further, the proposed project has and continues to seek community involvement and input in the land use planning process. Ongoing coordination with various State and County agencies ensures that the proposed action accounts for and mitigates, to the extent possible, long term cumulative impacts resulting from the development.			
CHAPTER 8 – DIRECTED GROWTH PLAN			
URBAN AND SMALL TOWN GROWTH AREA			
Goal:			
8.1 Maui will have well-serviced, complete, and vibrant urban communities and traditional small towns through sound planning and clearly defined development expectations.	✓		
Policies:			
8.1.a The County, with public input, will be responsible for designating new growth areas where infrastructure and public facilities will be provided, consistent with the policies of the MIP and in accordance with State and County infrastructure plans.			✓
8.1.b Amendments to a UGB or STB shall be reviewed as a MIP amendment. A UGB or STB shall only be expanded if the island-wide inventory (maintained by the Department of Planning) of existing land uses (residential, commercial, industrial) indicates that additional urban density land is necessary to provide for the needs of the projected population growth within ten years of that inventory; or, during the decennial update of the MIP.			✓
8.1.c Community plans shall provide for urban density land use designations only within UGBs and Small Towns. The County may only support and approve State Urban Land Use Designations for areas within UGBs, STBs, and Rural Villages.			✓
8.1.d The unique character and function of existing small towns shall be protected to retain and preserve their sense of place.			✓
8.1.e New development shall be consistent with the UGBs, STBs, and all other applicable policies of the MIP. New urban-density development shall not be allowed outside of a UGB or STB.	✓		

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable		DA	IA	NA
8.1.f	The County, as a condition of development approval, shall require developers of privately owned infrastructure systems to provide financial insurance (bonding, etc.) for the operation and maintenance of these systems.			✓
8.1.g	The County shall implement a zoning program to comprehensively redistrict and rezone lands within UGBs according to updated community plan policies and map designations.			✓
8.1.h	The County will seek to focus capital improvements (schools, libraries, roads, and other infrastructure and public facilities) within the UGBs and STBs in accordance with the MIP.			✓
8.1.i	The County will promote (through incentives, financial participation, expedited project review, infrastructure/public facilities support, etc.) appropriate urban infill, redevelopment and the efficient use of buildable land within UGBs to avoid the need to expand the UGBs.			✓
8.1.j	The MIP's UGBs and STBs shall not be construed or implemented to prohibit the construction of a single-family dwelling on any existing parcel where otherwise permitted by law.			✓
Analysis: The proposed project is located within the Urban Growth Boundary of the County of Maui's MIP. The project is in consonance with the objective and policies of the MIP and within an area planned for growth.				
RURAL GROWTH AREA				
Goal:				
8.2	Maui will maintain opportunities for agriculture and rural communities through sound planning and clearly defined development expectations.			✓
Policies:				
8.2.a	Amendments to a RGB shall be reviewed as an MIP amendment. A RGB shall only be expanded if an island-wide inventory of existing land uses (residential, commercial, industrial) indicates that additional lands are necessary to provide for the needs of the projected population growth within ten years of that inventory; or, during the decennial update of the MIP.			✓
8.2.b	New development shall be consistent with RGB and all other applicable policies and requirements of the MIP. Public, quasi-public, civic, and limited commercial or industrial uses may be allowed in the RGB when the proposed uses demonstrate a public need and are consistent with the Community Plan and zoning.			✓
8.2.c	Environmental protection and compatibility will be a top priority in rural growth areas.			✓
8.2.d	All development within rural growth areas should avoid encroachment upon prime agricultural land.			✓
8.2.e	Rural growth areas include Rural Residential Areas and Rural Villages. Rural residential areas may be designated when they are located in association with or on the border of urban growth areas or Small Towns; and/or when they provide for complete, self-sufficient rural communities with a range of uses to be developed at densities that do not require urban infrastructure.			✓
8.2.f	Community plans shall provide for rural density land use designations only within RGBs; provided that limited community plan urban designations may be allowed within Rural Villages. New rural growth areas shall not be located where urban expansion may ultimately become necessary or desirable. New rural-			✓

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable		DA	IA	NA
	density development shall not be allowed outside of a RGB.			
8.2.g	New rural growth areas intended to be complete, self-sufficient rural communities must be located a significant distance from existing urban areas, distinctly separated by agricultural or open lands.			✓
8.2.h	Urban-scale infrastructure and public facilities shall not be provided in rural areas except as described in the defined Level-of-Service (LOS) standards. There should be no expectations of urban services in rural areas.			✓
8.2.i	Urban development standards shall not be required within RGBs except in fulfillment of Federal law.			✓
8.2.j	The unique character and function of existing small towns and rural communities shall be protected to retain and preserve their sense of place.			✓
8.2.k	Preserve rural landscapes in which natural systems, cultural resources, and agricultural lands are protected and development compliments rural character and contributes to the viability of communities and small towns.			✓
8.2.l	The MIP's RGBs shall not be construed or implemented to prohibit the construction of a single family dwelling on any existing parcel where otherwise permitted by law.			✓
8.2.m	The County shall implement a zoning program to comprehensively redistrict and rezone lands within RGBs, and to implement community plan policies and map designations.			✓
8.2.n	At the time of zoning from agricultural to rural, Council will consider prohibiting restrictions on agricultural activity.			✓
Analysis: The proposed project is located within the Urban Growth Boundary of the MIP and the objectives and policies related to Rural Growth Boundaries are not applicable as the development will lie within an urban area, thus protecting and preserving the Rural areas of Maui.				
PROTECTED AREA POLICY				
8.3.a	The Protected Areas in Diagrams E-1, NW-1, N-1, NE-1, S-1, SE-1, and WC-1 should be concurrently reviewed with Table 8-2 and with any proposed land uses that may result in an adverse impact on a Protected Area. The County Council and the Administration should be notified if a Protected Area may be compromised by a development proposal.			✓
Analysis: Protected areas, as defined in Table 8-2 of the MIP are those lands categorized as preservation, park, greenbelt, greenway, and sensitive land. The proposed action does not occur on protected areas as delineated on Diagram WC-1.				



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