**MICHAEL P. VICTORINO**
Mayor

**KARLA H. PETERS**
Director

**MARCI M. SATO**
Deputy Director

# DEPARTMENT OF PARKS AND RECREATION

700 Hali'a Nakoa Street, Unit 2, Wailuku, Hawai'i 96793
Main Line (808) 270-7230 / Facsimile (808) 270-7942

February 3, 2022

Mary Alice Evans, Director
Office of Planning and Sustainable Development
Environmental Review Program
235 South Beretania Street, Room 702
Honolulu, Hawai'i 96813

Dear Director Evans:

**SUBJECT: PROPOSED HALE MAKUA EXPANSION REHABILITATION FACILITY
TAX MAP KEY PARCEL (2) 3-8-007: 097 (PORTION)
KAHULUI, MAUI, HAWAI'I
PUBLICATION OF DRAFT ENVIRONMENTAL ASSESSMENT (DEA)**

With this letter, the County of Maui, Department of Parks and Recreation hereby transmits the Draft Environmental Assessment (DEA) for the Proposed Hale Makua Expansion Rehabilitation Facility proposed by Hale Makua Health Services. The proposed project site includes a portion of County owned Tax Map Key Parcel (2) 3-8-007: 097, in Kahului, Maui. The DEA has been prepared pursuant to Chapter 343, Hawai'i Revised Statutes (HRS), and Title 11, Chapter 200.1, Hawai'i Administrative Rules (HAR).

In accordance with HAR 11-200.1-4 and 11-200.1-23, we request that the Office of Plannng, Environmental Review Program publish notice of the DEA in the next available periodic bulletin (*The Environmental Notice*) for the public to submit comments to Kaimana Environmental Solutions LLC during the thirty-day comment period.

If there are any questions, please contact environmental planner, Max Solmssen with Kaimana Environmental Solutions LLC, at (808) 341-3546, Email: max@kaimanaenv.com, or Samual Marvel, Chief of Planning & Development with the County of Maui, Department of Parks and Recreation at (808) 270-7230, Email: samual.marvel@co.maui.hi.us.

Sincerely,

KARLA H. PETERS
Director of Parks and Recreation

c: Samual Marvel, County of Maui Department of Parks and Recreation
Wesley Lo, Hale Makua Health Services
Max Solmssen, Kaimana Environmental Solutions LLC

**From:** webmaster@hawaii.gov
**To:** DBEDT OPSD Environmental Review Program
**Subject:** New online submission for The Environmental Notice
**Date:** Thursday, February 3, 2022 12:44:16 PM

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**Action Name**

Hale Makua Expansion Rehabilitation Facility

**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) 3-8-007:097

**Action type**

Applicant

**Other required permits and approvals**

HRS 6E Compliance, County Grubbing and Grading Permit, County Building Permit, NPDES Construction Permit

**Discretionary consent required**

None

**Approving agency**

County of Maui Department of Parks and Recreation

**Agency contact name**

Samual Marvel

**Agency contact email (for info about the action)**

samual.marvel@co.maui.hi.us

**Email address or URL for receiving comments**

info@kaimanaenv.com

**Agency contact phone**

(808) 270-7230

**Agency address**

700 Halia Nakoa Street, Unit 2
Wailuku, HI 96793
United States
Map It

**Applicant**

Hale Makua Health Services

**Applicant contact name**

Wesley Lo

**Applicant contact email**

wes.lo@ohanapacific.com

**Applicant contact phone**

(808) 243-1722

**Applicant address**

472 Kaulana Street
Kahului, HI 96732
United States
Map It

**Was this submittal prepared by a consultant?**

Yes

**Consultant**

Kaimana Environmental Solutions LLC

**Consultant contact name**

Max Solmssen

**Consultant contact email**

max@kaimanaenv.com

**Consultant contact phone**

(808) 341-3546

**Consultant address**

PO Box 11890
Honolulu, HI 96828
United States
Map It

**Action summary**

The proposed project includes expansion of the existing Hale Makua Health Services Kahului care facility, that would include construction of a new rehabilitation facility on adjacent County land that would be leased or conveyed by the County to Hale Makua Health Services. The proposed rehabilitation facility would include an approximately 76,200 square foot two-story commercial building, as well as associated parking area. The proposed facility would provide services such as physical, occupational and speech therapy, as well as home health and nursing services to the Kahului community, as well as to greater Maui County.

**Reasons supporting determination**

See the "Environmental Impact Significance Criteria Analysis" on Page No. 79 of the Draft Environmental Assessment (DEA).

**Attached documents (signed agency letter & EA/EIS)**

- Dept-of-Parks-and-Rec-DEA-Publication-Letter.pdf
- Hale-Makua-DEA.pdf

**Action location map**

- KML-File.zip

**Authorized individual**

Max Solmssen

**Authorization**

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

# *Draft Environmental Assessment*

## *Hale Makua Expansion Rehabilitation Facility*

### *Tax Map Key Parcel (2) 3-8-007: 097 (Portion)*

### *Kahului, Maui, Hawai‘i*

***Prepared for**:*
*Hale Makua Health Services*
*472 Kaulana Street*
*Kahului, HI 96732*

*February 2022*

*Prepared by:*

KAIMANA
environmental solutions

*www.kaimanaenv.com*

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Appendix C: Archaeological Report
Appendix D: Cultural Impact Assessment Report
Appendix E: Traffic Impact Analysis Report
Appendix F: Early Consultation Letters and Responses

# *List of Acronyms*

| | |
|---|---|
| AIS | archaeological inventory survey |
| AISP | archaeological inventory survey plan |
| AMP | archaeological monitoring plan |
| AYSO | American Youth Soccer Organization |
| BMPs | best management practices |
| CDP | Census Designated Place |
| dBA | decibels |
| DEA | Draft Environmental Assessment |
| DOH | State of Hawai‘i Department of Health |
| DOT-A | State of Hawai‘i Department of Transportation-Airports Division |
| DOT-H | State of Hawai‘i Department of Transportation-Highways Division |
| DLNR | State of Hawai‘i Department of Land and Natural Resources |
| DOFAW | State of Hawai‘i DLNR Division of Forestry and Wildlife |
| DPW | County of Maui Department of Public Works |
| FAA | Federal Aviation Administration |
| FEMA | Federal Emergency Management Agency |
| FONSI | finding of no significant impact |
| GHG | greenhouse gases |
| HAR | Hawai‘i Administrative Rules |
| HRS | Hawai‘i Revised Statutes |
| IPCC | Intergovernmental Panel on Climate Change |
| $L_{eq}$ | Equivalent Continuous Sound Level |
| LOS | Level of Service |
| MRTDM | Maui Regional Travel Demand Model |
| NAAQS | National Ambient Air Quality Standards |
| NOAA | National Oceanic and Atmospheric Administration |
| SAAQS | State Ambient Air Quality Standards |
| SHPD | State of Hawai‘i DLNR State Historic Preservation Division |
| SMA | Special Management Area |

| | |
|---|---|
| TIAR | Traffic Impact Analysis Report |
| TMK | Tax Map Key |
| USDA | United States Department of Agriculture |
| USFWS | United States Fish and Wildlife Service |

# Introduction

This draft Environmental Assessment (DEA) was prepared in accordance with all applicable provisions of Hawai'i Revised Statutes (HRS) 343, and its implementing regulations Hawai'i Administrative Rules (HAR) 11-200.1.

## Project Information Summary

| | |
|---|---|
| **Project Name:** | Hale Makua Expansion Rehabilitation Facility |
| **Address:** | None |
| **Tax Map Key (TMK):** | (2) 3-8-007: 097 (Portion) |
| **Project Area Size** | Approximately 2.83 Acres |
| **Document Type** | Draft Environmental Assessment |
| **Applicant:** | Hale Makua Health Services<br>Contact: Wesley Lo, CEO<br>472 Kaulana Street<br>Kahului, HI 96732<br>wes.lo@ohanapacific.com<br>(808) 243-1722 |
| **Consultant:** | Kaimana Environmental Solutions LLC<br>Contact: Max Solmssen, Environmental Planner<br>PO Box 11890<br>Honolulu, HI 96828<br>max@kaimanaenv.com<br>(808) 341-3546 |
| **Approving Agency:** | County of Maui Department of Parks and Recreation<br>700 Halia Nakoa Street, Unit 2<br>Wailuku, HI 96793<br>Contact: Samual Marvel, Chief of Planning and Development<br>samual.marvel@co.maui.hi.us<br>(808) 270-7230 |
| **HRS 343 Trigger:** | Use of County Lands |
| **State Land Use Zoning**: | Urban |
| **County Zoning:** | R-2 - Residential |
| **Flood Zone Designation:** | Zone X – Determined to be outside the 500-year flood plain |

**Special Management Area (SMA):** Outside SMA

| | |
|---|---|
| **Anticipated Determination:** | Finding of No Significant Impact (FONSI) |
| **Permits/Approvals:** | HRS 343 Compliance<br>HRS 6E Compliance<br>County Grubbing and Grading Permit<br>County Building Permit<br>NPDES Coverage |
| **Estimated Project Cost** | $64,200,000 |
| **Estimated Project Construction Schedule** | 18 Months |

## Location and Project Description

The project site is located on the northeast side of Maui within the town of Kahului (Figure 1), and includes an approximately 2.8 acre portion of County owned Tax Map Key (TMK) parcel (2) 3-8-007: 097. The project site is currently used as a ball field that is managed by the County of Maui Department of Parks and Recreation. The project site is bordered to the north by the Kahului Community Center and Park, to the northeast by the existing Hale Makua Kahului facility, and to the east, south and west by single family residences and public roadways (Figure 2).

The proposed project includes expansion of the existing Hale Makua Health Services Kahului care facility, that would include construction of a new rehabilitation facility on adjacent County land that would be leased or conveyed by the County to Hale Makua Health Services. The proposed rehabilitation facility would include an approximately 76,200 square foot two-story commercial building, as well as associated parking area. Figure 3 shows the proposed rehabilitation facility site plan. The proposed facility would provide services such as physical, occupational and speech therapy, as well as home health and nursing services to the Kahului community, as well as to greater Maui County. The proposed rehabilitation facility is part of the Hale Makua Master Plan, which also includes renovations to the existing aging Hale Makua facility in Kahului located adjacent to the proposed project site, and relocation of the Wailuku facility services to the Kahului campus.

## Purpose and Need for the Proposed Action

The purpose of the proposed project is to provide a much needed rehabilitation facility within the Kahului community. Based on public outreach conducted with the local community, the proposed rehabilitation facility would provide greatly needed health services to Maui's residents, especially the elderly population.

***Figure 1: Project General Location Map***

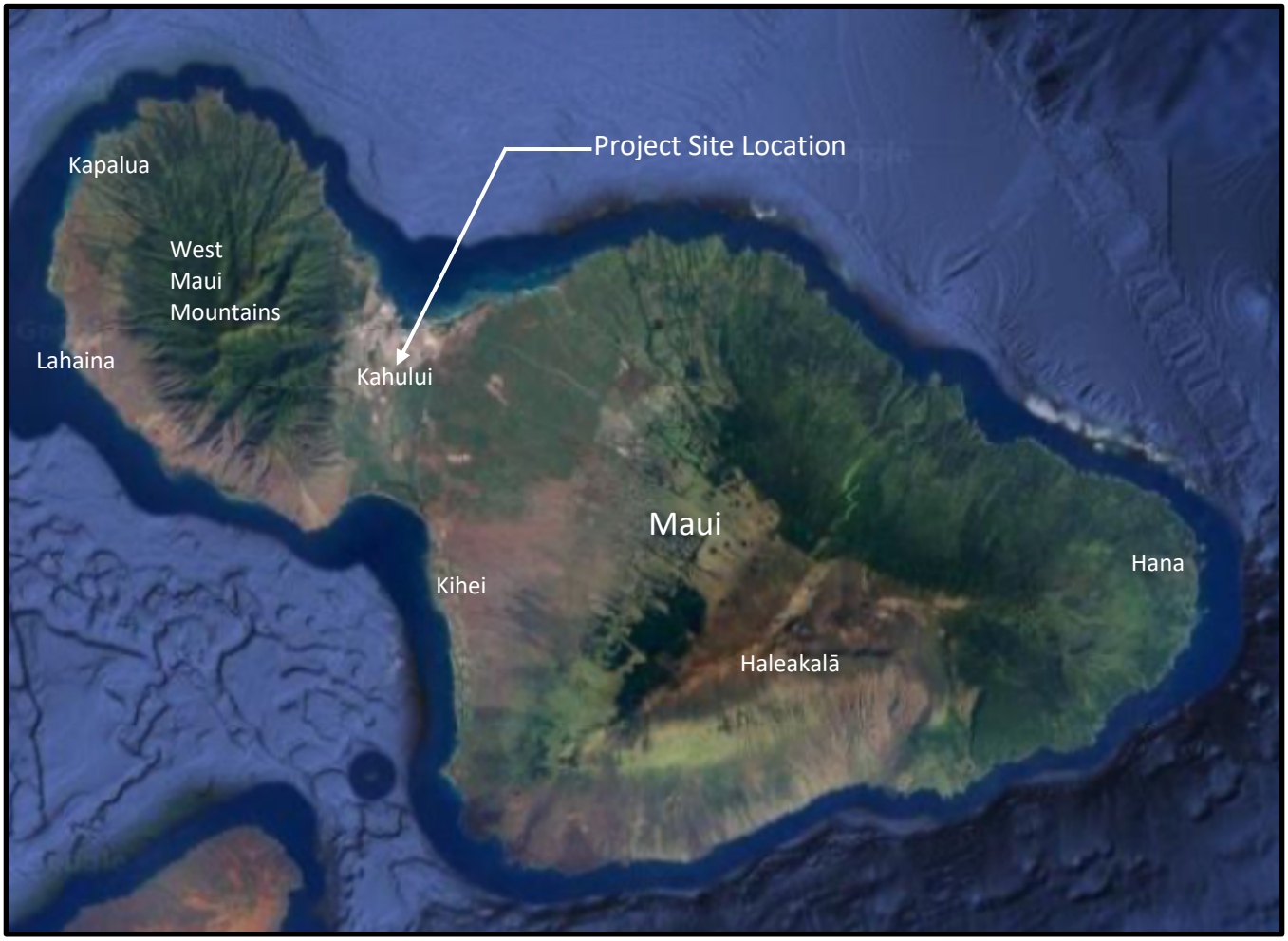

***Figure 2: Project Detail Map***

## Environmental Assessment Distribution and Early Consultation

Table 1 shows the Maui County, State and Federal agencies, community groups and businesses that were engaged for early consultation as part of the environmental review process. Table 1 also includes a distribution list of those that received the DEA publication notice, and will receive notice of subsequent decision document publications for this project. All early consultation correspondence is included in Appendix F of this DEA.

***Table 1: Environmental Assessment Distribution and Early Consultation***

| Agency/Group Affiliation | Agency/Group | Early Consultation Notice Sent | Early Consultation Response Received | DEA Publication Notice Sent |
|---|---|---|---|---|
| Federal Agencies | Department of the Interior<br>United States Fish and Wildlife Service | X | X | X |
| State of Hawai'i Agencies | State of Hawai'i Office of Planning and Sustainable Development | X | | X |
| | DOH Wastewater Branch | X | | X |
| | DOH Clean Water Branch | X | | X |
| | DLNR Division of Forestry and Wildlife | X | X | X |
| | DLNR Land Division | X | X | X |
| | DLNR Engineering Division | X | X | X |
| | DLNR State Historic Preservation Division | X | | X |
| | Office of Hawaiian Affairs | X | | X |
| | Department of Transportation-Highways and Airports Divisions | X | X | |
| | Department of Education | X | X | X |

| Agency/Group Affiliation | Agency/Group | Early Consultation Notice Sent | Early Consultation Response Received | DEA Publication Notice Sent |
|---|---|---|---|---|
| County of Maui Agencies | Department of Water Supply | X | X | X |
| | Office on Aging | X | | X |
| | Department of Public Works | X | | X |
| | Department of Environmental Management | X | | X |
| | County Council | X | | X |
| | Department of Parks and Recreation | X | X | X |
| | Planning Department | X | X | X |
| | Highways Division | X | | X |
| | Department of Fire and Public Safety | X | X | X |
| | Police Department | X | X | X |
| Utility Companies | Hawaiian Electric Company | X | | X |
| | Hawaiian Telcom | X | | X |
| | Spectrum | X | | X |

| Agency/Group Affiliation | Agency/Group | Early Consultation Notice Sent | Early Consultation Response Received | DEA Publication Notice Sent |
|---|---|---|---|---|
| Libraries/Repositories | Kahului Public Library | | | X |
| Businesses and Community Groups | Maui Disc Golf Association | X | | X |
| | AYSO Section 7A | X | | X |
| | Maui Taiko | X | | X |
| | American Medical Response Hawai'i | X | | X |
| | Maui Health System | X | | X |
| | Hale Makua Health Services | X | | X |
| | Hale Mahaolu | X | | X |

## Overview of Alternatives Considered and Description of the Proposed Action

**Alternative 1: No Action** – Under Alternative 1, the proposed rehabilitation facility would not be constructed at the project site. This alternative was eliminated from further consideration because it does not address the significant community need for additional rehabilitation services.

**Alternative 2: Alternate Project Location** – Under Alternative 2 the proposed rehabilitation facility would be built in a different location within Maui County. This alternative was eliminated from further consideration since the proposed project site is already located in the most populace/central region of Maui County, where new building sites are scarce and costly to procure.

**Alternative 3 (Proposed Action): New rehabilitation facility** – Under Alternative 3, the Proposed Action, the proposed Hale Makua Rehabilitation facility would be built on available land adjacent to the existing Hale Makua Kahului facility (Figure 2 & Figure 3). Alternative 3 was carried forward for analysis in this EA since it best fulfills the project

purpose and need to provide much needed health services in a central location accessible to the local community.

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***Figure 3: Site Plan***

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# Environmental Setting, Potential Impacts, and Mitigation Measures

The environmental, social, and economic setting of the existing environment and the probable impacts of the Proposed Action, and mitigation measures are described in this section of the EA. Impacts are evaluated as to whether they constitute a "significant effect" on a particular environmental setting. Impacts are described as having No Impact, Significant Adverse Impact, or Beneficial Impact to the environment. The terms "impact" and "effect" are used synonymously in this EA. Impacts may apply to the full range of natural, aesthetic, historic, cultural, and economic resources.

Following the environmental impact analysis for all resource areas in this section, an overall summary evaluation of the environmental impact significance criteria included in HAR 11-200.1-13, including discussion of cumulative impacts, is provided at the end of this section of the EA.

## Climate and Air Quality

*Existing Conditions*

The project site is located in a tropical zone within the central coastal isthmus of Kahului, Maui. The predominate wind pattern within the vicinity of the project area is northeast trade winds generated from the North Pacific high pressure system northeast of the Hawaiian Islands. Trade winds persist for most of the year, while winds from the south and southwest known as Kona Winds also occur (Fletcher et. al, 2002). Average annual rainfall within the vicinity of the project site is 17.20 inches (Giambelluca et. al, 2013). The average annual temperature within the vicinity of the project site is 74.5 degrees Fahrenheit (Giambelluca et. al, 2014).

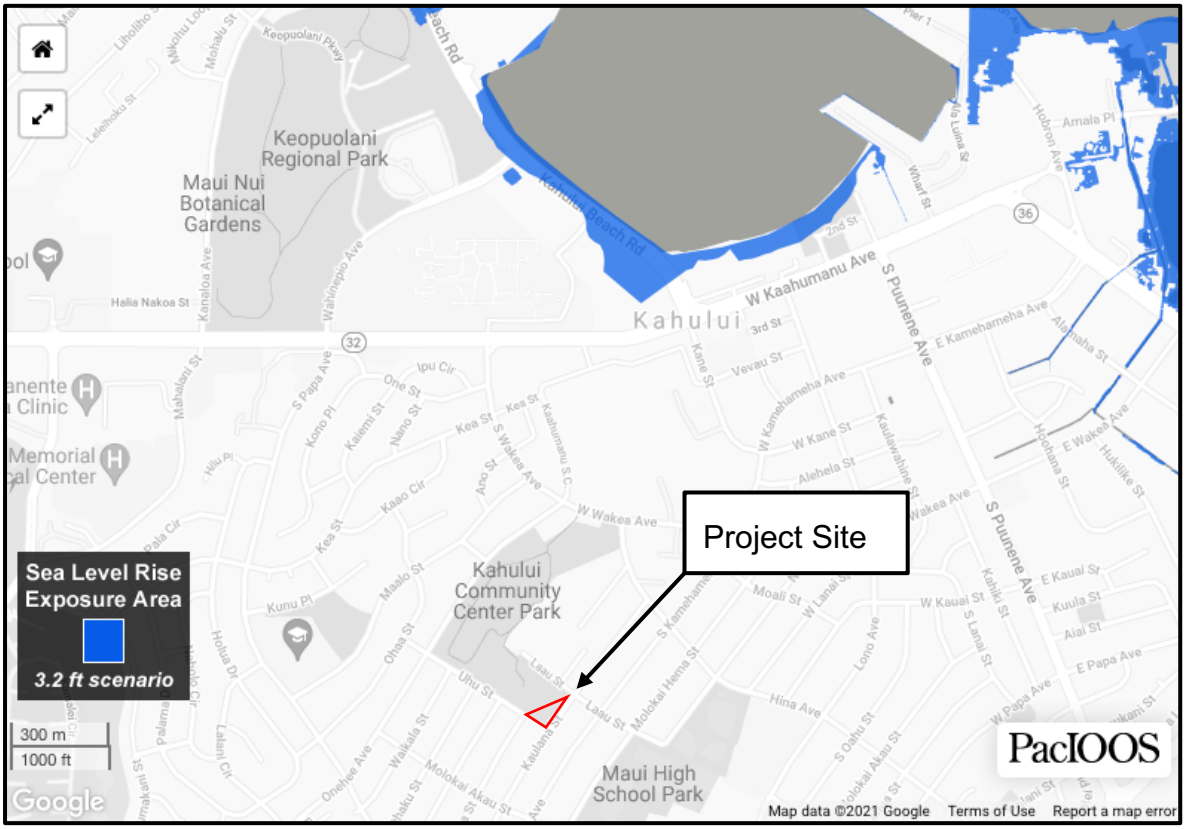
Ambient air quality in an area is evaluated based on its compliance with National Ambient Air Quality Standards (NAAQS), as well as State Ambient Air Quality Standards (SAAQS). The criteria pollutants that are measured by federal and state standards include carbon monoxide, nitrogen dioxide, sulfur dioxide, lead, ozone, and particulate matter. Based on data gathered by the State of Hawai'i DOH Clean Air Branch, Hawai'i is in compliance (attainment) for all the above criteria pollutants. There is a DOH air quality measurement station in Kahului, within the vicinity of the project area (DOH, 2021).

*Sea Level Rise and Climate Change*

The Intergovernmental Panel on Climate Change (IPCC) is the United Nations body for assessing the science related to climate change. The IPCC predicts a 3.2 foot global sea level rise by the year 2100, as well as increased extreme whether events related to climate change (IPCC, 2022). The Pacific Islands Ocean Observing System is a tool created and managed by the University of Hawai'i and funded in part by the National Oceanic and Atmospheric Administration (NOAA) that provides updated coastal and ocean information, tools and services. One of the tools includes the State of Hawai'i Sea Level Rise Viewer, which provides an interactive mapping tool that models coastal inundation based on different sea level rise scenarios. Figure 4 shows the project site

during the 3.2 foot sea level rise scenario. The project site would not be directly affected by the modeled sea level rise scenario (PacIOOS, 2021).

***Figure 4: Sea Level Rise Exposure Scenario***




*Potential Impacts and Mitigation Measures*

Dust would be generated on a short-term basis during construction site work. In order to mitigate airborne dust (particulate matter) impacts to the surrounding environment, all construction activities would need to adhere to County of Maui DPW construction best management practices (BMPs) rules. These BMPs would include watering active work areas and unpaved work roads; use of dust fences; establishment of a routine road cleaning and tire washing program; establishment of landscaping or hardened surface early in the construction schedule; and monitoring dust at the project boundary during construction (COM, 2021). With these mitigation measures in place there would be no significant impact to air quality from the proposed action during construction. Once completed, it is not anticipated that there would be any significant long-term air quality impacts from the operation of the proposed rehabilitation facility and parking area since there would be no significant source of dust or other emissions for operation of the facility.

## Geological Resources

*Existing Conditions*

The project site is located on the Maui central isthmus area below the eastern base of the West Maui Mountains. The project site is mostly level at an elevation of approximately 85 feet above mean sea level. One soil type is mapped within the project area, which includes Pu'uone sand. This soil type is characterized as somewhat excessively drained sands and cemented material with medium runoff potential (USDA, 2021, SOEST, 2021)

*Potential Impacts and Mitigation Measures*

The proposed action would result in short-term less than significant impacts to soils during construction from grading, site work, utility, and infrastructure development. Soils would be temporarily excavated and stockpiled onsite during the construction period. Exposed soils are susceptible to erosion, especially if it rains heavily during site work periods.

Adverse impacts from soil erosion and runoff would be minimized as a result of erosion and sedimentation control measures that would be implemented during construction. Proposed construction would need to comply with Maui County Code 20.08: Soil Erosion and Sedimentation; the County BMP standards addressing soil and erosion control (e.g., silt fencing, covering and protecting soil stockpiles with tarps and filter socks, surface revegetation as soon as possible) (COM, 2021). These mitigation measures would minimize soil migration from the proposed construction area. The topography of the project site would remain similar to existing conditions following construction.

Once completed, the proposed rehabilitation facility would include hardened surfaces for driveway area, walkways and parking. Landscaped areas are also proposed that would hold soil in place naturally similar to existing conditions (Figure 3). As a result, soil and topography impacts are anticipated to be short-term and insignificant.

## Noise

*Existing Conditions*

An environmental noise assessment was conducted by D.L. Adams Associates from October to December 2021 in order to determine existing noise sources and receptors at and surrounding the project site that may affect the proposed project users, as well as to determine any potential noise impacts to the affected environment from the proposed project. The noise assessment report is included as Appendix B.

Ambient noise level measurements were conducted at key street intersections bordering the project site from October 21 to October 24, 2021 to assess the existing acoustical environment on or near the proposed project site. Continuous, hourly equivalent sound levels were recorded at each location. The noise assessment determined that the ambient sound levels at and surrounding the project site are typical of an environment adjacent to quiet suburban streets and vary with the time of day based on vehicular traffic volumes and distance to the nearest traffic source (DL Adams, 2021).

*Potential Impacts and Mitigation Measures*

Under the proposed action, short-term noise impacts from construction activities would occur. Development of the project site would involve excavation, grading, and use of other typical mechanized construction equipment/tools. Table 2 below shows typical construction noise levels by phase.

Based on the maximum generalized outdoor noise levels at the nearest residences across the street from the project site, HDOH Community Noise Rule criteria will be exceeded during construction of the project, and the project will require a Noise Permit to proceed with construction. HDOH may also require the contractor to conduct noise monitoring or community meetings inviting the neighboring residents and business owners to discuss construction noise. The contractor should use reasonable and standard practices to mitigate noise, such as using mufflers on diesel and gasoline engines, using properly tuned and balanced machines, etc.

HDOH may require additional noise mitigation, such as temporary noise barriers, or time of day usage limits for certain kinds of construction activities. However, maximum noise levels at any one receptor will be short-term and vary with the phase of construction and equipment actually used on site. Therefore, while noise permits will be required to comply with the HDOH Community Noise Rule, and noise mitigation measures should be incorporated into any construction alternative to reduce maximum noise levels, significant construction noise impacts are not expected at any receptor during the construction of the proposed rehabilitation facility.

Long-term vehicular traffic noise impacts to users of the new facility, as well as the surrounding community noise receptors from additional trips and vehicle idling generated from the proposed rehabilitation facility are projected to be minimal compared to existing conditions. Once in operation, all stationary noise sources (i.e. air handler units) will be required to comply with the HDOH Community Noise Rule. All equipment located exterior to the building and which duct to the building exterior must be evaluated and designed for compliance with the HDOH Criteria for Category A receptors at all neighboring property lines. Therefore, no significant impact is expected due to stationary sources associated with the Hale Makua Rehabilitation Center operations (DL Adams, 2021).

***Table 2: Typical Construction Phase Noise Levels***

| **Construction Phase** | **Noise Level at 50 Feet ($L_{eq}$ dBA)** |
|---|---|
| Ground Clearing | 84 |
| Excavation | 89 |
| Foundation | 78 |
| Structure Erection | 87 |
| Finishing | 89 |

$L_{eq}$ dBA = equivalent continuous sound level in decibels

## Biological Resources

*Existing Conditions*

A biological resources survey of the project site was completed for the project site by TetraTech, that included a review of relevant publicly available literature and data relevant to the biological resources in and near the project site. Evaluated resources included previous survey reports, environmental assessments and environmental impact statements, public datasets, scientific journals and reports, as well as available, unpublished data that are relevant to the natural history and ecology of the area. In addition, available geospatial data, aerial photographs, and topographic maps of the area were reviewed to identify occurrences of federally or state listed or otherwise rare species, or habitats that could harbor these species.

A field survey of the project area was conducted by a trained biologist on July 1, 2021. The field survey methodology included inspection of the project site and recordation of the existing plant and animal species and/or species habitats observed. The field survey revealed that the project area is comprised of a fenced manicured lawn with several planted ornamental tree and shrub species. The species composition is dominated by non-native plants and wildlife. Of the native species observed, all are common across Maui and other Hawaiian Islands. No federally or state listed species were observed in the project during the survey. The biological species observed during the field survey are detailed in the biological resources survey report, which is included as Appendix A.

Although not observed during the survey, several federally or state listed animal species may occasionally occur in or traverse the area. No designated critical habitat occurs in the project area or the vicinity. The closest designated critical habitat is approximately 1.4 miles to the northeast at the Kanaha Pond State Wildlife Sanctuary.

Although not observed within the Study Area during the survey, suitable habitat for the threatened Hawaiian goose or Nene (*Branta sandvicensis*) occurs within the project area and in the immediate vicinity.

Listed waterbird species that occur on Maui include the Hawaiian stilt or ae'o (*Himantopus mexicanus knudseni*), Hawaiian coot or 'alae kea (*Fulica alai*), and the Hawaiian duck or koloa (*Anas wyvilliana*); these species are collectively referred to as listed waterbirds. No listed waterbirds or their habitat were observed in the project area during the survey.

Federally and state listed seabird species that occur on Maui include the endangered Hawaiian petrel or 'ua'u (*Pterodroma sandwichensis*), the threatened Newell's shearwater or a'o (*Puffinus newelli*), and the endangered band-rumped strom petrel or 'akē'akē (*Oceanodroma castro*); these species are collectively referred to as listed seabirds. These seabirds spend most of their life far offshore, but return to land to breed. Nests are typically located in high elevation mountainous areas.

Suitable nesting and foraging habitat for listed seabirds does not occur in the project area. However, suitable nesting habitat for listed seabirds exists at upper elevations of Haleakalā and the West Maui Mountains.

*Potential Impacts and Mitigation Measures*

Listed seabirds may be attracted to construction or operational lights at night. Juvenile birds are particularly vulnerable to light attraction, especially during their post-fledging departure. Disorientation and fallout as a result of light attraction could occur for individuals attracted to nighttime construction lighting and unshielded nighttime facility lighting. Grounded seabirds can become injured or suffer from predation or vehicle strikes. it is possible these seabirds could fly over the Study Area at night between April and December while transiting between nest sites and the ocean.

Avoid nighttime construction during the seabird fledgling period (September 15–December 15).

If nighttime construction is required outside the seabird fledging period, construction lighting should be shielded and directed downward and fit with non-white lights to minimize the attractiveness of construction lights to seabirds.

Operational on-site lighting should be fully shielded and directed downward to prevent upward radiation, triggered by a motion detector and/or timer controls when human activity is not occurring, and fitted with non-white light bulbs to the extent possible. Other possible lighting recommendations may include: placing lights under eaves; shifting lighting according to moon phase; decreasing visibility of interior lights; planting vegetation around lights to reduce light visibility; and using longer light wavelengths (DOFAW 2020).

Minimize construction of overhead lines to reduce collision risk.

If a grounded seabird is found, contact the Maui Nui Seabird Recovery Project at (808) 573-2473.

Avoid creating areas with temporary or permanent standing water to avoid attracting listed waterbirds. If listed waterbirds are found in the project area during active construction, cease all activities within 100 feet of the bird(s) and do not approach the bird(s). A trained biologist should survey the site for waterbird nests following their arrival at the site. Repeat surveys again within 3 days of project initiation, and following project completion.

If Hawaiian geese are observed in the project area during active construction, all activities within 100 feet of the bird should cease. Do not feed, approach, or disturb the bird(s). Work may continue after the bird leaves the area of its own accord.

If Hawaiian geese are observed loafing or foraging within the Study Area during the breeding season (September through April), halt work and have a biologist familiar with nesting behavior survey for nests in the area prior to the resumption of work. If a nest is discovered, contact USFWS and DOFAW and cease all work within 150 feet. If a nest is not discovered, work may continue after the bird leaves the area of its own accord.

If a nest of a listed waterbird is discovered, contact USFWS and DOFAW within 24 hours, and establish 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.

Establish a wildlife education and observation program for all construction and operational personnel. Staff should be trained to identify listed wildlife that may be found on-site (including Hawaiian geese, listed waterbirds, and listed seabirds) and to take appropriate steps if listed wildlife species are found. If downed listed species are observed at the project site, notify USFWS and DOFAW.

If landscaping is installed as part of the Project, use non-invasive plants and incorporate native plant species to the maximum extent practicable.

Although non-native weedy species are common in the project area, implement invasive species minimization measures to avoid the unintentional introduction or transport of new invasive species to the area. This includes utilizing on-site gravel, rock, and soil (or purchasing from a local supplier) when practicable; utilizing certified, weed-free seed mixes; and washing construction equipment and/or visually inspecting for excessive dirt, debris, plant materials, and invasive or harmful non-native species as appropriate. Consult with Maui Invasive Species Committee if needed.

To minimize spread of the fungal pathogen responsible for Rapid 'Ōhi'a Death, follow the most recent Rapid 'Ōhi'a Death decontamination protocols recommended by USFWS and DOFAW (TetraTech, 2021).

## Water Resources

*Existing Conditions*

*Surface Water*

The project site is located within the 'Iao watershed. The closest surface waterbodies to the project area include a series of canals located approximately 0.9 miles northeast of the project area that flow into the Kanaha Pond State Wildlife Sanctuary, which is a coastal wetland located approximately 1.4 miles northeast of the project site. Kanaha Pond State Wildlife Sanctuary is identified as a class 1 inland water by the DOH. "It is the objective of class 1 waters that these waters remain in their natural state as nearly as possible with an absolute minimum of pollution from any human-caused source" (DOH, 2014). Kahului Harbor is located approximately 0.9 miles north of the project site, and is classified as a class A marine water by the DOH. "It is the objective of class A waters that their use for recreational purposes and aesthetic enjoyment be protected" (DOH, 2014).

*Groundwater*

Groundwater resources within the vicinity of the project site are associated with an upper and lower aquifer within the Central aquifer sector of the Kahului aquifer system. The upper level aquifer is a basal, unconfined, flank type. This aquifer is currently used for ecological importance (non-drinking water resource), has low salinity, is irreplaceable and has a high vulnerability to contamination. The lower aquifer is a basal, confined, flank type. It is also used for ecological importance (non-drinking water resource), has low salinity, is irreplaceable, and has a moderate vulnerability to contamination (Mink and Lau, 1990).

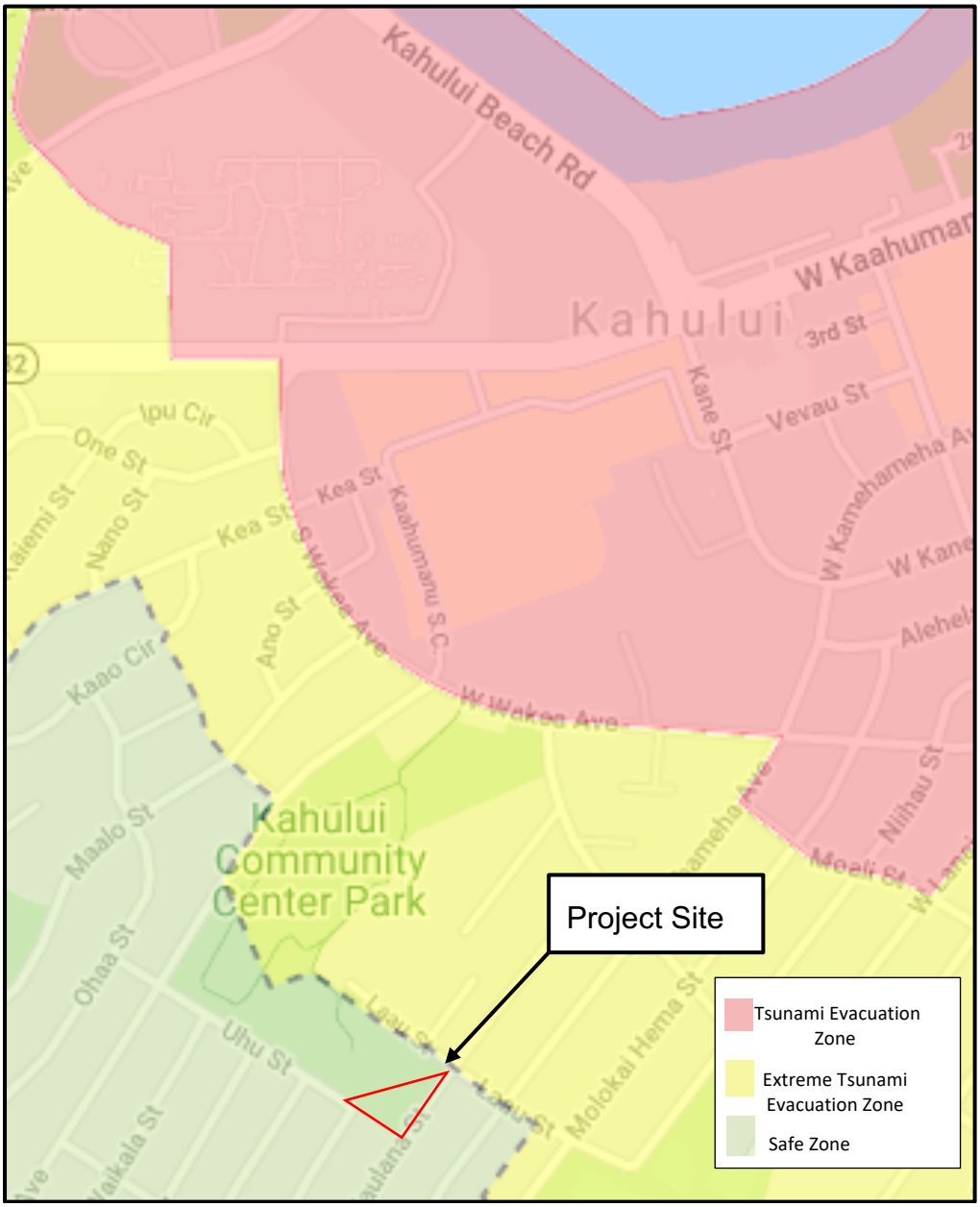
### *Flood Plains*

The project site is located in Federal Emergency Management Agency (FEMA) Flood Zone X: area of minimal flood hazard (FEMA, 2021).

### *Tsunami Hazards*

The project site is located directly adjacent to (outside) the Extreme Tsunami Evacuation Zone, and is located approximately 0.37 miles southwest/upgradient of the Tsunami Evacuation Zone (Figure 5, NOAA, 2021).

***Figure 5: Tsunami Evacuation Zone Map***



*Potential Impacts and Mitigation Measures*

Surface Water

Construction activities have the potential to result in short-term impacts to surface water quality since soils will be disturbed and may be stockpiled temporarily onsite during construction, which could lead to sediment stormwater runoff on and offsite. Other construction site pollutants may include solid and sanitary wastes, fertilizers, pesticides, oil and grease, concrete truck washout, construction chemicals, and construction debris.

In order to mitigate sediment and other pollutant runoff from construction activities, the contractor will be required to install and maintain construction BMPs in compliance with Maui County Code 20.08: Soil Erosion and Sedimentation Control. Stormwater BMPs include, but are not limited to; sediment basins/ traps; filter fabric silt fences; straw bale, sand bag, or gravel bag barriers; stormwater drain inlet protection, and stabilized construction entrances (COM, 2021). The project will also comply with State water quality regulations HAR Chapters 11-54 and 11-55. National Pollution Discharge Elimination System (NPDES) General Permits for discharges of construction dewatering and hydrotesting waters may also be obtained from the DOH Clean Water Branch.

The County of Maui has established post-construction stormwater BMP requirements for all commercial developments (Section 16.26B.3900 of the Maui County Code).

The County of Maui stormwater management rules require the following ongoing measures for a new commercial facility. These measures would mitigate any significant long-term stormwater impacts from the proposed facility:

- Detain stormwater for a length of time that allows solids to settle. Examples of detention treatment include such methods as extended detention wet and dry ponds, created wetland, vaults/tanks, etc.
- Use of filtration or infiltration methods (flow-through based treatment from such methods as sand filters, grass swales, other media filters, infiltration);
- Short-term detention can be utilized with a flow-through based treatment system (e.g., a detention pond designed to meter flows through a swale or filter).

Other proposals to meet the County water quality criteria may be implemented if approved by the County Department of Public Works (DPW). The proposals would need to be accompanied by a certification and appropriate supporting material from a civil engineer licensed in the State of Hawai'i, that verifies compliance with County rules.

A permanent stormwater management system would be implemented at the proposed rehabilitation faculty that would adequately manage stormwater in accordance with County rules.

The proposed project would not result in increased risk of tsunami danger to the affected human environment since it would be constructed outside the Tsunami Evacuation Area in accordance with the Maui County Building Code.

Groundwater

It is not anticipated that groundwater will be encountered or affected by the proposed project given the depth to groundwater at the project site (approximately 55 feet below ground surface) (USGS, 2021). Site grading for the proposed rehabilitation facility would occur well above groundwater level.

Potable water use at the proposed rehabilitation facility would need to comply with County of Maui Administrative Rules Title 16, Chapter 201: Rules Relating to Water Service (COM, 2019). The requested water demand shall be verified by the County of Maui Department of Water Supply upon receipt of the building permit application.

During construction the contractor would need to supply sanitary portable toilets that would be serviced regularly. In order to operate, the proposed rehabilitation facility would need to follow County wastewater standards; Title 14, Article 2: Wastewater by installing appropriate wastewater collection and transmission infrastructure to properly manage all generated wastewater . Wastewater use is regulated on Maui by the County of Maui Department of Environmental Management, Wastewater Reclamation Division. The Wailuku-Kahului Wastewater Reclamation Facility collects wastewater generated at the project site, and surrounding area. With

## Solid and Hazardous Waste

*Existing Conditions*

Solid waste generated in Kahului is disposed/recycled at the Central Maui Landfill Refuse and Recycling Center, which is located 4.7 miles southwest of the project site. Construction and demolition waste is accepted at the Central Maui Landfill by permitted customers. There is no solid waste currently generated at the Project site. The County of Maui, Department of Parks and Recreation own and manage the following improvements located directly north of the project site: the Kahului Community Center and auditorium, the Kokua Pool complex, ball fields, tennis courts and restroom. The project site is bordered in all other directions by public roadways and residential use. There are no known sources of hazardous materials/wastes at the project site.

*Potential Impacts and Mitigation Measures*

During construction of the proposed rehabilitation facility, non-hazardous green waste and native soil will be generated from grading activities. Construction materials, such as concrete, asphalt, gypsum board, paints and coatings will also be used onsite during construction. Construction vehicles and earth moving equipment fueled by petroleum products will be used onsite. The contractor would need to conduct regular inspections and maintenance of vehicles and equipment to assure that no petroleum spills or leaks occur. Any excess green waste, soil and construction materials generated onsite will be recycled or properly disposed at the Central Maui Landfill or another approved facility in accordance with County rules.

Once in operation, the rehabilitation facility would not generate or store any significant quantities of hazardous materials. Small quantities of petroleum, paints and coatings may be utilized by maintenance staff. All potentially hazardous materials would need to be

properly stored out of the sun/elements in flammable lockers within secure designated maintenance areas. The facility would generate non-hazardous solid waste from normal operations. All solid waste would be properly collected by a local solid waste contractor and disposed at the Central Maui Landfill. There would be no significant short-term or long-term impacts to the affected environment from solid or hazardous waste.

## Traffic, Access and Parking

*Existing Conditions*

A traffic impact analysis was conducted for the proposed project by Austin, Tsutsumi & Associates from June through August, 2021. The traffic analysis was conducted to determine existing and future vehicular traffic patterns at key roadway intersections around the project site using both with and without project scenarios to determine traffic impacts from the proposed rehabilitation facility. The traffic impact analysis report (TIAR) is included as Appendix E.

The intersection analysis within the project area was performed on the following intersections due to their proximity to the Project:

- Kaulana Street/Hina Ave (Unsignalized)
- Kamehameha Avenue/Hina Avenue (Signalized)
- Kaulana Street/Laau Street (Unsignalized)
- Kamehameha Avenue/Laau Street (Unsignalized)
- Kaulana Street/Papa Avenue (Unsignalized)
- Kamehameha Avenue/Papa Avenue (Signalized)

The Level of Service (LOS) methodolgy was employed for the traffic study, which is a qualitative measurement methd 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 following are brief descriptions of the existing roadways studied within the vicinity of the project area:

Hina Avenue is generally an east-west, two-way, two-lane, undivided County roadway that begins to the west at its intersection with Wakea Avenue and terminates to the east at its intersection with Ani Street, where it transitions into Hina Place. The posted speed limit along this roadway is 20 mph.

Kamehameha Avenue is generally a north-south, two-way, two-lane, undivided County roadway which provides connectivity between the Wailuku and Kahului areas. Kamehameha Avenue begins to the north with its intersection with Hana Highway near the Kanaha Pond, extends westward and then curves southward where it eventually terminates near Pomaika'i Elementary School. The posted speed limit along this roadway is 20 mph.

Kaulana Street is generally a north-south, two-way, two-lane undivided County roadway which begins to the north at a T-intersection with Hina Avenue and extends southward

until it terminates at a T-intersection with Papa Avenue. The posted speed limit along this roadway is 20 mph.

Laau Street is generally an east-west, two-way, two-lane, undivided, local roadway that begins to the west at its intersection with Lono Avenue and the Maui High School Main Parking Entrance and terminates to the east at its intersection with Ani Street. The posted speed limit along this roadway is 20 mph.

Papa Avenue begins at its intersection with Kaahumanu Avenue to the north and extends to the south before turning east and terminating at a cul-de-sac east of its intersection with Kuula Street. Papa Avenue is generally a two-lane, undivided residential roadway with a posted speed limit of 30 mph. Papa Avenue provides local access to residences and schools throughout Kahului.

The residential area in the vicinity of the Project, also known as "Dream City", is a relatively older neighborhood. As a result, many of the local streets have relatively narrow walking paths fronting the homes but no bike accommodations. Some of the collector roads have marked bike lanes/paved shoulders for bike use and sidewalks. In the vicinity of the project area sidewalks are provided along the east side of Kaulana Street, both sides of Hina Avenue and both sides of Papa Avenue. There are no sidewalks along Laau Street.

*Existing Traffic Volumes*

Turning movement counts were collected on Wednesday, June 16, 2021. To adjust these counts to pre-COVID-19 levels, traffic volumes were increased to match turning movement counts at the Kamehameha Avenue intersections with Hina Avenue and Papa Avenue which were collected in 2018 and 2019, prior to traffic impacts from COVID-19. Based on the traffic count data, the weekday AM and PM peak hours of traffic were determined to occur generally between 7:00 AM and 8:00 AM and between 4:00 PM to 5:00 PM, respectively.

Traffic throughout the study network was observed to generally flow smoothly along the corridors, with no significant queues, with the exception of congestion fronting Kahului Elementary School and Maui High School. Analysis shows that all movements throughout the network operate at LOS C or better across both peak am and pm hours. Table 3 shows the existing traffic conditions LOS analysis summary.

The Year 2023 was selected to reflect the project completion year. The Base Year 2023 scenario represents the traffic conditions within the study area without the proposed project. Traffic projections were formulated by applying a defacto growth rate to the "Existing" conditions volumes as well as trips generated by known future developments in the vicinity of the project area . The Base Year 2023 scenario includes an annual ambient growth forecast by the Maui Regional Travel Demand Model (MRTDM) and other known developments in the vicinity of the project area anticipated to be completed by the Year 2023. Growth rates ranging from 1.17%-1.90% were applied to Papa Avenue, Hina Avenue, and Kamehameha Avenue.

***Table 3: Existing Traffic Conditions LOS Summary***

| Intersection | Existing Conditions | | | | | |
|---|---|---|---|---|---|---|
| | AM | | | PM | | |
| | HCM Delay | v/c Ratio | LOS | HCM Delay | v/c Ratio | LOS |
| **1: Kaulana St & Hina Ave** | | | | | | |
| NB LT/RT | 12.7 | 0.13 | B | 11.4 | 0.06 | B |
| WB LT | 7.9 | 0.01 | A | 7.9 | 0.01 | A |
| *Overall* | 1.4 | - | - | 0.9 | - | - |
| **2: Kamehameha Ave & Hina Ave** | | | | | | |
| NB LT | 10.4 | 0.13 | B | 10.3 | 0.10 | B |
| NB TH/RT | 18.1 | 0.81 | B | 13.7 | 0.62 | B |
| EB LT/TH/RT | 17.8 | 0.55 | B | 15.4 | 0.53 | B |
| WB LT/TH/RT | 18.4 | 0.61 | B | 15.0 | 0.49 | B |
| SB LT | 12.1 | 0.18 | B | 9.9 | 0.13 | A |
| SB TH/RT | 13.3 | 0.39 | B | 14.4 | 0.72 | B |
| *Overall* | 16.7 | - | B | 14.3 | - | B |
| **3: Laau St & Kaulana St** | | | | | | |
| NB LT/TH/RT | 7.1 | 0.05 | A | 7.0 | 0.03 | A |
| EB LT/TH/RT | 7.2 | 0.03 | A | 7.4 | 0.08 | A |
| WB LT/TH/RT | 7.3 | 0.06 | A | 7.3 | 0.05 | A |
| SB LT/TH/RT | 7.2 | 0.05 | A | 7.4 | 0.03 | A |
| *Overall* | 7.2 | - | A | 7.3 | - | A |
| **4: Kamehameha Ave & Laau St** | | | | | | |
| NB LT | 8.0 | 0.01 | A | 8.4 | 0.01 | A |
| EB LT/TH/RT | 18.5 | 0.16 | C | 18.5 | 0.24 | C |
| WB LT/TH/RT | 18.1 | 0.05 | C | 14.9 | 0.03 | B |
| SB LT | 8.4 | 0.00 | A | 7.9 | 0.00 | A |
| *Overall* | 1.4 | - | - | 2.0 | - | - |
| **5: Papa Ave & Kaulana St** | | | | | | |
| EB LT | 8.8 | 0.01 | A | 8.4 | 0.01 | A |
| SB LT/RT | 18.1 | 0.10 | C | 12.7 | 0.03 | B |
| *Overall* | 0.5 | - | - | 0.2 | - | - |
| **6: Papa Ave & Kamehameha Ave** | | | | | | |
| NB LT | 19.3 | 0.36 | B | 18.2 | 0.50 | B |
| NB TH | 25.2 | 0.74 | C | 19.0 | 0.42 | B |
| NB RT | 19.8 | 0.16 | B | 16.8 | 0.11 | B |
| EB LT | 16.3 | 0.39 | B | 18.4 | 0.16 | B |
| EB TH | 22.4 | 0.71 | C | 25.9 | 0.75 | C |
| EB RT | 17.6 | 0.17 | B | 20.5 | 0.19 | C |
| WB LT | 15.7 | 0.43 | B | 18.6 | 0.40 | B |
| WB TH | 22.7 | 0.77 | C | 21.0 | 0.51 | C |
| WB RT | 16.0 | 0.03 | B | 17.6 | 0.02 | B |
| SB LT | 20.7 | 0.20 | C | 18.3 | 0.12 | B |
| SB TH | 24.7 | 0.52 | C | 26.7 | 0.78 | C |
| SB RT | 21.6 | 0.05 | C | 19.7 | 0.04 | B |
| *Overall* | 21.5 | - | C | 21.9 | - | C |

Due to background projects and ambient growth (without project), it is anticipated that Kamehameha Avenue will experience an increase in approximately 35-80 vehicles per direction during the AM and PM peak hours. Papa Avenue is anticipated to experience an increase of approximately 20-60 vehicles per direction during the AM and PM peak hours as well. Hina Avenue is anticipated to experience an increase of less than 10 vehicles per direction during the AM and PM peak hours. With the volume increases, all movements are anticipated to continue to operate similarly to existing conditions, with all movements operating and LOS C or better across all peak hours (ATA, 2021).

*Potential Impacts and Mitigation Measures*

The proposed rehabilitation facility is anticipated to generate a total of 59(64) trips during the AM(PM) peak hours. When distributed across the study network, the project is anticipated to minimally add only 5-8 vehicles per direction along adjacent collector roads. Upon completion of the Project, all study intersections are forecast to operate with similar LOS as Base Year 2023 traffic conditions (without project conditions), with all movements operating acceptably at LOS D or better across both am and pm peak hours. At the new entering and exiting driveway intersections, all movements are anticipated to operate at LOS A across both peak hours. Therefore, no significant impacts to the existing roadway network are anticipated from the proposed project, and no mitigation or roadway improvements are recommended (ATA, 2021).

## Historic, Cultural and Archaeological Resources

### *Archaeological Resources*

*Existing Conditions*

A Draft Historic Preservation Review for the Proposed Hale Makua Rehabilitation Facility (Draft Historic Preservation Review) was completed for the project site by ʻĀina Archaeology from July through November 2021. The Draft Historic Preservation Review consisted of a pedestrian field inspection of the project site and a review of State Historic Preservation Division (SHPD) and other published archaeological records within a half-mile radius of the project site.

The archaeological field inspection of the project site was completed on November 1, 2021, which consisted of a cursory walk through the area to assess the current site conditions and understand the potential for encountering historically significant and/or culturally sensitive sites. The project site is located along the plains of Kamaʻomaʻo just south of Kahului Bay, and amongst the sand hills of the central isthmus of Maui within the ahupuaʻa (Native Hawaiian land division) of Wailuku (Lee-Greig, 2021).

The entire ahupuaʻa of Wailuku was declared Crown Lands during the Great Māhele when lands in Hawaiʻi were privatized. Crown Land designation notwithstanding, nearly 300 kuleana claims were awarded by the Land Commission within the ahupuaʻa of Wailuku. The majority of these claims were located in the upland portion of Wailuku and were generally focused along the flood plain of the Wailuku River, as well as mauka (upgradient)/west of the area identified as the “Sand Hills” where the project site is located (Lee-Greig, 2021).

During the field inspection, no pre-contact or historic era archaeological sites or structures were identified on the surface. However, culturally sensitive Pu'uone Sands are present throughout the project site and have a high likelihood of containing archaeological resources since it is undeveloped and due to significant finds that have been encountered in the area; most notably to the west of the project site (Lee-Greig, 2021).

*Potential Impacts and Mitigation Measures*

Since there is a high likelihood of encountering archaeological/cultural resources during ground disturbance site work for the proposed rehabilitation facility, ongoing consultation with SHPD is recommended to determine if an archaeological inventory survey (AIS), compliant with HAR 13-276 – Rules Governing Standards for Archaeological Inventory Surveys and Reports, is recommended. Due to the highly sensitive nature of the underlying sediments, preparation of an archaeological inventory survey plan (AISP) to govern and guide the AIS fieldwork may be recommended by SHPD. If required, development of the AISP should occur in consultation with SHPD Archaeology Branch, and potentially with other entities identified by SHPD, potentially including, but not limited to, SHPD Culture and History Branch, the Office of Hawaiian Affairs, Native Hawaiian Organizations and individuals with cultural and genealogical ties to the area, and the Maui/Lāna'i Islands Burial Council.

Should additional archaeological survey work be requested and/or approved by SHPD, subsurface archaeological testing would occur to determine if subsurface resources are present or potentially present within the project site. If sites or features are identified or if there is evidence that sites may be present, the project will work with SHPD to fulfill its obligations under HRS Chapter 6E. Should any sites or features be identified or potentially be present, the project will work with SHPD to avoid any impacts to these sites and/or features, or, alternatively, mitigate the effect in compliance with HAR 13-284-8. With the incorporation of the steps and measures stated above, as well as completion of and adherence to an archaeological monitoring plan (AMP) (if required) during construction, it is not anticipated there will be any significant adverse impacts to archaeological resources during construction or operation of the proposed rehabilitation facility (Lee-Greig, 2021).

*Cultural Resources*

*Existing Conditions*

A Cultural Impact Assessment (CIA) was completed for the proposed project by Honua Consulting from July 2021 through January 2022 in compliance with HRS 343, HAR 11-200.1 and Hawai'i State Legislature Act 50 (HSL 2000). The CIA consisted of literature research and interviews of relevant knowledgeable parties in order to gather and document historic cultural information, including any evidence of existing or prior cultural practices or beliefs that have occurred in association with the project site. The CIA also included an impact analysis, including any recommended mitigation measures to determine if any significant cultural resources or practices were found to occur at the project site that may be affected by the project.

The following cultural resources were asociated with the project site:

- A cluster of three hala trees (*Pandanus tectorius*) was identified at the project site. The hala tree is native to the Hawaiian islands and while it is not rare or endangered, it holds important cultural significance, and is often used in both traditional and customary practices.
- According to ethnographic data obtained during the CIA interviews, hula classes may occor at the project site.

No other significant cultural resources or practices were found to occur at the project site that may be affected by the proposed project (Watson et al., 2021).

*Potential Impacts and Mitigation Measures*

Due to the negligible impacts to cultural practices or beliefs, there are no mitigation measures recommended or necessary at this time. Standard archaeology best practices and the recommendations in the Draft Historic Preservation Review should be implemented to avoid or address any potential subsurface cultural resources. Compliance with HRS Chapter 6E will require consultation with SHPD.

In the event that historic resources or iwi kūpuna are discovered during an AIS or during subsequent project work, SHPD, area cultural descendants and lineal descendants should be engaged to care for the discovered resources.

The following measures are recommended to avoid any potential negligible impacts to the identified cultural resources:

- The project should minimize any potential impacts to weavers or other practitioners by protecting and enhancing the hala trees identified at the project site.
- As the ethnographic data indicated that the area is potentially used for hula classes, Hale Makua should work with any hula practicioners that make themselves known, and the County Department of Parks and Recreation to ensure these activities are able to occur in adjacent County parklands.

If the recommendations herein are implemented, there are no significant adverse impacts anticipated to cultural practices due to the proposed project (Watson et al., 2021).

## Socioeconomic Resources

*Existing Conditions*

The project site is located within the Census Designated Place (CDP) of Kahului. The population of the Kahului CDP as of the April 1, 2020 Census was 28,219. Persons under 5 years old represented 5.4% of the CDP population, persons under 18 years old represented 23.6% of the CDP population, and persons 65 or older represented 17.0% of the CDP population. 65.7% of the CDP population was in the civilian workforce. And the median household income was $86,129 (US Census Bureau, 2021).

*Potential Impacts and Mitigation Measures*

The proposed project would result in the creation of short and long-term jobs for the local community. Construction jobs would be created during the construction of the proposed

rehabilitation facility. Once in operation, the facility would create a variety of permanent health care professional positions, as well as facility support staff positions (i.e., maintenance workers, custodians, groundskeepers).

The proposed project is not anticipated to result in any short or long-term adverse impacts to socioeconomic conditions since it would not cause loss of any jobs or housing, and would not result in tax revenue loss. The project would have beneficial economic and social impacts since it would result in job creation and much needed rehabilitation services for the local community.

## Recreational Resources

*Existing Conditions*

The project site is currently used as Kahului Gateball Field, which is part of the the Kahului Community Center Park. The park is owned and managed by the County of Maui, Department of Parks and Recreation. Known recreational users of Gateball Field include the Maui Disc Golf Association, Maui Taiko and the American Youth Soccer Organization (AYSO).

*Potential Impacts and Mitigation Measures*

The existing recreational users of the project site will be impacted by the proposed action since the project site will no longer be available for recreational activities. However, the remaining parklands and ball fields directly north of the project site within the Kahului Community Center Park will be available for recreational use. Lihikai Park is located 0.15 miles west of the project site. And Maui High School Park is also located 0.13 miles southeast of the project site. Since there are existing County parklands available within the direct vicinity of the project site, it is not anticipated that the proposed action would result in a significant impact to existing recreational resources.

## Visual and Scenic Resources

*Existing Conditions*

The project site is located in a mostly flat lowland developed area within the Maui central isthmus. The Kahului Community Center and the existing Hale Makua Kahului facility are located to the north. Residential development is present to the east, south and west of the project site. Significant visual features viewed from the project site and surrounding area include the West Maui Mountains to the west and Haleakalā to the east. The project area is not located in a scenic corridor identified by the County of Maui (COM, 2009).

*Potential Impacts and Mitigation Measures*

During construction, dust fences, construction materials and equipment would be visible. However, these impacts would be short-term, and dust fences around the work site would reduce visual distractions caused by construction. Once complete, the proposed rehabilitation facility would include an approximately 76,200 square foot two-story commercial building, as well as associated parking area. Figure 6 depicts a rendering of the proposed facility.

Given the project site proximity to the Maui Airport, the project developer would need to consult with the State of Hawai'i Department of Transportation-Airports Division (DOT-A) and the Federal Avaiation Administration (FAA) prior to finalizing buillding plans to ensure construction equipment (i.e., cranes) and any permanent roof structure photovoltaic panels planned for the proposed development would not significantly impact airport flight view planes by creating glare or other obstructions.

The proposed facility would be visible from surrounding houses, especially those homes located across Kaulana Street east of the project site at a slightly lower elevation. However, landscaping buffers are planned around the proposed facility that would soften the visual presence of the new building. The views of the West Maui Mountains and Haleakalā would still be visible from the project site and surrounding area. Therefore, there are no significant impacts anticipated to visual and scenic resources from the proposed project.

***Figure 6: Project Rendering***

## Utilities and Infrastructure

*Wastewater*

Municipal wastewater service is available at the project site. Hale Makua Health Services will be required to contribute any applicable cost sharing for the cost of potential on-site and off-site sewer upgrades to accomodate added flows from the proposed rehabilitation facility.

*Potable Water*

Municipal potable water service is available at the project site. Potable water use at the proposed facility would need to comply with the County of Maui Department of Water Supply Water System Standards 2002, as amended. Potable water requirements may include, but are not limited to the following:

- Installation of water service lateral(s), box(es) and approved reduced pressure backflow preventer, if applicable, to serve the proposed facility.
- Installation of a double check detector assembly, if applicable, to serve the proposed facility fire line.
- Provide domestic and irrigation water demand calculations prepared, signed, and stamped by a licensed State of Hawai'i professional engineer or architect.
- Provide an updated annual Backflow and Cross Connection Control Testing Report for the two existing reduced pressure backflow preventers serving the subject property's water services.
- All water system improvements require submittal of civil plans (24"x36") stamped and signed by a licensed State of Hawai'i engineer for the Department's review and approval. Construction work shown on the approved plans shall be completed by a licensed contractor at the property owner's expense.

*Electrical and Telephone/Cable Service*

Electrical service to the area is available and provided by Maui Electric Company, Ltd. Telephone and internet service is provided by Hawaiian Telcom and Spectrum. Existing electrical and cable utility infrastructure is located below ground in the project area. Hale Makua Health Services would be responsible for applicable utility component installations in order to accomodate the proposed facility (i.e., transformers, electric and cable lines).

Developent and use of municipal and private utilities would require coordination and permits from Maui County regulatory agencies in order to assure adequate source and proper management of utility resource use. Since all utility use would comply with applicable Maui County codes and rules, there would be no significant adverse impact to existing utility use or infrastructure.

## Cumulative and Secondary Impacts

HAR 11-200.1 defines cumulative impact as "[*t]he impact on the environment that 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"* (HAR 11-200.1-2).

The proposed rehabilitation facility is planned as part of Hale Makua Health Services' master plan to consolidate, diversify and upgrade their existing healthcare facilities to one location in Kahului. This would include closing their existing aging Wailuku facility, and moving all operations to the existing Kahului facility, as well as expanding much needed healthcare services at the planned rehabilitation facility.

The proposed rehabilitation facility would represent a significant portion of Male Makua Health Services' plan to consolidate and diversify services in Maui. This would result in a more central, efficient and diverse healthcare center for the Maui community. The proposed action would result in a beneficial long-term socioeconomic impact by providing new long-term healthcare jobs on Maui. The proposed action would represent an incremental increase in resource use and emissions of greenhouse gases (GHG). However, the proposed rehabilitation facility would not represent a significant source of GHG emissions since it would be a modern facility with updated and efficient systems compared to the aging Wailuku facility that is planned to be closed. There are no significant adverse cumulative impacts anticipated from the proposed action.

## Relationship to Plans and Policies

This section of the EA analyzes the proposed project in relation to local and State plans and policies. These land use plans and policies include the Hawai'i State Plan, Hawai'i State Land Use Districts Zoning, Maui County Zoning Code, and the Maui General Plan. The project site is within the State Urban land use district (Figure 6), and is zoned R-2: Residential under Maui County zoning designation (Figure 7). However, a change of zoning is being sought for the project site by the County from R-2 to P-2: Public/Quasi-Public District. Table 4 provides an analysis of the proposed action in relation to the policies and objectives of the Hawai'i State Plan.

***Figure 7: State Land Use Map***

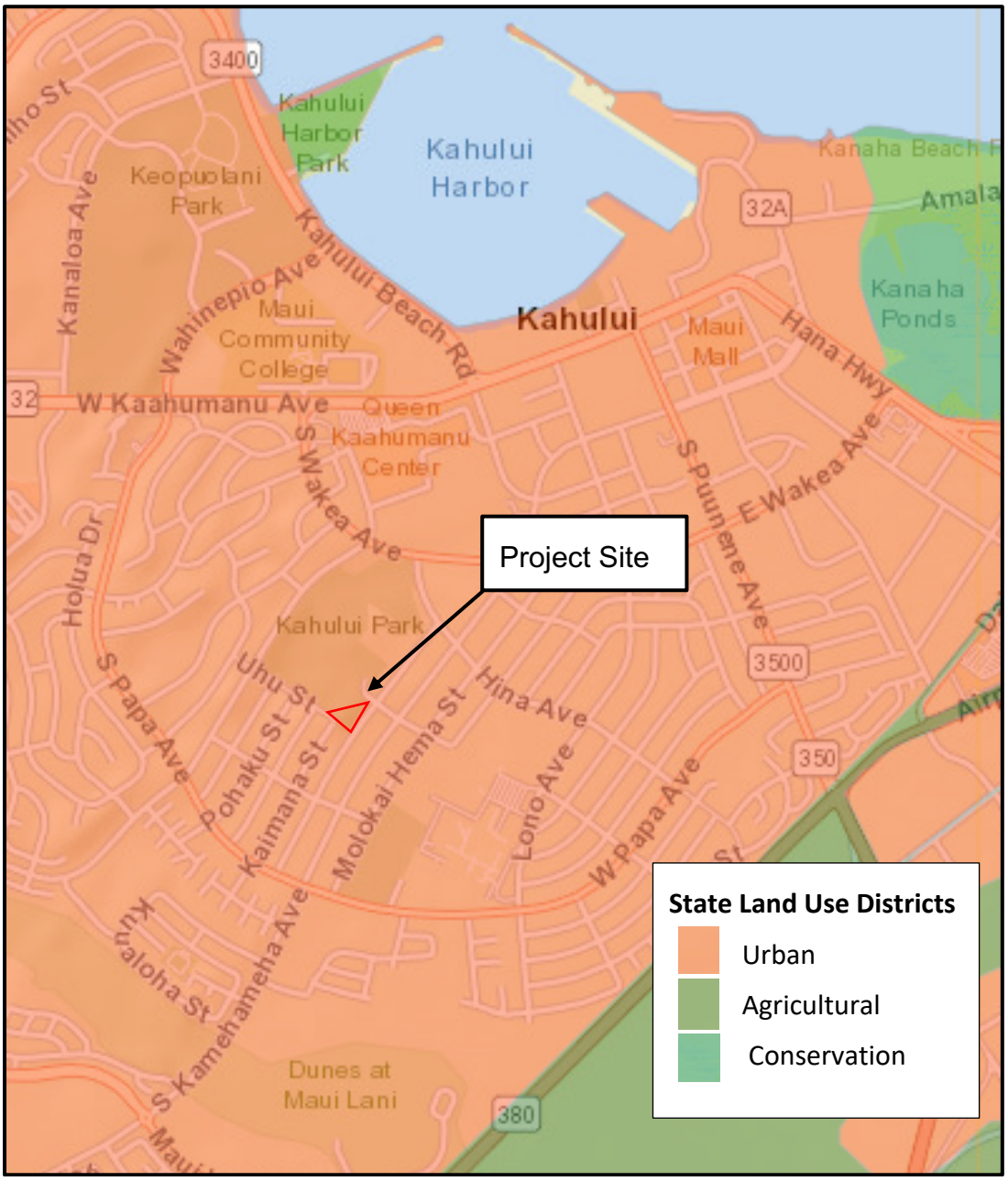
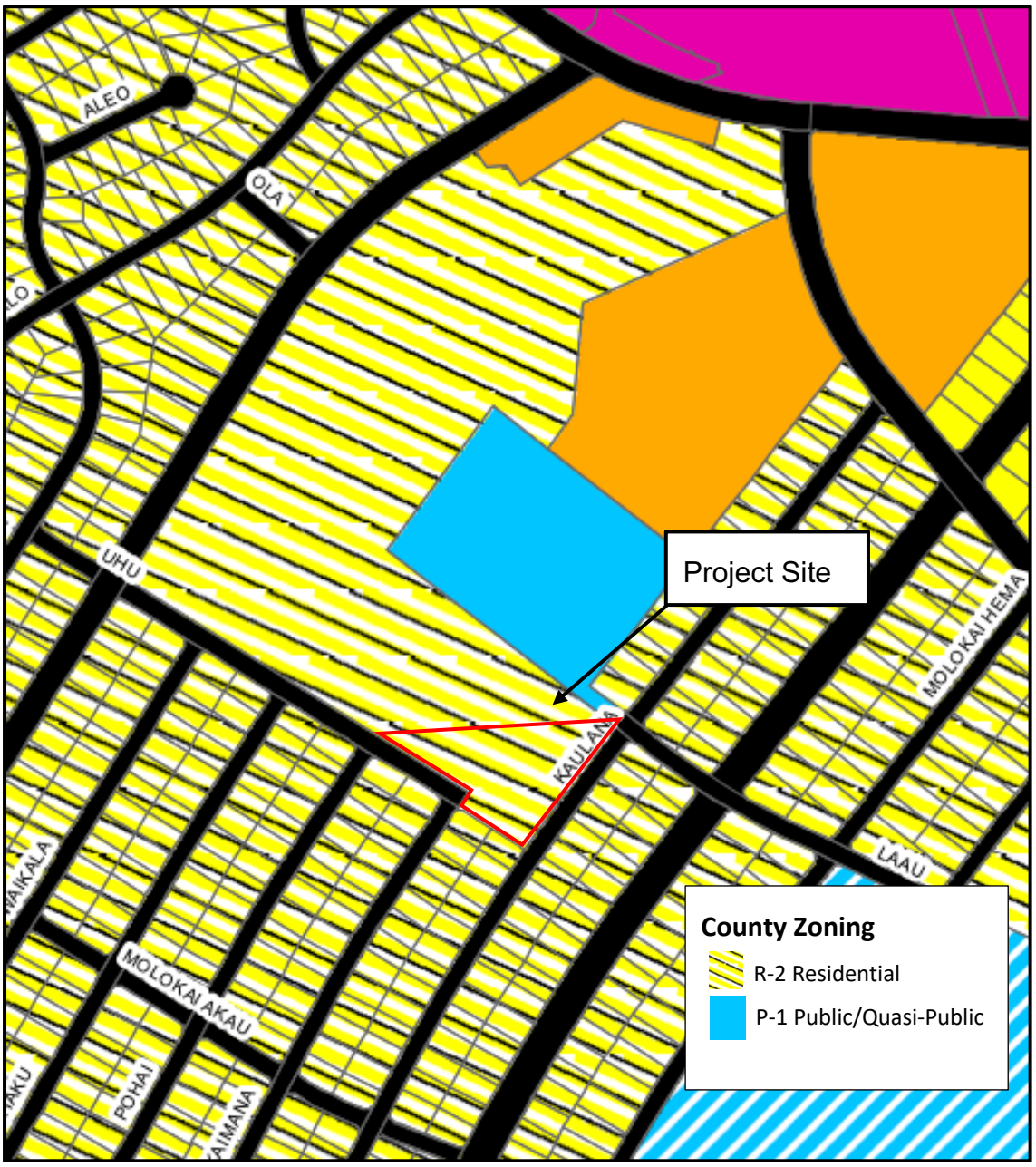


***Figure 8: County Zoning Map***



## *Hawai'i State Plan*

***Table 4: Hawai'i State Plan Analysis***

| **Hawai'i Revised Statutes Chapter 226- Hawai'i State Plan Analysis Part I: Overall Themes, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| **HRS 226-1: Findings and Purpose** | | | |
| **HRS 226-2: Definitions** | | | |
| **HRS 226-3: Overall Theme** | | | |
| **HRS 226-4: State Goals**<br>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: 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. 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. Physical, social, and economic well-being, for individuals and families in Hawai'i, that nourishes a sense of community responsibility, of caring, and of participation in community life. | **X** | | |
| **Discussion**: The proposed rehabilitation facility would increase self reliance and self determination for local community members by providing vital health and wellness services locally, rather than having to move or commute to Oahu in order to receive these services. The addition of health and wellness jobs would further increase economic diversification, offering jobs outside the tourism sector. The proposed facility would result in increased physical well-being since it would provide health and wellness services. | | | |
| **HRS 226-5: Objectives and Policies for Population**<br>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. | **X** | | |
| Manage population growth statewide in a manner that provides increased opportunities for Hawai'i's people to pursue their physical, social and economic aspirations while recognizing the unique needs of each county. | **X** | | |
| Encourage an increase in economic activities and employment opportunities on the neighbor islands consistent with community needs-and desires. | **X** | | |
| Promote increased opportunities for Hawai'i's people to pursue their socioeconomic aspirations throughout the islands | **X** | | |

| **Hawai‘i Revised Statutes Chapter 226- Hawai‘i State Plan Analysis Part I: Overall Themes, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| Encourage research activities and public awareness programs to foster and understanding of Hawai‘i's limited capacity to accommodate population needs and to address concerns resulting from an increase in Hawai‘i's population. | | | **X** |
| Encourage federal actions and coordination among major governmental agencies to promote a more balanced distribution of immigrants among states, provided that such actions do not prevent the reunion of immediate family members. | | | **X** |
| Pursue an increase in federal assistance for states with a greater proportion of foreign immigrants relative to their state’s population. | | | **X** |
| Plan the development and availability of land and water resources in a coordinated manner so as to provide for the desired levels of growth in each geographic area. | **X** | | |
| **Discussion**: The proposed project would provide much needed health and wellness service to a growing elderly and overall population on Maui. Providing these services in an increased capacity locally would increase economic and employment activity, as well as provide more socioeconomic freedom though greater availability of health and wellness services. The planning of added infrastructure at the proposed facility shall be closely coordinated with County and State agencies in order to assure adequate balance of natural resource and utility usage. | | | |
| **Chapter 226-6 Objectives and policies for the economy in general** | | | |
| Planning for the State’s economy in general shall be directed toward achievement of the following objectives: | | | |
| Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawai‘i's people. | **X** | | |
| 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 | **X** | | |
| These objectives shall be achieved through implementation of the following Policies: | | | |
| Promote and encourage entrepreneurship within Hawai‘i by residents and nonresidents of the State. | **X** | | |
| Expand Hawai‘i's national and international marketing, communication, and organizational ties, to increase the State's capacity to adjust to and capitalize upon economic changes and opportunities occurring outside the State. | | | **X** |

| **Hawai‘i Revised Statutes Chapter 226- Hawai‘i State Plan Analysis Part I: Overall Themes, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| Promote Hawai‘i as an attractive market for environmentally and socially sound investment activities that benefit Hawai‘i's people | | | **X** |
| Transform and maintain Hawai‘i as a place that welcomes and facilitates innovative activity that may lead to commercial opportunities. | | | **X** |
| Promote innovative activity that may pose initial risks, but ultimately contribute to the economy of Hawai‘i | | | **X** |
| Seek broader outlets for new or expanded Hawai‘i business investments. | | | **X** |
| Expand existing markets and penetrate new markets for Hawai‘i's products and services. | | | **X** |
| Assure that the basic economic needs of Hawai‘i's people are maintained in the event of disruptions in overseas transportation. | | | **X** |
| Strive to achieve a level of construction activity responsive to, and consistent with, state growth objectives. | **X** | | |
| Encourage the formation of cooperatives and other favorable marketing arrangements at the local or regional level to assist Hawai‘i's small-scale producers, manufacturers, and distributors. | | | **X** |
| Encourage labor-intensive activities that are economically satisfying, and which offer opportunities for upward mobility. | **X** | | |
| Encourage innovative activities that may not be labor-intensive, but may otherwise contribute to the economy of Hawai‘i. | **X** | | |
| Foster greater cooperation and coordination between the government and private sectors in developing Hawai‘i's employment and economic growth opportunities. | **X** | | |
| Stimulate the development and expansion of economic activities which will benefit areas with substantial or expected employment problems. | | | **X** |
| Maintain acceptable working conditions and standards for Hawai‘i's workers. | **X** | | |
| Provide equal employment opportunities for all segments of Hawai‘i's population through affirmative action and nondiscrimination measures. | **X** | | |
| Stimulate the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited. | **X** | | |

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|---|---|---|---|
| Encourage businesses that have favorable financial multiplier effects within Hawai‘i's economy. | **X** | | |
| Promote and protect intangible resources in Hawai‘i, such as scenic beauty and the aloha spirit, which are vital to a healthy economy. | **X** | | |
| Increase effective communication between the educational community and the private sector to develop relevant curricula and training programs to meet future employment needs in general, and requirements of new, potential growth industries in particular. | | | **X** |
| Foster a business climate in Hawai‘i, including attitudes, tax and regulatory policies, and financial and technical assistance programs that is conducive to the expansion of existing enterprises and the creation and attraction of new business and industry. | | | **X** |
| **Discussion:** The proposed facility would result in stimulating new and upwardly mobile jobs that would have a financial multiplier effect through expanded opportunities for health and wellness workers and subcontractors, as well as other facility support staff. Hale Makua Health Services, the project proponent, has a long history in Maui’s local community, and practices and perpetuates Hawai‘i’s unique values of kindness and Aloha spirit. Hale Makua is an equal opportunity employer. | | | |
| **HAR 226-7: Objectives and policies for the economy - Agriculture** | | | |
| Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives: | | | |
| Viability of Hawai‘i's sugar and pineapple industries. | | | **X** |
| Growth and development of diversified agriculture throughout the State. | | | **X** |
| An agriculture industry that continues to constitute a dynamic and essential component of Hawai‘i's strategic, economic, and social well-being. | | | **X** |
| To achieve the agriculture objectives, the following policies shall be implemented: | | | |
| Establish a clear direction for Hawai‘i's agriculture through stakeholder commitment and advocacy. | | | **X** |
| Encourage agriculture by making best use of natural resources. | | | **X** |
| Provide the governor and the legislature with information and options needed for prudent decision making for the development of agriculture. | | | **X** |

| **Hawai‘i Revised Statutes Chapter 226- Hawai‘i State Plan Analysis Part I: Overall Themes, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| Establish strong relationships between the agricultural and visitor industries for mutual marketing benefits. | | | **X** |
| Foster increased public awareness and understanding of the contributions and benefits of agriculture as a major sector of Hawai‘i's economy. | | | **X** |
| Seek the enactment and retention of federal and state legislation that benefits Hawai‘i's agricultural industries | | | **X** |
| Strengthen diversified agriculture by developing an effective promotion, marketing, and distribution system between Hawai‘i's producers and consumer markets locally, on the continental United States, and internationally. | | | **X** |
| Support research and development activities that provide greater efficiency and economic productivity in agriculture. | | | **X** |
| Enhance agricultural growth by providing public incentives and encouraging private initiatives. | | | **X** |
| Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs. | | | **X** |
| Increase the attractiveness and opportunities for an agricultural education and livelihood. | | | **X** |
| Expand Hawai‘i's agricultural base by promoting growth and development of flowers, tropical fruits and plants, livestock, feed grains, forestry, food crops, aquaculture, and other potential enterprises. | | | **X** |
| Promote economically competitive activities that increase Hawai‘i’s agricultural self-sufficiency, including the increased purchase and use of Hawai‘i-grown food and food products by residents, businesses, and governmental bodies as defined under section 103D-104. | | | **X** |
| Promote and assist in the establishment of sound financial programs for diversified agriculture. | | | **X** |
| Institute and support programs and activities to assist the entry of displaced agricultural workers into alternative agricultural or other employment. | | | **X** |
| Facilitate the transition of agricultural lands in economically nonfeasible agricultural production to economically viable agricultural uses. | | | **X** |

| **Hawai‘i Revised Statutes Chapter 226- Hawai‘i State Plan Analysis Part I: Overall Themes, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| Perpetuate, promote, and increase use of traditional Hawaiian farming systems, such as the use of loko i‘a, māla, and irrigated lo‘i, and growth of traditional Hawaiian crops, such as kalo, ‘uala, and ‘ulu. | | | **X** |
| Increase and develop small-scale farms. | | | **X** |
| Discussion: Not applicable to the proposed project. | | | |
| **HAR 226-8: Objectives and policies for the economy- visitor industry** | | | |
| **Objective**: Planning for the State’s economy with regard to the visitor industry shall be directed towards the achievement of the objective of a visitor industry that constitutes a major component of steady growth for Hawai‘i’s economy. | | | X |
| **Policies** | | | |
| Support and assist in the promotion of Hawai‘i’s visitor attractions and facilities | | | **X** |
| Ensure that visitor industry activities are in keeping with the social, economic, and physical needs and aspirations of Hawai‘i’s people. | | | **X** |
| Improve the quality of existing visitor destination areas by utilizing Hawai‘i’s strengths in science and technology. | | | **X** |
| 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. | | | **X** |
| Develop the industry in a manner that will continue to provide new job opportunities and steady employment for Hawai‘i’s people. | | | **X** |
| Provide opportunities for Hawai‘i’s people to obtain job training and education that will allow for upward mobility within the visitor industry. | | | **X** |
| Foster a recognition of the contribution of the visitor industry to Hawai‘i’s economy and the need to perpetuate the aloha spirit. | | | **X** |
| Foster an understanding by visitors of the aloha spirit and of the unique and sensitive character of Hawai‘i’s cultures and values. | | | **X** |
| Discussion: Not applicable to the proposed project. | | | |
| **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 Hawai‘i’s economy | | | **X** |

| **Hawai‘i Revised Statutes Chapter 226- Hawai‘i State Plan Analysis Part I: Overall Themes, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| **Policies** | | | |
| Encourage the sustained flow of federal expenditures in Hawai‘i that generates long-term government civilian employment; | | | **X** |
| Promote Hawai‘i’s supportive role in national defense, in a manner consistent with Hawai‘i’s social, environmental, and cultural goals by building upon dual-use and defense applications to develop thriving ocean engineering, aerospace research and development, and related dual-use technology sectors in Hawai‘i’s economy; | | | **X** |
| Promote the development of federally supported activities in Hawai‘i that respect statewide economic concerns, are sensitive to community needs, and minimize adverse impacts on Hawai‘i’s environment; | | | **X** |
| Increase opportunities for entry and advancement of Hawai‘i’s people into federal government service; | | | **X** |
| Promote federal use of local commodities, services, and facilities available in Hawai‘i: | | | **X** |
| Strengthen federal-state-county communication and coordination in all federal activities that affect Hawai‘i; | | | **X** |
| Pursue the return of federally controlled lands in Hawai‘i that are not required for either the defense of the nation or for other purposes of national importance, and promote the mutually beneficial exchanges of land between federal agencies, the State, and the counties | | | **X** |
| Discussion: Not Applicable to the proposed project | | | |
| **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 Hawai‘i’s economic base. | | | **X** |
| **Policies** | | | |
| Facilitate investment and employment growth in economic activities that have the potential to expand and diversify Hawai‘i’s economy, including but not limited to diversified agriculture, aquaculture, renewable energy development, creative media, health care, and science and technology-based sectors; | **X** | | |
| Facilitate investment in innovative activity that may pose risks or be less labor-intensive than other traditional business activity, but if successful, will generate revenue in Hawai‘i through the export of services or products or substitution of imported services or products; | | | **X** |

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|---|---|---|---|
| Encourage entrepreneurship in innovative activity by academic researchers and instructors who may not have the background, skill, or initial inclination to commercially exploit their discoveries or achievements; | | | **X** |
| Recognize that innovative activity is not exclusively dependent upon individuals with advanced formal education, but that many self-taught, motivated individuals are able, willing, sufficiently knowledgeable, and equipped with the attitude necessary to undertake innovative activity; | | | **X** |
| Increase the opportunities for investors in innovative activity and talent engaged in innovative activity to personally meet and interact at cultural, art, entertainment, culinary, athletic, or visitor-oriented events without a business focus; | | | **X** |
| Expand Hawai‘i’s capacity to attract and service international programs and activities that generate employment for Hawai‘i’s people; | | | **X** |
| Enhance and promote Hawai‘i’s role as a center for international relations, trade, finance, services, technology, education, culture, and the arts; | | | **X** |
| Accelerate research and development of new energy-related industries based on wind, solar, ocean, underground resources, and solid waste; | | | **X** |
| Promote Hawai‘i’s geographic, environmental, social, and technological advantages to attract new or innovative economic activities into the State; | | | **X** |
| Provide public incentives and encourage private initiative to attract new or innovative industries that best support Hawai‘i’s social, economic, physical, and environmental objectives; | | | **X** |
| Increase research and the development of ocean-related economic activities such as mining, food production, and scientific research; | | | **X** |
| Develop, promote, and support research and educational and training programs that will enhance Hawai‘i’s ability to attract and develop economic activities of benefit to Hawai‘i; | | | **X** |
| Foster a broader public recognition and understanding of the potential benefits of new or innovative growth-oriented industry in Hawai‘i; | | | **X** |
| Encourage the development and implementation of joint federal and state initiatives to attract federal programs and projects that will support Hawai‘i’s social, economic, physical, and environmental objectives; | | | **X** |
| Increase research and development of businesses and services in the telecommunications and information industries; | | | **X** |
| Foster the research and development of nonfossil fuel and energy efficient modes of transportation; | | | **X** |
| Recognize and promote health care and health care information technology as growth industries | **X** | | |
| **Discussion**: The proposed action includes investment, promotion and employment growth in in the health care industry in Hawai‘i. | | | |

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|---|---|---|---|
| **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 Hawai‘i as a leader in broadband and wireless communications and applications in the Pacific Region. | | | **X** |
| **Policies** | | | |
| Promote efforts to attain the highest speeds of electronic and wireless communication within Hawai‘i and between Hawai‘i and the world, and make high speed communication available to all residents and businesses in Hawai‘i; | | | **X** |
| Encourage the continued development and expansion of the telecommunications infrastructure serving Hawai‘i to accommodate future growth and innovation in Hawai‘i's economy; | | | **X** |
| Facilitate the development of new or innovative business and service ventures in the information industry which will provide employment opportunities for the people of Hawai‘i; | | | **X** |
| Encourage mainland- and foreign-based companies of all sizes, whether information technology-focused or not, to allow their principals, employees, or contractors to live in and work from Hawai‘i, using technology to communicate with their headquarters, offices, or customers located out-of state; | | | **X** |
| Encourage greater cooperation between the public and private sectors in developing and maintaining a well-designed information industry; | | | **X** |
| Ensure that the development of new businesses and services in the industry are in keeping with the social, economic, and physical needs and aspirations of Hawai‘i's people; | | | **X** |
| Provide opportunities for Hawai‘i's people to obtain job training and education that will allow for upward mobility within the information industry; | | | **X** |
| Foster a recognition of the contribution of the information industry to Hawai‘i's economy; | | | **X** |
| Assist in the promotion of Hawai‘i as a broker, creator, and processor of information in the Pacific. | | | **X** |
| **Discussion:** Not applicable to the proposed project. | | | |
| **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: | **X** | | |
| Prudent use of Hawai‘i's land-based, shoreline, and marine resources. | **X** | | |

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|---|---|---|---|
| Effective protection of Hawai'i's unique and fragile environmental resources | **X** | | |
| **Policies** | | | |
| Exercise an overall conservation ethic in the use of Hawai'i's natural resources. | **X** | | |
| Ensure compatibility between land-based and water-based activities and natural resources and ecological systems. | **X** | | |
| Take into account the physical attributes of areas when planning and designing activities and facilities. | **X** | | |
| Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage. | **X** | | |
| Consider multiple uses in watershed areas, provided such uses do not detrimentally affect water quality and recharge functions. | **X** | | |
| Encourage the protection of rare or endangered plant and animal species and habitats native to Hawai'i. | | | **X** |
| Provide public incentives that encourage private actions to protect significant natural resources from degradation or unnecessary depletion. | | | **X** |
| Pursue compatible relationships among activities, facilities, and natural resources. | **X** | | |
| Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes. | | | **X** |
| **Discussion**: The proposed action would be located in a central developed area outside the SMA, and would be congruent with sustainable planning principles, and in compliance with County of Maui and State zoning policies. Existing utility and transportation networks are established at and surrounding the project site. No endangered or protected species habitats or wetlands have been identified at the project site. | | | |
| **Chapter 226-12 Objective and policies for the physical environment – scenic, natural beauty, and historic resources.** | | | |
| **Objective**: Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawai'i's scenic assets, natural beauty, and multi-cultural/historical resources | **X** | | |
| **Policies** | | | |
| Promote the preservation and restoration of significant natural and historic Resources. | **X** | | |
| Provide incentives to maintain and enhance historic, cultural, and scenic amenities. | **X** | | |
| Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features. | **X** | | |

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|---|---|---|---|
| Protect those special areas, structures, and elements that are an integral and functional part of Hawai'i's ethnic and cultural heritage. | **X** | | |
| Encourage the design of developments and activities that complement the natural beauty of the islands. | **X** | | |
| **Discussion:** Planning for the proposed project has included, and will continue to include professional analysis and treatment of any cultural or historic resources encountered at the project site. Consultation with the affected community and the State SHPD has been initiated, and will continue throughout the life of the project. Design of the proposed rehabilitation facility will take into consideration existing contextual view planes and aesthetics, to the extent practicable. | | | |
| **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: | | | |
| Maintenance and pursuit of improved quality in Hawai'i's land, air, and water resources. | **X** | | |
| Greater public awareness and appreciation of Hawai'i's environmental resources. | | | **X** |
| **Policies** | | | |
| Foster educational activities that promote a better understanding of Hawai'i's limited environmental resources. | | | **X** |
| Promote the proper management of Hawai'i's land and water resources. | **X** | | |
| Promote effective measures to achieve desired quality in Hawai'i's surface, ground, and coastal waters. | **X** | | |
| Encourage actions to maintain or improve aural and air quality levels to enhance the health and well-being of Hawai'i's people. | **X** | | |
| Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters. | **X** | | |
| Encourage design and construction practices that enhance the physical qualities of Hawai'i's communities. | **X** | | |
| Encourage urban developments in close proximity to existing services and facilities. | **X** | | |
| Foster recognition of the importance and value of the land, air, and water resources to Hawai'i's people, their cultures and visitors. | **X** | | |
| **Discussion:** Development of the proposed project would be completed to carefully manage land, air and water resources in accordance with Maui county and State regulations. Proper drainage and erosion control measures would be implemented during construction and operations of the proposed facility in order to reduce impacts to natural resources. The project | | | |

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|---|---|---|---|
| site is located outside the Extreme Tsunami Evacuation Zone, and no natural waterways pass throught the project site. | | | |
| **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 | | | **X** |
| **Policies** | | | |
| Accommodate the needs of Hawai'i's people through coordination of facility systems and capital improvement priorities in consonance with state and county plans. | | | **X** |
| Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities. | | | **X** |
| Ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user. | | | **X** |
| Pursue alternative methods of financing programs and projects and cost saving techniques in the planning, construction, and maintenance of facility systems. | | | **X** |
| **Analysis:** Not applicable for the proposed project | | | |
| **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 | | | **X** |
| Maintenance of basic public health and sanitation standards relating to treatment and disposal of solid and liquid wastes. | | | **X** |
| Provision of adequate sewerage facilities for physical and economic activities that alleviate problems in housing, employment, mobility, and other areas. | | | **X** |
| **Policies** | | | |
| Encourage the adequate development of sewerage facilities that complement planned growth. | | | **X** |
| Promote re-use and recycling to reduce solid and liquid wastes and employ a conservation ethic. | | | **X** |
| Promote research to develop more efficient and economical treatment and disposal of solid and liquid wastes | | | **X** |
| **Discussion**: Not applicable to the proposed project. | | | |

| **Hawai'i Revised Statutes Chapter 226- Hawai'i State Plan Analysis Part I: Overall Themes, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| **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 | **X** | | |
| **Policies** | | | |
| Coordinate development of land use activities with existing and potential water supply. | **X** | | |
| Support research and development of alternative methods to meet future water requirements well in advance of anticipated needs. | | | **X** |
| Reclaim and encourage the productive use of runoff water and wastewater discharges. | **X** | | |
| Assist in improving the quality, efficiency, service, and storage capabilities of water systems for domestic and agricultural use. | | | **X** |
| Support water supply services to areas experiencing critical water problems. | | | **X** |
| Promote water conservation programs and practices in government, private industry, and the general public to help ensure adequate water to meet long-term needs. | **X** | | |
| **Discussion**: The existing water system is anticipated to be adequate to accommodate the proposed project. However, the availability of potable water, and management of stormwater will be confirmed with the County when the building permit application is submitted. The proposed project will implement water conservation measures such as incorporating water efficient fixtures and drought tolerant landscaping to reduce irrigation water demands, to the extent practicable. | | | |
| **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: | | | |
| An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe, and convenient movement of people and goods. | | | **X** |
| A statewide transportation system that is consistent with and will accommodate planned growth objectives throughout the State | | | **X** |
| **Policies** | | | |
| Design, program, and develop a multi-modal system in conformance with desired growth and physical development as stated in this chapter; | | | **X** |
| Coordinate state, county, federal, and private transportation activities and programs toward the achievement of statewide objectives; | | | **X** |
| Encourage a reasonable distribution of financial responsibilities for transportation among participating governmental and private parties; | | | **X** |

| **Hawai'i Revised Statutes Chapter 226- Hawai'i State Plan Analysis Part I: Overall Themes, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| Provide for improved accessibility to shipping, docking, and storage Facilities; | | | **X** |
| Promote a reasonable level and variety of mass transportation services that adequately meet statewide and community needs; | | | **X** |
| Encourage transportation systems that serve to accommodate present and future development needs of communities; | | | **X** |
| Encourage a variety of carriers to offer increased opportunities and advantages to interisland movement of people and goods | | | **X** |
| Increase the capacities of airport and harbor systems and support facilities to effectively accommodate transshipment and storage needs; | | | **X** |
| Encourage the development of transportation systems and programs which would assist statewide economic growth and diversification; | | | **X** |
| Encourage the design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawai'i's natural environment; | | | **X** |
| Encourage safe and convenient use of low-cost, energy-efficient, nonpolluting means of transportation; | | | **X** |
| Coordinate intergovernmental land use and transportation planning activities to ensure the timely delivery of supporting transportation infrastructure in order to accommodate planned growth objectives; | | | **X** |
| Encourage diversification of transportation modes and infrastructure to promote alternate fuels and energy efficiency. | | | **X** |
| **Discussion:** Not applicable to the proposed project. | | | |
| **Chapter 226-18 Objectives and policies for facility systems – energy.** | | | |
| **Objectives**: 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: | | | |
| Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people; | | | **X** |
| 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. | | | **X** |
| Increased energy security and self-sufficiency through the reduction and ultimate elimination of Hawai'i's dependence on imported fuels for electrical generation and ground transportation. | | | **X** |
| Greater diversification of energy generation in the face of threats to Hawai'i's energy supplies and systems; | | | **X** |
| Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use; | | | **X** |
| Utility models that make the social and financial interests of Hawai'i's utility customers a priority. | | | **X** |
| To achieve the energy objectives, it shall be the policy of this State to ensure the short- and long-term provision of adequate, reasonably | | | **X** |

| **Hawai‘i Revised Statutes Chapter 226- Hawai‘i State Plan Analysis Part I: Overall Themes, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| prices, and dependable energy services to accommodate demand. | | | |
| **Policies** | | | |
| Support research and development as well as promote the use of renewable energy sources; | | | **X** |
| Ensure that the combination of energy supplies and energy-saving systems is sufficient to support the demands of growth; | | | **X** |
| Base decisions of least-cost supply-side and demand-side energy resource options on a comparison of their total costs and benefits when a least-cost is determined by a reasonably comprehensive, quantitative, and qualitative accounting of their long-term, direct and indirect economic, environmental, social, cultural, and public health costs and benefits; | | | **X** |
| Promote all cost-effective conservation of power and fuel supplies through measures, including:<br>• Development of cost-effective demand-side management programs; <br>• Education;<br>• Adoption of energy-efficient practices and technologies; and <br>• Increasing energy efficiency and decreasing energy use in public infrastructure | | | **X** |
| Ensure, to the extent that new supply-side resources are needed, that the development or expansion of energy systems uses the least-cost energy supply option and maximizes efficient technologies; | | | **X** |
| Support research, development, demonstration, and use of energy efficiency, load management, and other demand-side management programs, practices, and technologies; | | | **X** |
| Promote alternate fuels and transportation energy efficiency; | | | **X** |
| Support actions that reduce, avoid, or sequester greenhouse gases in utility, transportation, and industrial sector applications; | | | **X** |
| Support actions that reduce, avoid, or sequester Hawai‘i’s greenhouse gas emissions through agriculture and forestry initiatives; | | | **X** |
| Provide priority handling and processing for all state and county permits required for renewable energy projects; | | | **X** |
| 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 are located on public trust land as an affordable and reliable source of firm power for Hawai‘i. | | | **X** |
| Promote the development of indigenous geothermal energy resources that are located on public trust land as an affordable and reliable source of firm power for Hawai‘i. | | | **X** |
| **Discussion:** Not applicable to the proposed project. | | | |

| **Hawai‘i Revised Statutes Chapter 226- Hawai‘i State Plan Analysis Part I: Overall Themes, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| **Chapter 226-18.5 Objectives and policies for facility systems – telecommunications** | | | |
| **Objectives** | | | |
| 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. | | | **X** |
| 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. | | | **X** |
| **Policies** | | | |
| Facilitate research and development of telecommunications systems and resources; | | | **X** |
| Encourage public and private sector efforts to develop means for adequate, ongoing telecommunications planning; | | | **X** |
| Promote efficient management and use of existing telecommunications systems and services; | | | **X** |
| Facilitate the development of education and training of telecommunications personnel. | | | **X** |
| **Discussion:** Not applicable to the proposed project. | | | |
| **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: | | | |
| Greater opportunities for Hawai‘i’s people to secure reasonably priced, safe, sanitary, and livable homes, located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals, through collaboration and cooperation between government and nonprofit and for-profit developers to ensure that more affordable housing is made available to very low-, low- and moderate-income segments of Hawai‘i’s population. | | | **X** |
| The orderly development of residential areas sensitive to community needs and other land uses. | | | **X** |
| The development and provision of affordable rental housing by the State to meet the housing needs of Hawai‘i’s people. | | | **X** |
| **Policies** | | | |
| Effectively accommodate the housing needs of Hawai‘i’s people. | | | **X** |
| Stimulate and promote feasible approaches that increase housing choices for low-income, moderate-income, and gap-group households. | | | **X** |

| **Hawai‘i Revised Statutes Chapter 226- Hawai‘i State Plan Analysis Part I: Overall Themes, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing. | | | **X** |
| Promote appropriate improvement, rehabilitation, and maintenance of existing housing units and residential areas. | | | **X** |
| Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas. | | | **X** |
| Facilitate the use of available vacant, developable, and underutilized urban lands for housing. | | | **X** |
| Foster a variety of lifestyles traditional to Hawai‘i through the design and maintenance of neighborhoods that reflect the culture and values of the community. | | | **X** |
| Promote research and development of methods to reduce the cost of housing construction in Hawai‘i. | | | **X** |
| **Discussion:** Not Applicable for the proposed project. | | | |
| **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: | | | |
| Fulfillment of basic individual health needs of the general public. | **X** | | |
| Maintenance of sanitary and environmentally healthful conditions in Hawai‘i’s communities. | **X** | | |
| Elimination of health disparities by identifying and addressing social determinants of health. | | | **X** |
| **Policies** | | | |
| Provide adequate and accessible services and facilities for prevention and treatment of physical and mental health problems, including substance abuse. | **X** | | |
| Encourage improved cooperation among public and private sectors in the provision of health care to accommodate the total health needs of individuals throughout the State. | **X** | | |
| Encourage public and private efforts to develop and promote statewide and local strategies to reduce health care and related insurance costs. | **X** | | |
| Foster an awareness of the need for personal health maintenance and preventive health care through education and other measures. | **X** | | |
| Provide programs, services, and activities that ensure environmentally healthful and sanitary conditions. | **X** | | |
| Improve the State’s capabilities in preventing contamination by pesticides and other potentially hazardous substances through increased coordination, education, monitoring, and enforcement. | | | **X** |

| **Hawai'i Revised Statutes Chapter 226- Hawai'i State Plan Analysis Part I: Overall Themes, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| Prioritize programs, services, interventions, and activities that address identified social determinants of health to improve native Hawaiian health and well-being consistent with the United States Congress' declaration of policy as codified in title 42 United States Code section 11702, and to reduce health disparities of disproportionately affected demographics, including native Hawaiians, other Pacific Islanders, and Filipinos. The prioritization of affected demographic groups other than native Hawaiians may be reviewed every ten years and revised based on the best available epidemiological and public health data. | **X** | | |
| **Discussion:** The proposed project includes the provision of much needed public health services to the affected community. | | | |
| **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 | | | |
| **Policies** | | | |
| Support educational programs and activities that enhance personal development, physical fitness, recreation, and cultural pursuits of all groups. | | | **X** |
| Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs. | | | **X** |
| Provide appropriate educational opportunities for groups with special needs. | | | **X** |
| Promote educational programs which enhance understanding of Hawai'i's cultural heritage. | | | **X** |
| Provide higher educational opportunities that enable Hawai'i's people to adapt to changing employment demands. | | | **X** |
| Assist individuals, especially those experiencing critical employment problems or barriers, or undergoing employment transitions, by providing appropriate employment training programs and other related educational opportunities. | | | **X** |
| Promote programs and activities that facilitate the acquisition of basic skills, such as reading, writing, computing, listening, speaking, and reasoning. | | | **X** |
| Emphasize quality educational programs in Hawai'i's institutions to promote academic excellence. | | | **X** |
| Support research programs and activities that enhance the education programs of the State. | | | **X** |
| **Discussion**: Not applicable for the proposed project. | | | |
| **Chapter 226-22 Objective and policies for socio-cultural advancement – social services** | | | |

| **Hawai'i Revised Statutes Chapter 226- Hawai'i State Plan Analysis Part I: Overall Themes, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| **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. | **X** | | |
| **Policies** | | | |
| Assist individuals, especially those in need of attaining a minimally adequate standard of living and those confronted by social and economic hardship conditions, through social services and activities within the State's fiscal capacities. | | | **X** |
| Promote coordination and integrative approaches among public and private agencies and programs to jointly address social problems that will enable individuals, families, and groups to deal effectively with social problems and to enhance their participation in society. | **X** | | |
| Facilitate the adjustment of new residents, especially recently arrived immigrants, into Hawai'i's communities. | | | **X** |
| Promote alternatives to institutional care in the provision of long-term care for elder and disabled populations. | **X** | | |
| Support public and private efforts to prevent domestic abuse and child molestation, and assist victims of abuse and neglect. | | | **X** |
| Promote programs which assist people in need of family planning services to enable them to meet their needs | | | **X** |
| **Discussion**: the proposed project would include much needed social health rehabilitation services that would improve 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. | | | |
| **Chapter 226-23 Objective and policies for socio-cultural advancement – leisure** | | | |
| **Policies** | | | |
| **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. | | | **X** |
| Foster and preserve Hawai'i's multi-cultural heritage through supportive cultural, artistic, recreational, and humanities-oriented programs and activities. | | | **X** |
| Provide a wide range of activities and facilities to fulfill the cultural, artistic, and recreational needs of all diverse and special groups effectively and efficiently. | | | **X** |
| Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance. | | | **X** |

| **Hawai‘i Revised Statutes Chapter 226- Hawai‘i State Plan Analysis Part I: Overall Themes, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| Promote the recreational and educational potential of natural resources having scenic, open space, cultural, historical, geological, or biological values while ensuring that their inherent values are preserved. | | | **X** |
| Ensure opportunities for everyone to use and enjoy Hawai‘i’s recreational resources. | | | **X** |
| Assure the availability of sufficient resources to provide for future cultural, artistic, and recreational needs. | | | **X** |
| Provide adequate and accessible physical fitness programs to promote the physical and mental well-being of Hawai‘i’s people. | | | **X** |
| Increase opportunities for appreciation and participation in the creative arts, including the literary, theatrical, visual, musical, folk, and traditional art forms. | | | **X** |
| Encourage the development of creative expression in the artistic disciplines to enable all segments of Hawai‘i’s population to participate in the creative arts. | | | **X** |
| Assure adequate access to significant natural and cultural resources in public ownership. | | | **X** |
| **Discussion**: Not applicable to the proposed project. | | | |
| **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. | | | **X** |
| **Policies** | | | |
| Provide effective services and activities that protect individuals from criminal acts and unfair practices and that alleviate the consequences of criminal acts in order to foster a safe and secure environment. | | | **X** |
| Uphold and protect the national and state constitutional rights of every individual. | | | **X** |
| Assure access to, and availability of, legal assistance, consumer protection, and other public services which strive to attain social justice. | | | **X** |
| Ensure equal opportunities for individual participation in society. | | | **X** |
| **Discussion:** Not applicable to the proposed project. | | | |
| **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 Hawai‘i’s people. | | | **X** |

| **Hawai'i Revised Statutes Chapter 226- Hawai'i State Plan Analysis Part I: Overall Themes, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| **Policies** | | | |
| Foster increased knowledge and understanding of Hawai'i's ethnic and cultural heritages and the history of Hawai'i. | | | **X** |
| Support activities and conditions that promote cultural values, customs, and arts that enrich the lifestyles of Hawai'i's people and which are sensitive and responsive to family and community needs. | | | **X** |
| Encourage increased awareness of the effects of proposed public and private actions on the integrity and quality of cultural and community lifestyles in Hawai'i. | | | **X** |
| Encourage the essence of the aloha spirit in people's daily activities to promote harmonious relationships among Hawai'i's people and visitors. | | | **X** |
| **Discussion:** Not applicable to the proposed project. | | | |
| **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: | | | |
| Assurance of public safety and adequate protection of life and property for all people. | | | **X** |
| 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. | | | **X** |
| Promotion of a sense of community responsibility for the welfare and safety of Hawai'i's people. | | | **X** |
| **Policies (Public Safety)** | | | |
| Ensure that public safety programs are effective and responsive to community needs. | | | **X** |
| Encourage increased community awareness and participation in public safety programs. | | | **X** |
| **Policies (Public Safety-Criminal Justice)** | | | |
| Support criminal justice programs aimed at preventing and curtailing criminal activities. | | | **X** |
| Develop a coordinated, systematic approach to criminal justice administration among all criminal justice agencies. | | | **X** |
| Provide a range of correctional resources which may include facilities and alternatives to traditional incarceration in order to address the varied security needs of the community and successfully reintegrate offenders into the community. | | | **X** |
| **Policies (Public Safety-Emergency Management)** | | | |

| **Hawai‘i Revised Statutes Chapter 226- Hawai‘i State Plan Analysis Part I: Overall Themes, Goals, Objectives and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| Ensure that responsible organizations are in a proper state of readiness to respond to major war-related, natural, or technological disasters and civil disturbances at all times. | | | **X** |
| Enhance the coordination between emergency management programs throughout the State. | | | **X** |
| **Discussion**: Not applicable to the proposed project. | | | |
| **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: | | | |
| Efficient, effective, and responsive government services at all levels in the State. | | | **X** |
| Fiscal integrity, responsibility, and efficiency in the state government and county governments. | | | **X** |
| **Policies** | | | |
| Provide for necessary public goods and services not assumed by the private sector. | | | **X** |
| Pursue an openness and responsiveness in government that permits the flow of public information, interaction, and response | | | **X** |
| Minimize the size of government to that necessary to be effective. | | | **X** |
| Stimulate the responsibility in citizens to productively participate in government for a better Hawai‘i. | | | **X** |
| Assure that government attitudes, actions, and services are sensitive to community needs and concerns. | | | **X** |
| Provide for a balanced fiscal budget. | | | **X** |
| Improve the fiscal budgeting and management system of the State. | | | **X** |
| Promote the consolidation of state and county governmental functions to increase the effective and efficient delivery of government programs and services and to eliminate duplicative services wherever feasible. | | | **X** |
| **Discussion**: Not applicable to the proposed project. | | | |

| **Hawai‘i State Plan, HRS Chapter 226 – Part III. Priority Guidelines**<br>**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 226-103: Economic priority guidelines** | | | |
| Priority guidelines to stimulate economic growth and encourage business expansion and development to provide needed jobs for Hawai‘i's people and achieve a stable and diversified economy: | | | |
| (1) Seek a variety of means to increase the availability of investment capital for new and expanding enterprises. | | | X |
| (A) Encourage investments which: | | | |
| (i) Reflect long term commitments to the State; | | | X |
| (ii) Rely on economic linkages within the local economy; | | | X |
| (iii) Diversify the economy; | | | X |
| (iv) Reinvest in the local economy; | | | X |
| (v) Are sensitive to community needs and priorities; | | | |
| (vi) Demonstrate a commitment to provide management opportunities to Hawai‘i residents; and | | | X |
| (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; | | | X |
| (ii) Academic support from an institution of higher education in Hawai‘i; | | | X |
| (iii) Investment interest from Hawai‘i residents; | | | X |
| (iv) Resources unique to Hawai‘i that are required for innovative activity; and | | | X |
| (v) Complementary or supportive industries or government programs or projects. | | | X |
| (2) Encourage the expansion of technological research to assist industry development and support the development and commercialization of technological advancements. | | | X |
| (3) Improve the quality, accessibility, and range of services provided by government to business, including data and reference services and assistance in complying with governmental regulations. | | | X |

| **Hawai‘i State Plan, HRS Chapter 226 – Part III. Priority Guidelines**<br>**S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| (4) Seek to ensure that state business tax and labor laws and administrative policies are equitable, rational, and predictable. | | | X |
| (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. | | | X |
| (6) Encourage the formation of cooperatives and other favorable marketing or distribution arrangements at the regional or local level to assist Hawai‘i’s small-scale producers, manufacturers, and distributors. | | | X |
| (7) Continue to seek legislation to protect Hawai‘i from transportation interruptions between Hawai‘i and the continental United States. | | | X |
| (8) Provide public incentives and encourage private initiative to develop and attract industries which promise long-term growth potentials and which have the following characteristics: | | | |
| (A) An industry that can take advantage of Hawai‘i’s unique location and available physical and human resources | | | X |
| (B) A clean industry that would have minimal adverse effects on Hawai‘i’s environment. | | | X |
| (C) An industry that is willing to hire and train Hawai‘i’s people to meet the industry's labor needs at all levels of employment. | X | | |
| (D) An industry that would provide reasonable income and steady employment | X | | |
| (9) Support and encourage, through educational and technical assistance programs and other means, expanded opportunities for employee ownership and participation in Hawai‘i business. | | | X |
| (10) Enhance the quality of Hawai‘i’s labor force and develop and maintain career opportunities for Hawai‘i’s people through the following actions: | | | |
| (A) Expand vocational training in diversified agriculture, aquaculture, information industry, and other areas where growth is desired and feasible. | | | X |
| (B) Encourage more effective career counseling and guidance in high schools and post-secondary institutions to inform students of present and future career opportunities. | | | X |
| (C) Allocate educational resources to career areas where high employment is expected and where growth of new industries is desired. | | | X |
| (D) Promote career opportunities in all industries for Hawai‘i’s people by encouraging firms doing business in the State to hire residents. | | | X |

| **Hawai'i State Plan, HRS Chapter 226 – Part III. Priority Guidelines**<br>**S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| (E) Promote greater public and private sector cooperation in determining industrial training needs and in developing relevant curricula and on the-job training opportunities. | | | X |
| (F) Provide retraining programs and other support services to assist entry of displaced workers into alternative employment. | | | X |
| **(b) Priority guidelines to promote the economic health and quality of the visitor industry:** | | | |
| (1) Promote visitor satisfaction by fostering an environment which enhances the Aloha Spirit and minimizes inconveniences to Hawai'i's residents and visitors. | | | X |
| (2) Encourage the development and maintenance of well-designed, adequately serviced hotels and resort destination areas which are sensitive to neighboring communities and activities and which provide for adequate shoreline setbacks and beach access. | | | X |
| (3) Support appropriate capital improvements to enhance the quality of existing resort destination areas and provide incentives to encourage investment in upgrading, repair, and maintenance of visitor facilities. | | | X |
| (4) Encourage visitor industry practices and activities which respect, preserve, and enhance Hawai'i's significant natural, scenic, historic, and cultural resources. | | | X |
| (5) Develop and maintain career opportunities in the visitor industry for Hawai'i's people, with emphasis on managerial positions. | | | X |
| (6) Support and coordinate tourism promotion abroad to enhance Hawai'i's share of existing and potential visitor markets. | | | X |
| (7) Maintain and encourage a more favorable resort investment climate consistent with the objectives of this chapter. | | | X |
| (8) Support law enforcement activities that provide a safer environment for both visitors and residents alike. | | | X |
| (9) Coordinate visitor industry activities and promotions to business visitors through the state network of advanced data communication techniques. | | | X |
| **(c) Priority guidelines to promote the continued viability of the sugar and pineapple industries:** | | | |
| (1) Provide adequate agricultural lands to support the economic viability of the sugar and pineapple industries. | | | X |
| (2) Continue efforts to maintain federal support to provide stable sugar prices high enough to allow profitable operations in Hawai'i. | | | X |

| **Hawai‘i State Plan, HRS Chapter 226 – Part III. Priority Guidelines**<br>**S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| (3) Support research and development, as appropriate, to improve the quality and production of sugar and pineapple crops. | | | X |
| **(d) Priority guidelines to promote the growth and development of diversified agriculture and aquaculture:** | | | |
| (1) Identify, conserve, and protect agricultural and aquacultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural and aquacultural uses of such lands. | | | X |
| (2) Assist in providing adequate, reasonably priced water for agricultural activities. | | | X |
| (3) Encourage public and private investment to increase water supply and to improve transmission, storage, and irrigation facilities in support of diversified agriculture and aquaculture. | | | X |
| (4) Assist in the formation and operation of production and marketing associations and cooperatives to reduce production and marketing costs. | | | X |
| (5) Encourage and assist with the development of a waterborne and airborne freight and cargo system capable of meeting the needs of Hawai‘i’s agricultural community. | | | X |
| (6) Seek favorable freight rates for Hawai‘i’s agricultural products from interisland and overseas transportation operators. | | | X |
| (7) Encourage the development and expansion of agricultural and aquacultural activities which offer long-term economic growth potential and employment opportunities. | | | X |
| (8) Continue the development of agricultural parks and other programs to assist small independent farmers in securing agricultural lands and loans. | | | X |
| (9) Require agricultural uses in agricultural subdivisions and closely monitor the uses in these subdivisions. | | | X |
| (10) Support the continuation of land currently in use for diversified agriculture. | | | X |
| (11) Encourage residents and visitors to support Hawai‘i’s farmers by purchasing locally grown food and food products. | | | X |
| **(e) Priority guidelines for water use and development:** | | | |
| (1) Maintain and improve water conservation programs to reduce the overall water consumption rate. | X | | |

| **Hawai'i State Plan, HRS Chapter 226 – Part III. Priority Guidelines**<br>**S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| (2) Encourage the improvement of irrigation technology and promote the use of nonpotable water for agricultural and landscaping purposes. | | | X |
| (3) Increase the support for research and development of economically feasible alternative water sources. | | | X |
| (4) Explore alternative funding sources and approaches to support future water development programs and water system improvements. | | | X |
| **(f) Priority guidelines for energy use and development:** | | | |
| (1) Encourage the development, demonstration, and commercialization of renewable energy sources. | | | X |
| (2) Initiate, maintain, and improve energy conservation programs aimed at reducing energy waste and increasing public awareness of the need to conserve energy. | | | X |
| (3) Provide incentives to encourage the use of energy conserving technology in residential, industrial, and other buildings. | | | X |
| (4) Encourage the development and use of energy conserving and cost-efficient transportation systems. | | | X |
| **(g) Priority guidelines to promote the development of the information industry:** | | | |
| (1) Establish an information network, with an emphasis on broadband and wireless infrastructure and capability that will serve as the foundation of and catalyst for overall economic growth and diversification in Hawai'i. | | | X |
| (2) Encourage the development of services such as financial data processing, a products and services exchange, foreign language translations, telemarketing, teleconferencing, a twenty-four-hour international stock exchange, international banking, and a Pacific Rim management center. | | | X |
| (3) Encourage the development of small businesses in the information field such as software development; the development of new information systems, peripherals, and applications; data conversion and data entry services; and home or cottage services such as computer programming, secretarial, and accounting services. | | | X |
| (4) Encourage the development or expansion of educational and training opportunities for residents in the information and telecommunications fields. | | | X |

| **Hawai'i State Plan, HRS Chapter 226 – Part III. Priority Guidelines**<br>**S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| (5) Encourage research activities, including legal research in the information and telecommunications fields. | | | X |
| (6) Support promotional activities to market Hawai'i's information industry services. | | | X |
| (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. | | | |
| **Discussion**: Not applicable for the proposed project. | | | |
| **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 Hawai'i's people. | | | **X** |
| 2) Manage a growth rate for Hawai'i's economy that will parallel future employment needs for Hawai'i's people. | | | **X** |
| (3) Ensure that adequate support services and facilities are provided to accommodate the desired distribution of future growth throughout the State. | | | **X** |
| (4) Encourage major state and federal investments and services to promote economic development and private investment to the neighbor islands, as appropriate. | | | **X** |
| (5) Explore the possibility of making available urban land, low-interest loans, and housing subsidies to encourage the provision of housing to support selective economic and population growth on the neighbor islands. | | | **X** |
| (6) Seek federal funds and other funding sources outside the State for research, program development, and training to provide future employment opportunities on the neighbor islands. | | | **X** |
| (7) Support the development of high technology parks on the neighbor islands. | | | **X** |
| **(b) Priority guidelines for regional growth distribution and land resource utilization:** | | | |

| **Hawai'i State Plan, HRS Chapter 226 – Part III. Priority Guidelines**<br>**S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| | | | |
| (1) Encourage urban growth primarily to existing urban areas where adequate public facilities are already available or can be provided with reasonable public expenditures, and away from areas where other important benefits are present, such as protection of important agricultural land or preservation of lifestyles. | **X** | | |
| 2) Make available marginal or nonessential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district. | | | **X** |
| (3) Restrict development when drafting of water would result in exceeding the sustainable yield or in significantly diminishing the recharge capacity of any groundwater area. | X | | |
| (4) Encourage restriction of new urban development in areas where water is insufficient from any source for both agricultural and domestic use. | | | **X** |
| (5) In order to preserve green belts, give priority to state capital-improvement funds which encourage location of urban development within existing urban areas except where compelling public interest dictates development of a noncontiguous new urban core. | | | **X** |
| (6) Seek participation from the private sector for the cost of building infrastructure and utilities, and maintaining open spaces. | | | **X** |
| (7) Pursue rehabilitation of appropriate urban areas. | | | **X** |
| (8) Support the redevelopment of Kaka'ako into a viable residential, industrial, and commercial community. | | | **X** |
| (9) Direct future urban development away from critical environmental areas or impose mitigating measures so that negative impacts on the environment would be minimized. | X | | |
| (10) Identify critical environmental areas in Hawai'i to include but not be limited to the following: watershed and recharge areas; wildlife habitats (on land and in the ocean); areas with endangered species of plants and wildlife; natural streams and water bodies; scenic and recreational shoreline resources; open space and natural areas; historic and cultural sites; areas particularly sensitive to reduction in water and air quality; and scenic resources. | **X** | | |
| (11) Identify all areas where priority should be given to preserving rural character and lifestyle. | | | **X** |

| **Hawai'i State Plan, HRS Chapter 226 – Part III. Priority Guidelines**<br>**S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| (12) Utilize Hawai'i's limited land resources wisely, providing adequate land to accommodate projected population and economic growth needs while ensuring the protection of the environment and the availability of the shoreline, conservation lands, and other limited resources for future generations. | X | | |
| (13) Protect and enhance Hawai'i's shoreline, open spaces, and scenic resources. | | | **X** |
| **Discussion:** The proposed project would include development within a central, previously developed urban area within close proximity to housing, utilities and other central urban service centers. All resource use (i.e., water electricity) and development will be conducted in accordance with County and State sustainability regulatory guidelines. | | | |
| **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. | | | **X** |
| (2) Target state and local resources on efforts to reduce the incidence of violent crime and on programs relating to the apprehension and prosecution of repeat offenders. | | | **X** |
| (3) Support community and neighborhood program initiatives that enable residents to assist law enforcement agencies in preventing criminal activities. | | | **X** |
| (4) Reduce overcrowding or substandard conditions in correctional facilities through a comprehensive approach among all criminal justice agencies which may include sentencing law revisions and use of alternative sanctions other than incarceration for persons who pose no danger to their community. | | | **X** |
| (5) Provide a range of appropriate sanctions for juvenile offenders, including community-based programs and other alternative sanctions. | | | **X** |
| (6) Increase public and private efforts to assist witnesses and victims of crimes and to minimize the costs of victimization. | | | **X** |
| **Discussion:** Not applicable to the proposed project. | | | |
| **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. | | | **X** |

| **Hawai'i State Plan, HRS Chapter 226 – Part III. Priority Guidelines**<br>**S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| (2) Encourage the use of alternative construction and development methods as a means of reducing production costs. | | | **X** |
| (3) Improve information and analysis relative to land availability and suitability for housing. | | | **X** |
| (4) Create incentives for development which would increase home ownership and rental opportunities for Hawai'i's low- and moderate income households, gap-group households, and residents with special needs. | | | **X** |
| (5) Encourage continued support for government or private housing programs that provide low interest mortgages to Hawai'i's people for the purchase of initial owner-occupied housing. | | | **X** |
| (6) Encourage public and private sector cooperation in the development of rental housing alternatives. | | | **X** |
| (7) Encourage improved coordination between various agencies and levels of government to deal with housing policies and regulations. | | | **X** |
| (8) Give higher priority to the provision of quality housing that is affordable for Hawai'i's residents and less priority to development of housing intended primarily for individuals outside of Hawai'i. | | | **X** |
| **Discussion:** Not applicable to the proposed project. | | | |
| **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; | | | **X** |
| (2) Continue emphasis on general education "core" requirements to provide common background to students and essential support to other university programs; | | | **X** |
| (3) Initiate efforts to improve the quality of education by improving the capabilities of the education work force; | | | **X** |
| (4) Promote increased opportunities for greater autonomy and flexibility of educational institutions in their decision making responsibilities; | | | **X** |
| (5) Increase and improve the use of information technology in education by the availability of telecommunications equipment for: | | | **X** |
| (A) The electronic exchange of information | | | **X** |
| (B) Statewide electronic mail; and | | | **X** |
| (C) Access to the Internet. | | | **X** |

| **Hawai‘i State Plan, HRS Chapter 226 – Part III. Priority Guidelines**<br>**S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| (6) Encourage programs that increase the public's awareness and understanding of the impact of information technologies on our lives; | | | **X** |
| (7) Pursue the establishment of Hawai'i's public and private universities and colleges as research and training centers of the Pacific; | | | **X** |
| (8) Develop resources and programs for early childhood education; | | | **X** |
| (9) Explore alternatives for funding and delivery of educational services to improve the overall quality of education; and | | | **X** |
| (10) Strengthen and expand educational programs and services for students with special needs. | | | |
| **Discussion:** Not applicable to the proposed project. | | | |
| **Chapter 226-108: Sustainability** | | | |
| **Priority guidelines and principles to promote sustainability shall include:** | | | |
| (1) Encouraging balanced economic, social, community, and environmental priorities; | | | **X** |
| (2) Encouraging planning that respects and promotes living within the natural resources and limits of the State; | X | | |
| (3) Promoting a diversified and dynamic economy; | | | **X** |
| (4) Encouraging respect for the host culture; | | | **X** |
| (5) Promoting decisions based on meeting the needs of the present without compromising the needs of future generations; | X | | |
| (6) Considering the principles of the ahupua‘a system; and | | | **X** |
| (7) Emphasizing that everyone, including individuals, families, communities, businesses, and government, has the responsibility for achieving a sustainable Hawai'i. | X | | |
| **Discussion**: The proposed project would practice sustainable practices by adhering to Maui County building codes with regards to building size, zoning, water and electricity consumption. | | | |
| **CHAPTER 226-109: Climate change adaptation** | | | |
| **Priority guidelines and principles to promote climate change adaptation shall include:** | | | |
| (1) Ensure that Hawai'i's people are educated, informed, and aware of the impacts climate change may have on their communities; | | | **X** |
| (2) Encourage community stewardship groups and local stakeholders to participate in planning and implementation of climate change policies; | | | **X** |

| **Hawai'i State Plan, HRS Chapter 226 – Part III. Priority Guidelines**<br>**S = Supportive, N/S = Not Supportive, N/A = Not Applicable** | **S** | **N/S** | **N/A** |
|---|---|---|---|
| (3) Invest in continued monitoring and research of Hawai'i's climate and the impacts of climate change on the State; | | | **X** |
| (4) Consider native Hawaiian traditional knowledge and practices in planning for the impacts of climate change; | | | **X** |
| (5) Encourage the preservation and restoration of natural landscape features, such as coral reefs, beaches and dunes, forests, streams, floodplains, and wetlands, that have the inherent capacity to avoid, minimize, or mitigate the impacts of climate change; | | | **X** |
| (6) Explore adaptation strategies that moderate harm or exploit beneficial opportunities in response to actual or expected climate change impacts to the natural and built environments; | | | **X** |
| (7) Promote sector resilience in areas such as water, roads, airports, and public health, by encouraging the identification of climate change threats, assessment of potential consequences, and evaluation of adaptation options; | | | **X** |
| (8) Foster cross-jurisdictional collaboration between county, state, and federal agencies and partnerships between government and private entities and other nongovernmental entities, including nonprofit entities; | | | **X** |
| (9) Use management and implementation approaches that encourage the continual collection, evaluation, and integration of new information and strategies into new and existing practices, policies, and plans; and | | | **X** |
| (10) Encourage planning and management of the natural and built environments that effectively integrate climate change policy. | | | **X** |
| **Discussion:** Not applicable to the proposed project. | | | |

*State of Hawai'i Land Use Law Chapter 205, HRS*

Chapter 205, HRS promulgates the State Land Use Law. This law is intended to preserve, protect, and encourage the development of lands in the State of Hawai'i for uses that are best suited to the public health and welfare of its people. The LUC classifies all land into four districts: Urban, Conservation, Agriculture, and Rural.

Discussion: The project site is designated within the State LUC Urban District. The proposed project proposes urban use as a healthcare rehabilitation facility; therefore, the Proposed Action would be in accordance with the State LUC designation.

*Hawai'i 2050 Sustainability Plan*

The long-term strategy of the Hawai'i 2050 Sustainability Plan (Sustainability 2050 Plan) is supported by its main goals and objectives of respect for culture, character, beauty, and history of the State's island communities; balance among economic, community, and environmental priorities; and an effort to meet the needs of the present without compromising the ability of future generations to meet their own needs. The 2050 Plan includes goals toward a sustainable Hawai'i as well as strategic actions for implementation and indicators to measure success or failure:

**Goal One**: Living sustainably is part of our daily practice in Hawai'i. Strategic Actions: Develop a sustainability ethic.

**Goal Two**: Our diversified and globally competitive economy enables us to meaningfully live, work, and play in Hawai'i. Strategic Actions: Develop a more diverse and resilient economy; support the building blocks for economic stability and sustainability.

**Goal Three**: Our natural resources are responsibly and respectfully used, replenished, and preserved for future generations. Strategic Actions: Provide greater protection for air, and land-, fresh water and ocean-based habitats; conserve agricultural, open space and conservation lands and resources.

**Goal Four**: Our community is strong, healthy, vibrant and nurturing, providing safety nets for those in need. Strategic Actions: Provide access to diverse recreational facilities and opportunities.

**Goal Five**: Our Kanaka Maoli and island cultures and values are thriving and perpetuated. Strategic.

Discussion : The proposed rehabilitation facility would be designed and constructed in compliance with Maui County Code, which requires the responsible and sustainable development, use and management of natural resources; such as water, electricity and visual and scenic resources. the proposed project represents a diversification of Hawai'i's economy by providing locally available high skilled healthcare jobs.

*Hawai'i Coastal Zone Management Program*

The Coastal Zone Management Act of 1972 (16 USC §1451), as amended through Public Law 104-150, created the coastal management program and the National Estuarine Research Reserve system. The coastal states are authorized to develop and implement a state coastal zone management (CZM) program. Hawai'i CZM Program received federal approval in the late 1970's. The objectives of the Hawai'i CZM Program, HRS §205A-2, are to protect valuable and vulnerable coastal resources such as coastal ecosystems, special scenic and cultural values and recreational opportunities. The objectives of the program are also to reduce coastal hazards and to improve the review process for activities proposed within the coastal zone.

The Hawai'i CZM law requires each County to designate and administer the SMA within the State's coastal areas that extends inland from the shoreline. Development within this SMA is subject to County approval to ensure the proposal is consistent with the policies

and objectives of the Hawai'i CZM Program. The following are objectives of the Hawai'i CZM Program and the Project's impacts relative to the State CZM objectives and policies:

**Objectives**

(1) Recreational resources;

(A) Provide coastal recreational opportunities accessible to the public.

Discussion: Not applicable since the project site is located outside the shoreline and SMA Area.

(2) Historic resources;

(A) 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.

**Discussion**: An archaeolgical survey and cultural impact assessment were completed for the proposed project as part of the EA process. Consultation with SHPD and local Native Hawaiian groups and individuals is in progress, and will continue throughout the planning and development process to comply with HRS 6E.

(3) Scenic and open space resources;

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

**Discussion**: The proposed project will incorporate landscaping buffers and will include a relatively low-lying building (2-stories maximium) in order to fit into the existing environment.

(4) Coastal ecosystems;

(A) Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

**Discussion**: Not applicable since the proposed project is not proposed at or near the coastal shoreline area/SMA.

(5) Economic uses;

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

**Discussion**: The proposed project is planned in a suitable central location readily accessible to the local community.

(6) Coastal hazards;

(A) Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.

**Discussion**: The proposed project site is located outside the tsunami evacuation zone and the State SMA. The project site is located within FEMA Flood Zone X: Area of minimal

flood hazard. During construction, BMPs will be implemented to reduce/eliminate on and off-site runoff/pollution.

(7) Managing development;

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

**Discussion**: The proposed project is going through the environmental review process in compliance with the State Hawai'i Environmental Policy Act. A public review/comment period will be conducted during the environmental review process, which will allow for public participation/agency communication.

(8) Public participation;

(A) Stimulate public awareness, education, and participation in coastal management.

**Discussion**: As stated above, the proposed project is going through the environmental review process and will include a public review/comment period, which will allow for public participation/agency communication. Additional public awareness and education in matters of coastal management are not applicable to the proposed project.

9) Beach protection;

(A) Protect beaches for public use and recreation.

**Discussion**: Not applicable for the proposed project which is located outside the shoreline/SMA.

10) Marine resources;

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

**Discussion**: Not applicable for the proposed project which is located outside the shoreline/SMA.

**Policies**

(1) Recreational resources;

(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 replacement of coastal resources having significant recreational value including, but not limited to, surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the State for recreation when replacement is not feasible or desirable;

(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 such dedication against the requirements of section 46-6.

**Discussion**: None of the policies are applicable to the proposed project since it would not include the creation or conversion of recreational shoreline areas. While the proposed project would use existing land managed by the County of Maui Department of Parks and Recreation, there are adequate replacement recreational park area in the adjacent parklands managed by the County of Maui Department of Parks and Recreation.

(2) Historic resources;

(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.

**Discussion**: An archaeolgical survey and background reaseach, as well as a cultural impact assesment are being completed as part of the environmental review process to ensure proper analysis, information retention and protection of any historic or cultural resources.

(3) Scenic and open space resources;

(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 such 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.

**Discussion**: The proposed project would be compatible with the existing visual environment since it would include a maximum of 2-stories in height and would include landscaping buffering to soften the visual presence of the proposed facilty.

(4) Coastal ecosystems;

(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, including reefs, of significant biological or economic importance;

(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.

**Discussion**: Utility and natural systems resource development and use under the proposed project would be completed in compliance with Maui County Code, which manages the proper allocation and sustainable use of natrual resources and utilities.

5) Economic uses;

(A) Concentrate coastal dependent development in appropriate areas;

(B) Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor industry facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and

(C) Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:

(i) Use of presently designated locations is not feasible;

(ii) Adverse environmental effects are minimized; and

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

**Discussion**: Not applicable since the proposed development is not proposed in the shoreline area/SMA.

(6) Coastal hazards;

(A) Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;

(B) Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint source pollution hazards;

(C) Ensure that developments comply with requirements of the Federal Flood Insurance Program; and

(D) Prevent coastal flooding from inland projects.

**Discussion**: The proposed project site is located outside the tsunami evacuation zone and the SMA. The project site is located within FEMA Flood Zone X: Area of minimal flooding.

(7) Managing development;

(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.

**Discussion**: Not applicable since the proposed development is not proposed in the shoreline area/SMA

(8) Public participation;

(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.

**Discussion**: A public review/comment period will be conducted during the environmental review process, which will allow for public participation/agency communication.

(9) Beach protection;

(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 erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and

(C) Minimize the construction of public erosion-protection structures seaward of the shoreline.

**Discussio**n: Not applicable since the proposed project is not planned in the shoreline/SMA.

(10) Marine resources;

(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 processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and

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

**Discussion**: Not applicable since the proposed project is not planned in the shoreline/SMA.

*Maui County General Plan 2030*

The Countywide Policy Plan was adopted in 2010 and provides broad goals, objectives, policies, and implementing actions that outline the direction of the County's future. The Countywide Policy Plan provides the policy framework for the development of the Maui Island Plan and the nine Maui Community Plans.

Section IV of the Maui County General Plan includes the following Countywide goals, objectives, policies and actions:

**A. Protect the Natural Environment:**

*Improve the opportunity to experience the natural beauty and native biodiversity of the islands for present and future generations.*

*Improve the quality of environmentally sensitive, locally valued natural resources and native ecology of each island.*

*Improve the stewardship of the natural environment*

**Discussion**: The proposed project would comply with the County of Maui building code which incorporates required construction BMPs to limit the release of pollutants, including sediment and stormwater from the project site during construction. Once in operation, the proposed facility would not generate pollutants or large amounts of stormwater that could be release into the environment. Therefore, the proposed action is in alignment with Setion IV, Part A of the Maui County General Plan.

**B. Preserve Local Cultures and Traditions**

*Perpetuate the Hawaiian culture as a vital force in the lives of residents.*

*Emphasize respect for our island lifestyle and our unique local cultures, family, and natural environment.*

*Preserve for present and future generations the opportunity to know and experience the arts, culture, and history of Maui County*

**Discussion**: Hale Makua Health Services has a tradition of providing healthcare services in Maui county dating back to 1947, and therefore has been part of the local community culture for many years. There are no known exisiting native Hawaiian or other local cultural activities that currently take place at the project site. Therefore, the proposed project is in alignment with Setion IV, Part B of the Maui County General Plan.

**C. Improve Education**

**Discussion**: This objective is not relevant to the proposed project since it would not provide educational service, and would not adversely affect any existing educational services.

**D. Stregnthen Social and Healthcare Services**

*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.*

*Encourage the Federal and State governments and the private sector to improve the quality and delivery of social and healthcare services.*

*Strengthen public-awareness programs related to healthy lifestyles and social and medical services.*

**Discussion:** The proposed rehabilitation facility would align with this objective since it would result in providing much needed specialized healthcare services for the Maui community.

**E. Expand Housing Opportunities for Residents**

**Discussion**: This objective is not relevant to the proposed project since it does not include a proposal for housing, and would not adversely affect any existing housing units.

**F. Stregthen the Local Economy**

*Promote an economic climate that will encourage diversification of the County's economic base and a sustainable rate of economic growth.*

*Diversify and expand sustainable forms of agriculture and aquaculture.*

*Support a visitor industry that respects the resident culture and the environment.*

*Expand economic sectors that increase living-wage job choices and are compatible with community values.*

**Discussion**: The proposed project would align with this objective since it includes an expansion of the healthcare sector that would result in increased living-wage job choices compatible with community values.

**G. Improve Parks and Public Facilities**

*Expand access to recreational opportunities and community facilities to meet the present and future needs of residents of all ages and physical abilities.*

*Improve the quality and adequacy of community facilities.*

*Enhance the funding, management, and planning of public facilities and park lands.*

**Discussion:** While the proposed project would result in a reduction of County parklands, there are other County parklands directly adjacent to the project site and in the neighboring area. The proposed facility is being built based on community need for the healthcare services.

**H. Diversify Transportation Options**

**Discussion**: This objective is not relevant to the proposed project since it does not include a proposal for alteration of the existing local transportation network.

**I. Improve Physical Infrastructure**

*Ensure that adequate supplies of water are available prior to approval of subdivision or construction documents.*

*Seek reliable long-term sources of water to serve developments that achieve consistency with the appropriate Community Plans.*

*Direct growth in a way that makes efficient use of existing infrastructure and to areas where there is available infrastructure capacity.*

**Discussion:** The proposed project would align with this objective since all potable water and other infrastructure utilities would be developed in accordance with Maui County building code, and would be completed in an area where existing utilities are readily available, resulting in less resource use in the development process.

**J. Promote Sustainable Land Use and Growth Management**

*Improve land use management and implement a directed-growth strategy.*

*Design all developments to be in harmony with the environment and to protect each community's sense of place.*

*Ensure that new development projects requiring discretionary permits demonstrate a community need, show consistency with the General Plan, and provide an analysis of impacts.*

**Discussion:** The proposed project would align with this objective since Hale Makua Health Services has been involved with local community and County Agency outreach for several years in order to propose a development in a location that aligns with local land use plans, and provides the healthcare services that the community needs most.

**K. Strive for Good Governance**

**Discussion:** This objective is not directly relevant to the proposed project since it does not include a proposal of alteration to any laws or governance changes, and is not a public project. However, the proposed project will closely follow all applicable County and State rules and regulations to assure that all development occurs in accordance with the rules enforced by governmental agencies.

*Maui Island Plan*

The Maui Island Plan (MIP) provides direction for future growth, the economy, and social and environmental decisions on the island through 2030. The MIP incorporates input from people across the island through a series of community meetings held over several years. The MIP establishes a vision founded on core values that break down into goals, objectives, policies, and actions.

Relevant aspects of the MIP that pertain to the proposed action are discussed below:

**Chapter 1: Population**

Wailuku-Kahului

This area remains the economic and population center of the island. In the 1990s, this area saw significant increases in trade, transportation, communications and utilities, and government jobs. Kahului Harbor is the port through which most cruise ship visitors reach Maui. The 2030 Socio-Economic Forecast suggests the Wailuku-Kahului Community Plan Area will grow faster than other parts of Maui, as former sugar lands are developed into residential subdivisions. Wailuku-Kahului is expected to maintain its status as home to more than a third of Maui's households.

**Discussion**: The proposed action represents an increase in healthcare services for the growing Wailuku-Kahului area. Providing a new rehabilitation facility in a central location where more than a third of Maui's households reside is congruent with the MIP.

**Chapter 4: Economic Development**

Support expansion of healthcare providers and facilities to improve access to quality care throughout the island:

**Discussion**: The proposed action represents an important expansion of healthcare in Maui County to provide much needed rehabilitation services.

**Chapter 7: Land Use & Chapter 8: Directed Growth Plan**

*Infill Development and Self-sufficient Communities*

Directed infill development offers an alternative to conventional development patterns that extend the perimeter of an urban area. Infill development focuses growth into already urbanized areas and creatively utilizes vacant or underdeveloped property. Many of the most successful infill projects provide a mix of uses, are designed to be pedestrian-oriented, and incorporate alternative modes of transportation. The benefits of such projects can be the provision of housing near job centers and transit, increased support for businesses, utilization of established public infrastructure and services, and preservation of urban-fringe natural areas and agricultural land

**Discussion**: The proposed action represents urban infill development within the most densely developed area in Maui County (Kahului). Therefore, this aligns with the MIP objectives and goals. By incorporating a much needed new healthcare rehabilitation facility in a centrally located area, Kahului and Maui County becomes more self-sufficient by not relying on Oahu or mainland facilities for its residents' needs.

*Wailuku-Kahului Community Plan*

The Wailuku-Kahului Community Plan (2002) reflects conditions in the Wailuku-Kahului region and advances planning goals, objectives, policies and implementation considerations to guide decision-making in the region through the year 2010. The Wailuku-Kahului Community Plan provides specific recommendations to address the goals, objectives and policies contained in the General Plan, while recognizing the historic values and unique spiritual significance of island cultures of Wailuku-Kahului, in order to enhance the region's overall living environment.

**Wailuku-Kahului Community Plan Objectives and Goals**

**Economic Activity**

A stable and viable economy that provides opportunities for growth and diversification to meet long-term community and regional needs…

**Social Services/Health**

Coordinate the provision of long-term care facilities and programs with other providers, such as Hale Makua and Hale Mahaolu.

**Land Use**

Accommodate mixed use residential/commercial development as a "transition" between residential districts and the civic center and business/commercial districts compatible with a residential scale and character and subject to a new zoning classification. Lands intended for this use shall be designated Service Business/Residential (SBR) on the Community Plan land use map

**Discussion**: The proposed rehabilitation facility is congruent with the objectives and goals of the Wailuku-Kahului Community Plan since it would represent a diversification of Maui's economy by providing new skilled health care professional jobs that would provide much needed social services to the community. The project would be a commercial development in a mixed use central area (residential, park, schools) that would be easily accessible for Maui residents.

# Environmental Impact Significance Criteria Analysis

HAR 11-200.1-13 includes an environmental significance criteria assessment that requires the agency or applicant conducting an EA or EIS to screen a proposed project against 13 environmental significance criteria. The 11-200.1-13 environmental significance criteria assessment for this project is presented below:

*(1) Irrevocably commit a natural, cultural, or historic resource*

> **Discussion**: Based on the environmental studies completed, there are no known natural, historic or cultural resources present at the project site that would be committed. If any potential subsurface historic/cultural resources are encountered during the planning and/or construction process, all work shall halt and SHPD, the Burial Council and other appropriate groups will be notified in order to assess and protect the resources encountered in accordance with State law.

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

> **Discussion***:* It is not anticipated that the proposed project would curtail beneficial uses of the affected environment. While the existing ball field located at the project site would no longer be used as such, there are similar ball fields in the County park directly north of the project site, and in the surrounding area.

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

**Discussion:** The proposed project would not conflict with any State environmental policies or long-term goals. The proposed facility would be planned and constructed in accordance with State laws and procedures. This EA represents compliance with State environmental regulation HRS 343. And the proposed project would comply with HRS 344: State Environmental Policy since there would be no misuse or overuse of natural resources, or pollution to the environment, which would help to safeguard the State's unique natural environmental characteristics.

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

**Discussion:** The proposed project would have a beneficial effect on the short-term and long-term economic welfare of the community and State since it would result in short-term construction jobs, as well as as long-term health care provider and facility support staff jobs. There are no known significant cultural practices that occur at the project site that would be impacted.

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

**Discussion:** The proposed project would have a beneficial effect on public health since it would result in providing more health and wellness services to the local community.

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

**Discussion:** The proposed project would result in a reduction of public park space in the area. However, there is adequate replacement park area directly adjacent to the project site, and . And, the project would provide much needed public healthcare services that would help mitigate over population effects such as overwhelming the healthcare facilities on Maui.

(*7) Involve a substantial degradation of environmental quality*

**Discussion:** The proposed project is not anticipated to involve a substantial degradation of environmental quality. During construction, BMPs will be implemented to reduce/eliminate sediment and construction material runoff. The operation of the facility would not result in any significant emissions or use /generate significant quantities of hazardous materials, and would incorporate stormwater management elements to reduce/eliminate runoff to the affected environment.

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

**Discussion:** The proposed project is part of Hale Makua's master planning efforts to consolidate operations by decommissioning its Wailuku facility and making improvements to the existing Kahului facility located adjacent to the project site.

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

**Discussion:** The proposed project is not anticipated to have an effect on any sensitive biological resources or habitat. A biological resources survey of the project area, including background research into the surrounding area was conducted for the proposed project (Appendix A). The mitigation measures recommended in the biological survey report and this EA would reduce any potential impacts to sensitive biological resources to a level of insignificance.

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

**Discussion:** The proposed project is not anticipated to have a substantial adverse effect on air or water quality or ambient noise levels. During construction, there is the potential for temporary, short-term impacts on existing air quality, noise conditions in the immediate vicinity of the project site. Project site work would comply with federal, state and county regulations during construction and would implement BMPs to minimize temporary impacts. Once in operation, there would be no significant air emissions, water runoff or noise pollution from the proposed action.

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

**Discussion:** The proposed project site is not located in a sensitive area such as the SMA or shoreline area. It is located outside the Tsunami Evacuation Zone, and is located in FEMA Flood Zone X: Area of Minimal Flood Hazard. There are no geologic hazards, or waterways located at the project site.

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

**Discussion:** During construction, dust fences, construction materials and equipment would be visible. However, these impacts would be short-term, and dust fences around the work site would reduce visual distractions caused by construction. Once complete, the proposed rehabilitation facility would include an approximately 76,200 square foot two-story commercial building, as well as associated parking area. Figure 6 depicts a rendering of the proposed facility.

The proposed facility would be visible from surrounding houses, especially those homes located across Kaulana Street east of the project site at a slightly lower elevation. However, landscaping buffers are planned around the proposed facility that would soften the visual presence of the new building. The views of the West Maui Mountains and Haleakalā would still be visible from the project site and surrounding area. Therefore, there are no significant impacts anticipated to visual and scenic resources from the proposed project.

*(13) Require substantial energy consumption or emit substantial greenhouse gases*

**Discussion:** The proposed facility would be designed with modern efficient electrical and water use systems in accordance with Maui County Code. There would be be substantial energy consumption or GHG emissions from the proposed facility.

## Project Environmental Determination

Based on the research, studies and outreach conducted as part of this DEA, it is determined that the proposed project would not result in a significant environmental impact. Therefore, a finding of no significant impact (FONSI) is anticipated for this project.

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# *Appendix A:*
# *Biological Resources Survey Report*

Hale Makua Project

# Biological Resources Survey Report

Prepared for:

Kaimana Environmental Solutions, LLC

August 2021

TETRA TECH

complex world | CLEAR SOLUTIONS™

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**Appendix A.** Representative Photographs of the Hale Makua Project Study Area

**Appendix B.** List of Plant Species Observed During Surveys of the Hale Makua Project Study Area

# 1.0 Introduction

Hale Makua Health Services is proposing to expand the existing Hale Makua Rehabilitation Facility located in Kahului on the Island of Maui. Hale Makua Health Services is proposing to lease a portion of the Kahului Community Center Park to construct a new rehabilitation facility and associated infrastructure (Project). The Project would be located within 2.8 acres on Tax Map Key (TMK) (2) 3-8-007:097.

Tetra Tech, Inc. (Tetra Tech) was contracted by Kaimana Environmental Solutions LLC (Kaimana) to conduct a biological survey for the Project to support an Environmental Assessment. The purpose of the biological survey was to characterize the existing plant and animal habitat and determine whether species that are federally or state listed as endangered or threatened (pursuant to the federal Endangered Species Act or Hawaiʻi Revised Statutes [HRS] Chapter 195D), or are otherwise considered rare, have the potential to occur and could be impacted by construction or operation of the Project. This report summarizes the results of the biological survey conducted by Tetra Tech on July 1, 2021.

# 2.0 Description of Study Area

The Study Area is a 2.8-acre area located within the Kahului Community Center Park, in Kahului on the Island of Maui (Figure 1). It is within TMK (2) 3-8-007:097, which is owned by the County of Maui. The Study Area is known as Gate-Ball Field.

The Study Area is bordered by Laau Street on the northeast, Kaulana Street on the southeast, and Uhu Street on the southwest. Residential houses surround the majority of the Study Area, except for the northwest border, which consists of park facilities. Notable land uses in the immediate vicinity includes the existing Hale Makua Rehabilitation Facility, Hale Mahaolu senior housing community, Maui High School, and Queen Kaʻahumanu Center.

## 2.1 Climate

The climate in the Study Area is characterized as arid (Price et al. 2012). According to the Online Rainfall Atlas of Hawaiʻi (Giambelluca et al. 2013), the area receives a mean annual rainfall of approximately 17.5 inches. Rainfall is typically highest from October-March and lowest from June-September (Giambelluca et al. 2013). The closest functioning National Weather Service rainfall gage to the Study Area (Kahului Airport) recorded below average rainfall in May 2021 and June 2021 (NWS 2021); however, the year-to-date total for this gage through the end of June 2021 was approximately 153 percent of average. The National Weather Service rainfall data suggest conditions were within normal range when the biological survey was conducted.

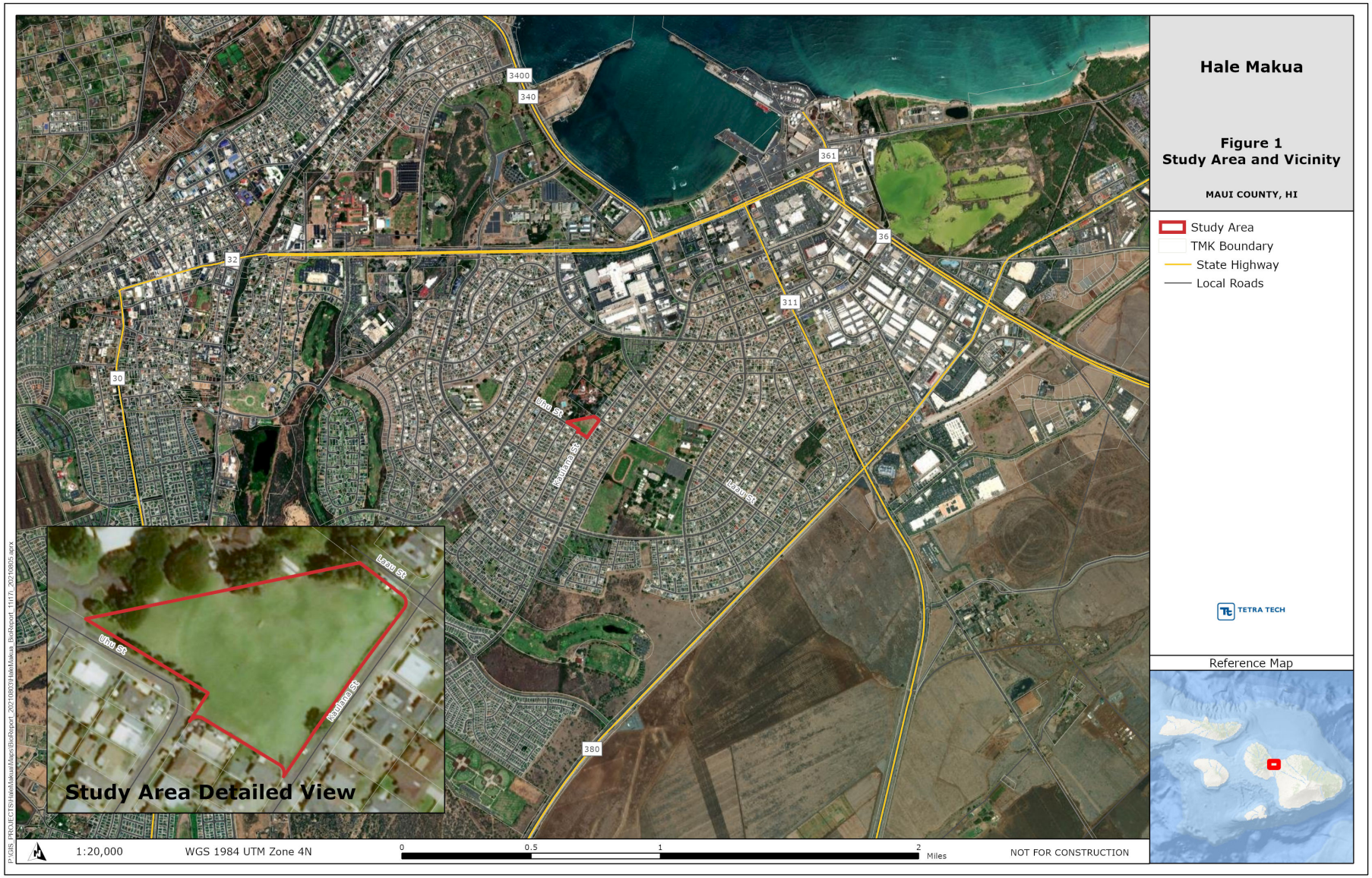


**Figure 1. Study Area and Vicinity**

## 2.2 Topography and Soils

The Study Area is located at approximately 82 feet elevation, and the topography is relatively flat. The Natural Resources Conservation Service (NRCS) identifies a single soil type in the Study Area: Puuone sand, 7 to 30 percent slopes (NRCS 2021).

## 2.3 Hydrology

The Study Area is within the ʻIao watershed (CWRM 2008). Wetlands, streams, ditches, and other features identified in the vicinity by the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) data (NWI 2020), the U.S. Geological Survey (USGS) topographic and National Hydrography Dataset (NHD 2020), and the State of Hawaiʻi Division of Aquatic Resources (DAR) dataset (DAR 2008) are shown in Figure 2. The closest identified waterbody from these datasets is a pool roughly 0.8 miles to the northeast. Kahului Harbor is located roughly 0.9 miles to the north of the Study Area (see Figure 2). Kanahā Pond State Wildlife Sanctuary is roughly 1.4 miles to the northeast of the Study Area.

# 3.0 Methods

Prior to the field survey, Tetra Tech conducted a review of relevant publicly available literature and data relevant to the biological resources in and near the Study Area. Evaluated resources included previous survey reports, environmental assessments and environmental impact statements, public datasets, scientific journals and reports, as well as available, unpublished data that are relevant to the natural history and ecology of the area. In addition, Tetra Tech reviewed available geospatial data, aerial photographs, and topographic maps of the Study Area to identify occurrences of federally or state listed or otherwise rare species, or habitats that could harbor these species.

A field survey of the Study Area was conducted on July 1, 2021; the survey was conducted from approximately 7:00 am until 12:00 pm in decent survey conditions with clear skies, moderate winds, and warm temperatures. Details regarding the field survey methodologies are provided below.

## 3.1 Plants

Tetra Tech conducted a pedestrian survey to record common plant species and dominant vegetation types, as well as any listed or rare plant species within the Study Area. Plant identifications were made in the field; plants that could not be positively identified were photo-documented for comparison with the recent taxonomic literature.

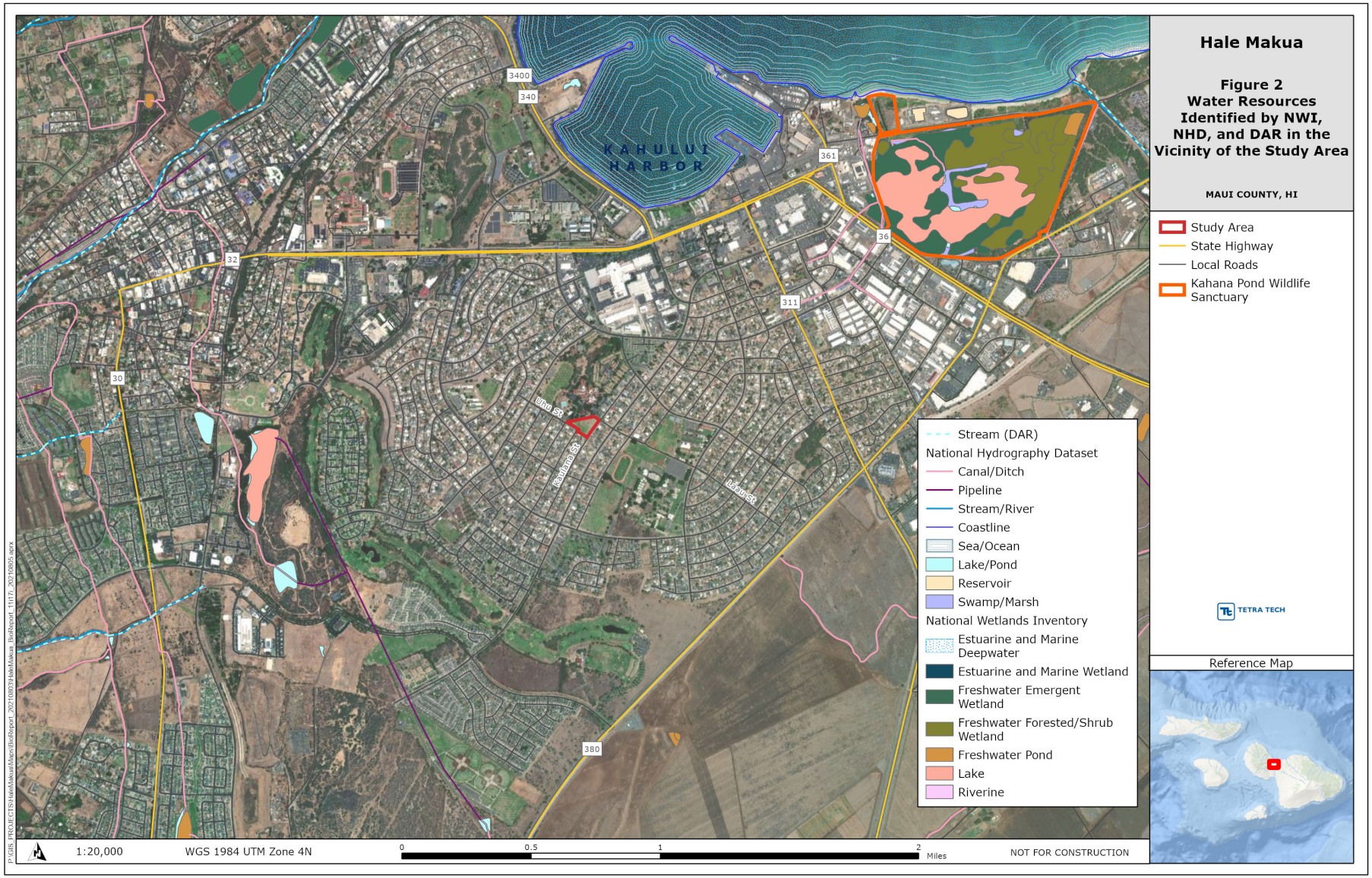


**Figure 2. Water Resources Identified by NWI, NHD, DAR in the Vicinity of the Study Area**

Plants recorded during the survey are indicative of the season and environmental conditions at the time of the survey. The presence and location of plants can be influenced by seasonal and temporal changes; therefore, it is possible additional species may occur within the Study Area but were not present during this survey.

The taxonomy and nomenclature of the flowering plants are in accordance with Wagner et al. (1999, 2012), Wagner and Herbst (2003), and Imada (2012, 2019) for native and naturalized flowering plants, and Staples and Herbst (2005) for ornamental plants. Common/Hawaiian names are provided first, followed by scientific names in parentheses. If no common or Hawaiian name is known, only the scientific name is provided.

### 3.2 Wildlife

Wildlife surveys consisted of observations and identification of birds, mammals, and large invertebrate species encountered while searching the Study Area. Tetra Tech recorded all wildlife seen or heard while walking within the Study Area coupled with visual observation of scat, tracks, and other animal sign. Habitats or plants that could support listed wildlife species were also identified if present (e.g., water features as potential habitat for listed Hawaiian waterbirds).

Observations of invertebrates encountered were recorded incidentally to wildlife surveys. Invertebrates were identified through visual observations and were not collected in the field. As part of the invertebrate survey, Tetra Tech searched the Study Area for host plants for the endangered Blackburn's sphinx moth (*Manduca blackburnii*)[1], primarily the non-native, weedy tree tobacco (*Nicotiana glauca*), which is common on Maui and larvae of the Blackburn's sphinx moth feed on. If tree tobacco plants were encountered in the Study Area or vicinity during the survey, they would be scanned for Blackburn's sphinx moth larvae, eggs, or evidence of larval feeding (e.g., chewed stems, frass, or leaf damage).

Specific surveys for the endangered Hawaiian hoary bat or ʻōpeʻapeʻa (*Lasiurus cinereus semotus*) with acoustic bat detectors or nighttime observation were not conducted. Rather, as the USFWS and State of Hawaiʻi Division of Forestry and Wildlife (DOFAW) recognize all woody vegetation greater than 15 feet tall as potential bat roosting habitat (USFWS 2019a, ESRC and DOFAW 2021), Tetra Tech noted the presence/absence of any such vegetation within the Study Area.

Scientific nomenclature for birds follows Birds of the World (Billerman et al. 2020). Scientific names for mammals follow Tomich (1986). Scientific nomenclature follows Nishida (2002) for invertebrates.

## 4.0 Results and Discussion

The Study Area is comprised of a fenced manicured lawn with several planted ornamental tree and shrub species. Recreation equipment is present in the park. The species composition is dominated by

[1] The 2019 5-year review for the Blackburn's sphinx moth stated that the species "…is not likely to become extinct within the foreseeable future and more closely meets the definition of threatened rather than endangered" (USFWS 2019b).

non-native plants and wildlife. Of the native species observed, all are common across Maui and other Hawaiian Islands. Representative photographs of the Study Area are presented in Appendix A.

No federally or state listed species were observed in the Study Area during the survey. Although not observed in the Study Area during the survey, several federally or state listed animal species may occasionally occur in or traverse the Study Area. These listed species are discussed in further detail below.

No designated critical habitat occurs in the Study Area or the vicinity. The closest designated critical habitat is approximately 1.4 miles to the northeast (see Figure 3 and Section 4.2.3).

## 4.1 Plants

No federally or state listed plant species or rare plant species were observed in the Study Area during the survey. A total of 44 plant species were documented within the Study Area. Of these, only one species— hala (*Pandanus tectorius*)—is considered native to the Hawaiian Islands. This indigenous tree is not considered rare and is commonly planted throughout the islands. A list of plants observed during the survey is presented in Appendix B.

The vegetation within the Study Area is characterized by a manicured lawn interspersed with low-growing weeds and several ornamental shrubs and trees planted along the Study Area boundaries. The lawn appears to be regularly cut and consists primarily of zoysia grass (*Zoysia* sp.), St. Augustine grass (*Stenotaphrum secundatum*), seashore paspalum grass (*Paspalum vaginatum*), and Bermuda grass (*Cynodon dactylon*). Common weed species growing along the edges of the lawn include buttonweed (*Spermacoce remota*), *Calyptocarpus vialis*, wiregrass (*Eleusine indica*), and sandbur (*Cenchrus echinatus*). Monkeypod trees (*Samanea saman*), ironwood trees (*Casuarina equisetifolia*), hala trees (*Pandanus tectorius*), and a coconut palm tree (*Cocos nucifera*) are planted along the northern boundary of the Study Area. Multiple ornamental Chinese hibsicus (*Hibiscus rosa-sinensis*) shrubs are planted along the northeastern, southeastern, and southwestern boundaries of the Study Area adjacent to Laau Street, Kaulana Street, and Uhu Street, respectively. Kiawe (*Propsopis pallida*) and pink tecoma trees (*Tabebuia heterophylla*) also occur along the edges of the Study Area.

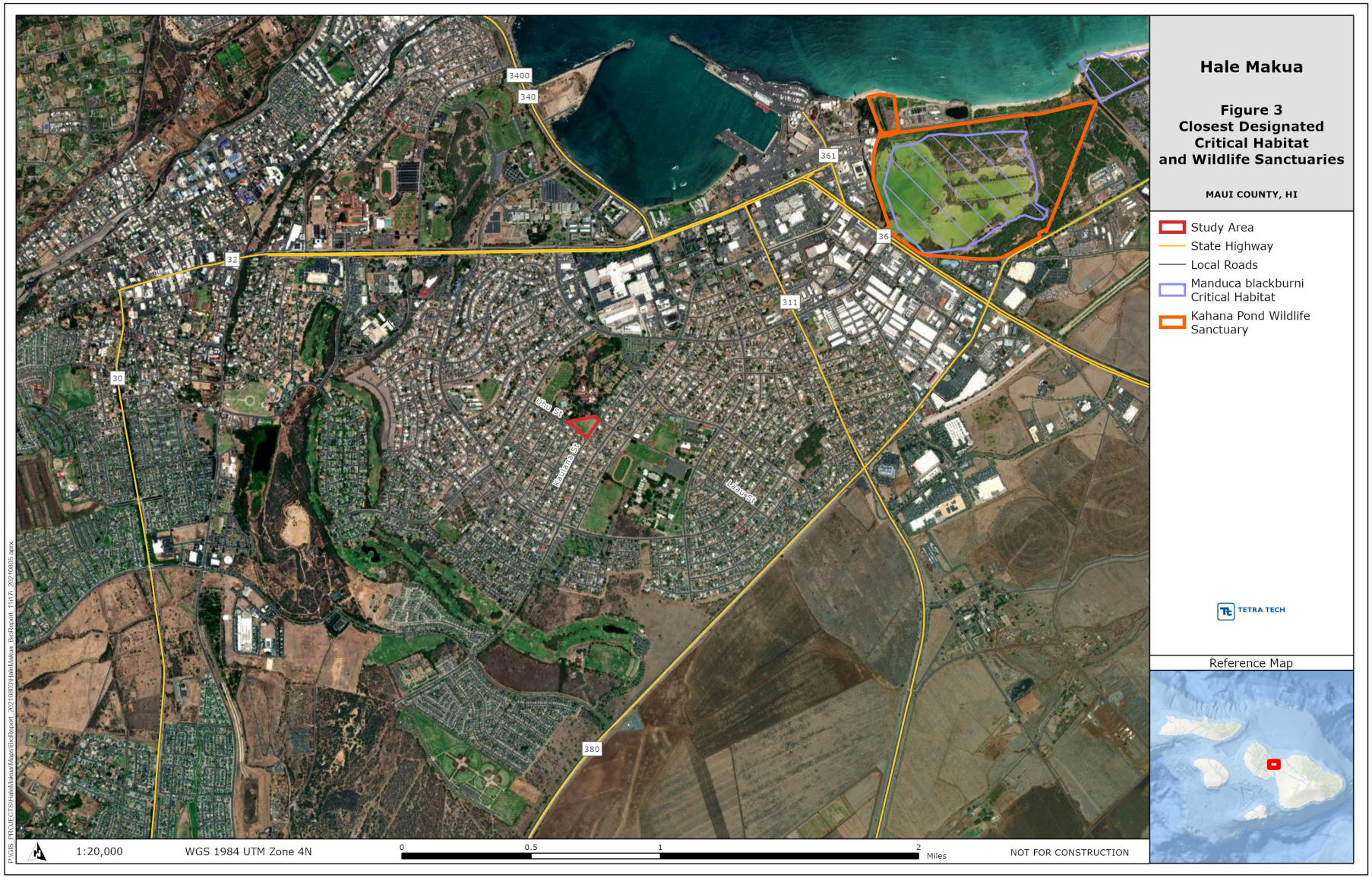


**Figure 3. Closest Designated Critical Habitat and Wildlife Sanctuaries**

## 4.2 Wildlife

### *4.2.1 Birds*

Nine bird species were recorded within the Study Area (Table 1). Common myna (*Acridotheres tristis*), house finch (*Haemorhous mexicanus*), and house sparrow (*Passer domesticus*) were the most common bird species recorded during the survey. All of the bird species detected are non-native to the Hawaiian Islands and are commonly found in residential areas. Two non-native bird species seen or heard during the survey are protected by Migratory Bird Treaty Act, as listed in Table 1.

Although not observed in the Study Area during the survey, several federally and state listed bird species are known to occur in the vicinity and may fly over or occasionally use habitat in the Study Area. These listed bird species are discussed in further detail below.

**Table 1. Birds Recorded in the Study Area During the Survey**

| Common Name | Scientific Name | Status | MBTA |
|---|---|---|---|
| Cattle egret | *Bubulcus ibis* | NN | X |
| Common myna | *Acridotheres tristis* | NN | |
| House finch | *Haemorhous mexicanus* | NN | X |
| House sparrow | *Passer domesticus* | NN | |
| Red junglefowl | *Gallus gallus* | NN | |
| Rock pigeon | *Columba livia* | NN | |
| Spotted dove | *Streptopelia chinensis* | NN | |
| Warbling white-eye | *Zosterops japonicus* | NN | |
| Zebra dove | *Geopelia striata* | NN | |
| Status: NN = non-native established species, MBTA = Migratory Bird Treaty Act | | | |

**<u>Hawaiian Goose:</u>**

Although not observed within the Study Area during the survey, suitable habitat for the threatened Hawaiian goose or nēnē (*Branta sandvicensis*) occurs within the Study Area and in the immediate vicinity. Hawaiian geese use various habitat types, including beach strand, shrubland, grasslands to lava rock (Banko et al. 2020). They are also known to use landscaped/maintained areas, such as golf courses, grazed pastures, playing fields, and lawns. According to eBird, Hawaiian geese have been observed in the vicinity at The Dunes Maui Lani Golf Course roughly 0.7 miles to the south of the Study Area (eBird 2021). It is possible that Hawaiian geese may fly through the Study Area when in transit to and from areas with known populations.

**Listed Waterbirds:**

Listed waterbird species that occur on Maui include the Hawaiian stilt or aeʻo (*Himantopus mexicanus knudseni*), Hawaiian coot or ʻalae kea (*Fulica alai*), and the Hawaiian duck or koloa (*Anas wyvilliana*); these species are collectively referred to as listed waterbirds. No listed waterbirds or their habitat were observed in the Study Area during the survey; however, these three listed waterbirds are found at Kanahā Pond State Wildlife Sanctuary roughly 1.4 miles to the northeast of the Study Area (VanderWerf 2012).

**Listed Seabirds:**

Federally and state listed seabird species that occur on Maui include the endangered Hawaiian petrel or ʻuaʻu (*Pterodroma sandwichensis*), threatened Newell's shearwater or aʻo (*Puffinus newelli*), and the endangered band-rumped storm-petrel or ʻakēʻakē (*Oceanodroma castro*); these species are collectively referred to as listed seabirds. These seabirds spend most of their life far offshore, but return to land to breed. Nests are typically located in high elevation mountainous areas.

Suitable nesting and foraging habitat for listed seabirds does not occur in the Study Area. However, suitable nesting habitat for listed seabirds exists at upper elevations of Haleakalā and the West Maui Mountains. Therefore, it is possible these seabirds could fly over the Study Area at night between April and December while transiting between nest sites and the ocean.

Listed seabirds may be attracted to construction or operational lights at night. Juvenile birds are particularly vulnerable to light attraction, especially during their post-fledging departure. Disorientation and fallout as a result of light attraction could occur for individuals attracted to nighttime construction lighting and unshielded nighttime facility lighting. Grounded seabirds can become injured or suffer from predation or vehicle strikes (Rodríguez et al. 2017, DOFAW 2020).

### *4.2.2 Mammals*

Domesticated dogs (*Canis lupus familiaris*) were the only mammal detected within the Study Area. Although not observed, other introduced mammals, such as cats (*Felis catus*), small Asian mongoose (*Herpestes javanicus*), house mouse (*Mus musculus*) and rats (*Rattus* spp.), are likely to occur within the Study Area.

Hawaiʻi's only native, extant terrestrial mammal—the endangered Hawaiian hoary bat—may transit, roost, or forage in portions of the Study Area. Monkeypod, pink tecoma, ironwood, kiawe, and ʻopiuma (*Pithecellobium dulce*) trees within the Study Area are over 15 feet tall and have the potential to function as bat roost trees, per USFWS and DOFAW. Foraging and roosting habitat for the Hawaiian hoary bat also occurs immediately outside of the Study Area to the northwest.

### *4.2.3 Invertebrates*

Invertebrates incidentally observed during the wildlife surveys include: the Oriental flower beetle (*Proteatia orientalis*), monarch butterfly (*Danaus plexippus*), Asian swallowtail (*Papilio xuthus*), fiery

skipper (*Hylephila phyleus*), globe skimmer (*Pantala flavescens*), and green darner (*Anax junis*). Of these six insect species, only the globe skimmer and the green darner are native to the Hawaiian Islands. These two indigenous dragonfly species are considered common in the Hawaiian Islands.

No Blackburn's sphinx moth caterpillars or host plants for Blackburn's sphinx moth caterpillars were observed in the Study Area. The two native, larval host plants for Blackburn's sphinx moth (*Nothocestrum latifolium* and *N. breviflorum*) were not found and are not likely to occur in the Study Area. Furthermore, no tree tobacco plants, the common non-native host plant for the species, were observed in the Study Area.

USFWS has not designated critical habitat for the Blackburn's sphinx moth within the Study Area. The closest Blackburn's sphinx moth critical habitat units (Kanahā Pond and Kahana Beach) are approximately 1.4 and 2.3 miles northeast of the Study Area, respectively (see Figure 3).

# 5.0 Conclusions and Recommendations

As described in Section 4, the majority of the plants and animals observed in the Study Area are introduced, non-native species. No federally or state listed wildlife species were observed during the biological surveys. However, several listed wildlife species have the potential to occur in or transit through the Study Area. Recommended measures to avoid and minimize impacts to these federally and state listed species, as well as other native species, are outlined below.

## 5.1 Plants

The vegetation types and plant species recorded in the Study Area are not considered unique. No federal or state listed plant species were observed. Over 97 percent of the plant species observed are not native to the Hawaiian Islands. Hala, the one native plant species observed, commonly occurs throughout Hawaiʻi. Regardless, Tetra Tech recommends the following measures to avoid and minimize potential impacts of the Project:

- If landscaping is installed as part of the Project, use non-invasive plants and incorporate native plant species to the maximum extent practicable.
- Although non-native weedy species are common in the Study Area, implement invasive species minimization measures to avoid the unintentional introduction or transport of new invasive species to the area. This includes utilizing on-site gravel, rock, and soil (or purchasing from a local supplier) when practicable; utilizing certified, weed-free seed mixes; and washing construction equipment and/or visually inspecting for excessive dirt, debris, plant materials, and invasive or harmful non-native species as appropriate. Consult with Maui Invasive Species Committee if needed.
- To minimize spread of the fungal pathogen responsible for Rapid ʻŌhiʻa Death, follow the most recent Rapid ʻŌhiʻa Death decontamination protocols recommended by USFWS and DOFAW.

## 5.2 Wildlife

Nearly all the animal species recorded in the Study Area are not native to the Hawaiian Islands. However, as described above, several listed wildlife species have the potential to occur in or transit through the Study Area. Tetra Tech recommends the following general measures to avoid and minimize potential impacts to listed wildlife species:

- Establish a wildlife education and observation program for all construction and operational personnel. Staff should be trained to identify listed wildlife that may be found on-site (including Hawaiian geese, listed waterbirds, and listed seabirds) and to take appropriate steps if listed wildlife species are found.
- If downed listed species are observed at the Project, notify USFWS and DOFAW.

### *5.2.1 Hawaiian Goose*

It is possible that Hawaiian geese may fly through the Study Area when in transit to and from areas with known populations. Should this species occur within the Study Area, it could be impacted by construction and operation activities. Tetra Tech recommends the following avoidance measures adapted from USFWS (USFWS 2019a):

- If Hawaiian geese are observed in the Study Area during active construction, all activities within 100 feet of the bird should cease. Do not feed, approach, or disturb the bird(s). Work may continue after the bird leaves the area of its own accord.
- If Hawaiian geese are observed loafing or foraging within the Study Area during the breeding season (September through April), halt work and have a biologist familiar with nesting behavior survey for nests in the area prior to the resumption of work. If a nest is discovered, contact USFWS and DOFAW and cease all work within 150 feet. If a nest is not discovered, work may continue after the bird leaves the area of its own accord.

### *5.2.2 Listed Waterbirds*

The Study Area does not provide suitable nesting or foraging habitat for listed Hawaiian waterbirds because there is no standing water; however, listed waterbirds may fly through the Study Area in transit to and from other areas or forage in the Study Area in the event of temporary flooding. If these species land within the Study Area, they could be impacted by construction and operation activities. Tetra Tech recommends the following avoidance measures adapted from USFWS (2019a):

- Avoid creating areas with temporary or permanent standing water to avoid attracting listed waterbirds.
- If listed waterbirds are found in the Study Area during active construction, cease all activities within 100 feet of the bird(s), and do not approach the bird(s). If appropriate nesting habitat is present, a biological monitor that is familiar with the species' biology should conduct Hawaiian waterbird nest surveys. Repeat nest surveys again within 3 days of project initiation and after

any subsequent delay of work of 3 or more days (during which birds may attempt nesting). If a nest of a listed waterbird is not discovered, work may continue after the listed waterbird leaves the area of its own accord.

- If a nest of a listed waterbird is discovered, contact USFWS and DOFAW within 24 hours, and establish 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.

### *5.2.3 Listed Seabirds*

The Study Area does not provide suitable nesting or foraging habitat for the listed Hawaiian seabirds. However, listed seabirds may fly over the Study Area in transit between the ocean and upland breeding sites during the breeding, nesting, and fledging seasons (March 1–December 15) and may be attracted to nighttime lighting. Tetra Tech recommends the following measures to avoid and minimize potential impacts to listed seabirds:

- Avoid nighttime construction during the seabird fledgling period (September 15–December 15).
- If nighttime construction is required outside the seabird fledging period, construction lighting should be shielded and directed downward and fit with non-white lights to minimize the attractiveness of construction lights to seabirds.
- Operational on-site lighting should be fully shielded and directed downward to prevent upward radiation, triggered by a motion detector and/or timer controls when human activity is not occurring, and fitted with non-white light bulbs to the extent possible. Other possible lighting recommendations may include: placing lights under eaves; shifting lighting according to moon phase; decreasing visibility of interior lights; planting vegetation around lights to reduce light visibility; and using longer light wavelengths (DOFAW 2020).
- Minimize construction of overhead lines to reduce collision risk.
- If a grounded seabird is found, contact the Maui Nui Seabird Recovery Project at (808) 573-2473.

### *5.2.4 Hawaiian Hoary Bat*

The USFWS (2019a) provides the following avoidance and minimization measures for the Hawaiian hoary bat:

- Avoid trimming or removing woody vegetation (trees or shrubs) taller than 15 feet between June 1 and September 15, when juvenile bats are not yet capable of flying and may be roosting in the trees, resulting in the potential to be impacted.
- To prevent entanglement, do not use barbed wire for fencing.

Tetra Tech recommends that if some trimming or removal of woody vegetation taller than 15 feet is necessary between June 1 and September 15, consult with USFWS and DOFAW to ensure impacts to the Hawaiian hoary bat are avoided.

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# APPENDIX A

# REPRESENTATIVE PHOTOGRAPHS OF THE HALE MAKUA STUDY AREA

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Photo 1. Recently mowed lawn in the foreground with border of ornamental trees and shrubs in the background along the western and northern boundary of the Study Area, looking west across the Study Area. Location: 20.878939, -156.476733.

Photo 2. Looking southwest from the southeastern corner of the Study Area with Kaulana Street on the left), showing ornamental Chinese hibsicus shrubs and a single ‘opiuma tree inside the Study Area fence. Location: 20.879197, -156.476284.

Photo 3. Looking northeast across the Study Area with Kaulana Street on the right, showing mowed lawn and recreation equipment in the foreground and large ironwood and kiawe trees in the background along the boundary with Laau Street. Location: 20.878458, -156.477327.

Photo 4. Looking southeast along the boundary with Uhu Street, showing pink tecoma trees and Chinese hibiscus shrubs planted inside the fenced park. Location: 20.879036, -156.478109.

# APPENDIX B

# LIST OF PLANT SPECIES OBSERVED DURING SURVEYS OF THE HALE MAKUA HOUSING STUDY AREA

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Table B-1 provides a list of plant species observed in the Study Area by Tetra Tech on July 1, 2021. The plant names are arranged alphabetically by family and then by species into two groups: Monocots and Dicots. The taxonomy and nomenclature of the flowering plants are in accordance with Wagner et al. (1999, 2012), Wagner and Herbst (2003), and Imada (2012, 2019) for native and naturalized flowering plants, and Staples and Herbst (2005) for ornamental plants. If no common or Hawaiian name is known, only the scientific name is provided.

Status:

- I = indigenous = native to the Hawaiian Islands and elsewhere
- P = Polynesian = introduced by Polynesians
- X = introduced/ non-native = all those plants brought to the Hawaiian Islands by humans, intentionally or accidentally, after Western contact (Cook's arrival in the islands in 1778)

**Table B-1. List of Plant Species Observed During Surveys for the Hale Makua Project**

| Scientific Name and Authorship | Hawaiian/Common Name(s) | Status |
|---|---|---|
| **MONOCOTS** | | |
| Cyperaceae | | |
| *Cyperus mindorensis* (Steud.) Huygh | white kyllinga | X |
| *Cyperus rotundus* L. | nut grass | X |
| Poaceae | | |
| *Cenchrus ciliarus* L. | buffelgrass | X |
| *Cenchrus echinatus* L. | sandbur | X |
| *Chloris barbata* Sw. | swollen fingergrass | X |
| *Cynodon dactylon* (L.) Pers. | Bermuda grass | X |
| *Eleusine indica* (L.) Gaertn. | wiregrass | X |
| *Eragrostis amabilis* (L.) Wight & Arn. | lovegrass | X |
| *Eragrostis pectinacea* (Michx.) Nees var. *pectinacea* | Carolina lovegrass | X |
| *Megathyrsus maximus* (Jacq.) B.K.Simon & S.W.L. Jacobs | Guinea grass | X |
| *Paspalum vaginatum* Sw. | seashore paspalum | X |
| *Sporobolus africanus* (Poir.) Robyns & Tournay | smutgrass | X |
| *Stenotaphrum secundatum* (Walter) Kuntze | St. Augustine grass | X |
| *Zoysia* sp. | zoysia grass | X |
| **DICOTS** | | |
| Acanthaceae | | |
| *Asystasia gangetica* (L.) T. Anderson | Chinese violet | X |
| Amaranthaceae | | |
| *Dysphania carinata* (R.Br.) Mosyakin & Clemants | goosefoot | X |
| *Alternanthera pungens* Kunth. | khaki weed | X |

| Scientific Name and Authorship | Hawaiian/Common Name(s) | Status |
|---|---|---|
| Arecaceae | | |
| *Cocos nucifera* L. | coconut palm | P |
| Asteraceae | | |
| *Calyptocarpus vialis* Less. | -- | X |
| *Conyza bonariensis* (L.) Cronquist | hairy horseweed | X |
| *Cyanthillium cinereum* (L.) H.Rob. | little ironweed | X |
| *Sonchus oleraceus* L. | sow thistle | X |
| *Synedrella nodiflora* (L.) Gaertn. | nodeweed | X |
| *Tridax procumbens* L. | coat buttons | X |
| Bignoniaceae | | |
| *Tabebuia heterophylla* (DC.) Britton | pink tecoma | X |
| Brassicaceae | | |
| *Lepidium virginicum* L. | Virginia pepperwort | X |
| Casuarinaceae | | |
| *Casuarina equisetifolia* L. | ironwood | X |
| Clusiaceae | | |
| *Clusia rosea* (Jacq.) | autograph tree | X |
| Ehretiaceae | | |
| *Ehretia microphylla* Lam. | Fukien tea | X |
| Euphorbiaceae | | |
| *Euphorbia hirta* L. | hairy spurge | X |
| *Euphorbia prostrata* Aiton | prostrate spurge | X |
| Fabaceae | | |
| *Desmodium triflorum* (L.) DC. | tick clover | X |
| *Indigofera spicata* Forssk. | creeping indigo | X |
| *Leucaena leucocephala* (Lam.) de Wit | koa haole | X |
| *Pithecellobium dulce* (Roxb.) Benth. | ‘opiuma | X |
| *Prosopis pallida* (Humb. & Bonpl. ex Willd.) Kunth | kiawe | X |
| *Samanea saman* (Jacq.) Merr. | monkeypod | X |
| Malvaceae | | |
| *Hibiscus rosa-sinensis* L. | Chinese hibiscus | X |
| Nyctaginaceae | | |
| *Boerhavia coccinea* Mill. | scarlet boerhavia | X |
| Pandanaceae | | |
| *Pandanus tectorius* Parkinson | hala | I |

| Scientific Name and Authorship | Hawaiian/Common Name(s) | Status |
|---|---|---|
| Plantaginaceae | | |
| *Plantago lanceolata* L. | narrow-leaved plantain | X |
| Portulaceae | | |
| *Portulaca oleracea* L. | pigweed | X |
| Rubiaceae | | |
| *Spermacoce remota* Lam. | buttonweed | X |
| Verbenaceae | | |
| *Lantana camara* L. | lantana | X |

# *Appendix B:*

# *Environmental Noise Assessment Report*

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**Environmental Noise Assessment**
**Hale Makua**
**Island of Maui, Hawaii**

December 2021

DLAA Project No. 21-021

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## 1.0 EXECUTIVE SUMMARY

**1.1** The Hale Makua Health Services is proposing to develop a 2.8-acre portion of the Kahului Community Center Park into a rehabilitation facility. The proposed project is the first of three potential phases which will develop the "Gate-Ball" Field currently bordered by Kaulana Street to the east, Laau Street to the north, the Kahului Community Center Park to the west and existing residences to the south. This study assesses the potential for noise related impacts to neighboring uses, which include the existing Hale Makua Kahului Facility, park spaces, and residences. The study investigates the potential for future noise impacts due to operation of the new rehabilitation facility and throughout construction. The project design phase has yet to occur, therefore this assessment incorporates generalized assumptions regarding noise levels during typical construction activities and general requirements for compliance with Hawaii Department of Health (HDOH) HAR 46-11 "Community Noise Rule" requirements.

The site of the proposed action is primarily adjacent to R-2 zoning, which includes single family residences and public parks and recreational facilities. The existing Hale Makua Kahului Facility is zoned as P-1 "Public/Quasi Public". Both R-2 and P-1 zoning districts would be considered Class A according to the Community Noise Rule, which requires a maximum property line noise level of 55 dBA during the daytime (7AM to 10PM) and 45 dBA at night (10PM to 7AM).

**1.2** The existing ambient sound levels are typical for suburban residential environments adjacent to 2-lane roadways and vary with the time of day based on vehicular traffic volumes. Ambient $L_{eq}$ noise levels measured at the proposed action site ranged from 47-61 dBA for daytime hours and 38-61 dBA for nighttime hours, with measured $L_{dn}$ levels of 56-58 dBA. Existing ambient noise levels occasionally exceed the HDOH Community Noise Rule throughout the day and at night. A description of acoustical terminology can be found in Appendix A.

**1.3** Traffic due to the new rehabilitation facility will result in noise level increases up to approximately 5 dBA at the existing Hale Makua Kahului Facility, the senior housing development at Hale Mahaolu Elua and at residences along Kaulana Street, which would be considered noticeable. According to HUD, building exterior sound attenuation with windows closed is typically approximately 25 dBA. With this reduction, while exterior noise levels at these uses could be noticeable, interior noise levels would still be well within the maximum acceptable criteria according to HUD. Noise levels due to project generated traffic are predicted to increase up to 3 dBA at all other receptors, which would be considered imperceptible.

**1.4** Future noise levels at the project site are predicted to be approximately 60 dBA $L_{dn}$ and 70 dBA $L_{01}$. With these noise levels Facility Guidelines Institute classifies the site as Category A, which requires the façade to achieve minimum composite 35 $STC_C$ and 25 $OITC_C$.

**1.5** Construction noises from the development must comply with the HDOH Community Noise Control Rule [Reference 1], which stipulates maximum permissible noise limits at the property line. However, noise levels during all stages of construction are expected at times to exceed these maximum permissible noise limits. A permit must be obtained from the HDOH to allow the operation of construction equipment that exceeds the maximum permissible noise limits. A variance from the HDOH to allow the operation of these noise sources during non-permitted hours will be required if any construction activities take place between the hours of 10:00 PM and 7:00 AM.

A general analysis has been conducted considering possible noise levels during typical phases of construction of similar types of buildings. The loudest phases of construction will likely be excavation and site finishing. The actual noise levels produced during construction will be a function of the methods employed during each stage of the construction process, the duration of construction activities, and the number of pieces of equipment used. Construction noise levels were predicted using a noise modeling software at receptor locations within the study area expected to be affected by construction activities.

The nearest receptors are approximately 40 feet from the nearest possible construction activities along the site boundary. Construction noise levels at these locations are expected to exceed the Federal Transit Authority's (FTA) noise impact thresholds of 80 dBA for residential land uses. This FTA criteria is not a required conformance criteria for the proposed action and is only presented as a relevant guideline for the assessment of construction noise impact on the surrounding community. Noise levels may increase by up to 42 dBA over existing levels during the day and approximately 51 dBA at night. These increases may be perceived as up to 4-9 times as loud as the existing ambient noise and may be very objectionable to the occupants.

Following the National Institute of Occupational Safety and Health (NIOSH) guidelines, it would be considered hazardous for people in the immediate vicinity of the construction sites to be exposed to noise levels of 85 dBA for more than approximately 8 hours a day. Hazardous noise levels can lead to hearing loss but only with repeated long-term exposures beyond the recommended dosages. Maximum predicted noise levels when construction is closest to project receptors are expected to exceed the 85 dBA threshold. The noise levels would occasionally be in the hazardous range, and should be mitigated as much as possible. However, the highest projected unmitigated noise levels are expected to be short-term and would not be expected to occur continuously in any 8-hour period, reducing the risk of permanent hearing damage due to high noise level exposure. The proposed noise mitigation equipment and techniques are expected to reduce the noise to levels at the nearest receptors that are considered safe for indefinite exposure.

**1.6** At this stage in development there is no available timeline for the duration of potential construction noise related impacts.

**1.7** Noise mitigation for construction activities can be addressed using best management practices to control the noise source. Control methods include scheduling, equipment selection, retrofitting equipment with mufflers or enclosures, and regular maintenance of equipment.

Source control measures alone will most likely be insufficient to prevent a noise impact on the adjacent residences. Therefore path control measures, such as barrier walls, must be considered. If feasible, a temporary noise barrier wall/enclosure can be constructed around areas of active construction activities, such as access points, to reduce noise transmission to the nearest receiver locations. Small stationary and mobile barrier walls can be provided to be used around discrete construction equipment, such as generators, concrete/pavement saws, jackhammers, compressors, etc. To maximize effectiveness, barriers should be located as close to the equipment during its operations as possible. Wherever possible, equipment should be located in trenches or access pits below grade. The effects of mitigation could not be quantified in this assessment due to lack of design information, however these measures would likely be required to reduce noise levels to below FTA impact criteria thresholds and below the NIOSH hazardous noise level threshold.

## 2.0 PROJECT DESCRIPTION

Hale Makua Health Services is proposing to develop a 2.8-acre portion of the Kahului Community Center Park into a rehabilitation facility. The project is the first of three potential phases and will develop the current "Gate-Ball" Field bordered by Kaulana Street to the east, Laau Street to the north, the Kahului Community Center Park to the west and existing residences to the south. See Figure 1 for the extent of the project site. This study assesses the potential for noise related impacts to neighboring uses, which include the existing Hale Makua Kahului Facility, park spaces, and residences. The noise study investigates the potential for future noise impacts due to operation of the facility and throughout construction. The project design phase has yet to occur, therefore this assessment incorporates generalized assumptions regarding noise levels during typical construction activities and general requirements for compliance with Hawaii Department of Health (HDOH) HAR 46-11 "Community Noise Rule" requirements.

The site of the proposed action is primarily adjacent to R-2 zoning, which includes single family residences and public recreation facilities. The existing Hale Makua Kahului Facility is zoned as P-1 "Public/Quasi Public". Both R-2 and P-1 zoning districts would be considered Class A according to the Community Noise

Rule, which requires a maximum property line noise level of 55 dBA during the daytime (7AM to 10PM) and 45 dBA at night (10PM to 7AM).

## 3.0 NOISE STANDARDS

Various federal and local agencies have established guidelines and standards for assessing environmental noise impacts and set noise limits as a function of land use. A brief description of common acoustic terminology used in these guidelines and standards is presented in Appendix A.

Compliance with the HDOH Community Noise rule is a regulatory requirement. The FTA and subjective values and criteria stated in Tables 1, 2, and 3 should not be considered regulatory requirements because they are not associated with a specific governing document for the proposed action. However, these tables are useful in assessing the human perception to overall construction noise levels and general changes in sound levels and they are considered to be supplemental information to the governing State of Hawaii Community Noise Control Rule, which does not discuss community response to changes in noise levels or overall noise levels from construction activities.

### 3.1 State of Hawaii, Community Noise Control (HDOH)

The State of Hawaii Community Noise Control Rule [Reference 1] defines three classes of zoning districts and specifies corresponding maximum permissible sound levels due to *stationary* noise sources such as air-conditioning units, exhaust systems, generators, compressors, pumps, etc. The Community Noise Control Rule does not address most *moving* sources, such as vehicular traffic noise, aircraft noise, or rail transit noise. However, the Community Noise Control Rule does regulate noise related to agricultural, construction, and industrial activities, which may not be stationary. In general, the HDOH Community Noise Rule only assesses the impact of a construction project as it relates to nuisance and hours of allowed activity, and therefore does not state a maximum allowable noise level for the activities after a noise permit and/or variance has been granted.

The maximum permissible noise levels for stationary mechanical equipment and construction noise are enforced by the State HDOH for any location at or beyond the property line and shall not be exceeded for more than 10 percent (%) of the time during any 20-minute period. The specified noise limits which apply are a function of the zoning and time of day as shown in Figure 2. The proposed action has adjacencies to Class A zonings. In determining the maximum permissible sound level, the background noise level is considered by HDOH. In cases where the existing ambient level is already higher than the HDOH maximum permissible noise levels, the noise generated by the activities is normally allowed to be equal in level to the existing ambient environment.

The criteria for *impulse* or impact noise are separate from stationary noise due to the nature of the sound. HDOH defines impulse noise as "any sound with a rapid rise and decay of sound pressure level, lasting less than one second, caused by sudden contact between two or more surfaces…". Noise from pile driving is considered impulse noise and the maximum permissible noise level is 10 dB above the specified noise limits for stationary sources, as shown in Figure 2.

### 3.2 Federal Transit Administration (FTA)

Although the proposed action is not associated with mass transit, the criteria developed by the FTA is presented here as a relevant guideline for assessing construction noise. Construction noise criteria should take into account the existing noise environment, the equivalent sound levels, $L_{eq}$, during the construction activities, the duration of the construction activities, and the adjacent land use. While it is not the intention of the FTA to specify standardized criteria for construction noise impact, it has defined guidelines for assessment [Reference 2]. According to the FTA, if the criteria shown in **Table 1** are exceeded, there may be adverse community reaction.

**Table 1.** Federal Transit Administration Construction Noise Impact Threshold

| | 8- Hour $L_{eq}$ (dBA) | |
|---|---|---|
| **Land Use** | Day (7 AM – 10 PM) | Night (10 PM – 7 AM) |
| Residential | 80 | 70 |
| Commercial | 85 | 85 |
| Industrial | 90 | 90 |

### 3.3 Community Response to Change in Noise Level

Human sensitivity to changes in sound pressure level is highly individualized. Sensitivity to sound depends on frequency content, time of occurrence, duration, and psychological factors such as emotions and expectations. However, the average ability of an individual to perceive changes in noise levels is well documented and has been summarized in **Table 2** [Reference 3, 4]. These guidelines permit direct estimation of an individual's probable perception of changes in noise levels.

**Table 2.** Average Ability to Perceive Changes in Noise Level

| Sound Level Change (dB) | Human Perception of Sound |
|---|---|
| 0 | Imperceptible |
| 3 | Just barely perceptible |
| 6 | Clearly noticeable |
| 10 | Two times (or 1/2) as loud |
| 20 | Four times (or 1/4) as loud |

A commonly applied criterion for estimating a community's response to changes in noise level is the 'community response scale' proposed by the International Standards Organization (ISO) of the United Nations [Reference 5]. The scale shown in **Table 3** relates changes in noise level to the degree of community response and allows for direct estimation of the probable response of a community to a predicted change in noise level. The values are based on statistical analysis of previous projects that increased ambient noise levels in the surrounding community, and, therefore, are only a rule of thumb for estimating community response and not a prediction of this specific proposed action's expected community response.

**Table 3.** Community Response to Increases in Noise Levels

| Sound Level Change (dB) | Category | Response Description |
|---|---|---|
| 0 | None | No observed reaction |
| 5 | Little | Sporadic Complaints |
| 10 | Medium | Widespread Complaints |
| 15 | Strong | Threats of Community Action |
| 20 | Very Strong | Vigorous Community Action |

### 3.4 Residential Interior Noise Guidelines

The Department of Housing and Urban Development (HUD) mandates a maximum of 45 $L_{dn}$ interior noise level due to exterior noise sources in residences for all HUD funded projects. While this project will not receive HUD funding, the 45 $L_{dn}$ metric is a standard maximum level for residential projects [Reference 6]. The 45 $L_{dn}$ metric is used to evaluate potential traffic related noise impacts at neighboring residences.

The Facility Guidelines Institute has developed acoustical criteria for design and construction of Hospitals and Outpatient Facilities. At the environmental assessment stage the most applicable criteria refers to categorization of exterior site noise exposure levels [Reference 7]. The criteria in **Table 4** is used to evaluate the exterior noise exposure of the Hale Makua Rehabilitation Facility and prescribe a minimum façade acoustical performance.

**Table 4.** FGI 2014 Noise Exposure Criteria

| **Exterior Site Noise Exposure Category** | **A** | **B** | **C** | **D** |
|---|---|---|---|---|
| General Description | Minimal | Moderate | Significant | Extreme |
| Day-night average sound level ($L_{dn}$) (dB)[N1] | < 65 | 65-69 | 70-74 | >=75 |
| Average hourly nominal maximum sound level ($L_{01}$) (dBA) | <75 | 75-79 | 80-84 | >=85 |
| Exterior Shell Composite OITC rating ($OITC_C$)[N2,N3] | 25 | 30 | 35 | 40 |
| Exterior Shell Composite STC rating ($STC_C$)[N2,N4] | 35 | 40 | 45 | 50 |
| Exterior Patient Seating Areas | Generally Acceptable | Marginally Acceptable | Generally not acceptable without special acoustic consideration | Generally not acceptable |

Notes: *Adapted from Table 1.2-3 of FGI 2014 Hospital and Outpatient Facilities Design Guidelines.

N1. By definition, the day-night average sound level ($L_{dn}$) includes the A-weighting and nighttime penalty

N2. The exterior shell composite ratings are for closed windows. Opening windows effectively reduces shell composite ratings to 10 to 15, depending on the amount windows are opened. Consideration should be given to whether windows would be opened and for how long and under what circumstances, and the potential impact of open windows should be identified in the design

N3. The $OITC_C$ ratings for interior spaces that are not acoustically sensitive (e.g., corridors, atriums, stairways) can be reduced by as much as 10 dB, but should be no less than $OITC_C$ 25. Interior spaces that are more sensitive to noise than a typical patient room (e.g., a teleconferencing space or an auditorium) may require special consideration to determine and appropriate $OITC_C$ rating of the exterior façade.

N4. Composite STC ratings are taken from the 2010 FGI Guidelines Table A1.2-a

## 4.0 EXISTING ACOUSTICAL ENVIRONMENT

Continuous long-term ambient noise level measurements were conducted to assess the existing acoustical environment in the vicinity of the proposed action. Long-term measurements (taken continuously over the course of multiple days) offer a baseline for establishing existing ambient noise levels in the area and are used for estimating future noise levels by adding the ambient levels to other noise levels generated from the proposed action.

The methodology, locations, and results for each of the measurements are described below. The measurement locations are illustrated in Figure 1, and graphs of the measurement data for both sites can be seen in Figure 3 and Figure 4. Photographs of the measurement locations can be viewed in Appendix B.

### 4.1 Long-term Noise Measurements

#### 4.1.1 Long-Term Noise Measurement Procedure

Ambient noise level measurements were conducted at two different locations from October 21 to October 24, 2021, to assess the existing acoustical environment on or near the proposed action. Continuous, hourly equivalent sound levels, $L_{eq}$, were recorded at each location. The measurements were taken using Larson-Davis, Model 831 Type 1 Sound Level Meters. Calibration was checked before and after the measurements with a Larson-Davis Model CAL200 calibrator. The sound level meters and the calibrators have been certified by the manufacturer within the recommended 2-year calibration period. A

windscreen covered the microphone during the entire measurement period and the sound level meter was secured in a weather-resistant case.

#### 4.1.2 Long-Term Noise Measurement Locations

*Location 1 (L1):* The sound level meter was located at the intersection of Laau Street and Kaulana Street. The microphone was mounted approximately 5.5 feet above grade and represents existing noise levels at residences north and east of the project site.

*Location 2 (L2):* The sound level meter was located at the intersection of Uhu Street and Kaimana Street. The microphone was mounted approximately 5.5 feet above grade and represents existing noise levels at residences south and west of the project site.

#### 4.1.3 Long-Term Noise Measurement Results

The measured $L_{eq}$ and $L_{max,}$ in dBA are graphically presented in Figure 3 and Figure 4 for each location respectively. The ambient sound levels are typical of an environment adjacent to quiet suburban streets and vary with the time of day based on vehicular traffic volumes and distance to the nearest traffic source. Locations L1 and L2 show similar noise levels for daytime, nighttime, and overall $L_{dn}$. The $L_{eq}$ during the day (7:00 AM to 10:00 PM), during the night (10:00 PM to 7:00 AM), and average calculated day-night level, $L_{dn}$, are summarized for each location in **Table 5** below.

**Table 5.** Summary of Noise Measurement Results (dBA)

| Measurement Location | Average Daytime $L_{eq}$ | Average Nighttime $L_{eq}$ | Average $L_{dn}$ | Maximum $L_{01(1\text{-hour})}$ |
|---|---|---|---|---|
| L1 | 53 | 49 | 56 | 69 |
| L2 | 56 | 51 | 58 | 73 |

## 5.0 POTENTIAL NOISE IMPACTS

### 5.1 Vehicular Traffic Noise Impacts to Proposed Building

Roadway noise levels were evaluated using vehicular traffic information provided in the Traffic Impact Analysis Report prepared by Austin, Tsutsumi & Associates, Inc. [Reference 8]. Future vehicular traffic noise levels at the proposed Hale Makua Rehabilitation facility are expected to have a maximum of approximately 60 dBA $L_{dn}$ and 74 dBA $L_{01}$. With these noise levels the site falls into category A according the 2014 Facility Guidelines Institute interior noise level criteria. This level of exposure is considered minimal and requires the building façade to be constructed to achieve a minimum composite (e.g., walls and windows calculated together) acoustical performance of STC 35 and OITC 25. Noise levels of this magnitude are considered acceptable for outdoor seating areas.

### 5.2 Vehicular Traffic Noise Impacts to Adjacent Receptors

Noise levels from predicted future “with action” traffic conditions were compared to measured existing noise levels. The expected increase in noise levels due to future traffic conditions is up to 5 dBA above existing conditions at the existing Hale Makua Kahului Facility, the senior housing development at Hale Mahaolu Elua, and residences along Kaulana Street between Laau Street and Hina Avenue. Noise level increases of this magnitude are generally considered noticeable. Total peak hour noise levels at these receptors are not expected to exceed approximately 61 dBA $L_{dn}$. Typical residential facades are expected to provide approximately 25 dBA reduction [Reference 6]. With this reduction interior noise levels are expected to be below the 45 dBA threshold for residences according to FGI and HUD. Therefore, no impact is expected from project-generated traffic level increase.

At all other locations in the study area predicted noise level increases due to the project are expected to remain below 3 dBA, which would generally be considered imperceptible and therefore would not create a noise impact.

### 5.3 Stationary Noise Sources Associated with the Project

Stationary noise sources will be required to comply with HDOH Community Noise Rule. All equipment located exterior to the building and which duct to the building exterior must be evaluated and designed for compliance with the HDOH Criteria for Category A receptors at all neighboring property lines. Therefore, no significant impact is expected due to stationary sources associated with the Hale Makua Rehabilitation Center operations.

### 5.4 Construction Noise Sources

Potential construction noise impacts were evaluated using generalized noise levels for construction phases. The actual noise levels during construction will depend on the specific means and methods required. This analysis is to provide a general idea of the potential for construction noise level impacts due to construction activities. If this analysis reveals the potential for noise impact, further study may be required to estimate the extent and intensity of the impact as well as the benefit from potential mitigation measures. The noise levels listed in **Table 6** represent the A-weighted equivalent sound level ($L_{eq}$), measured at a distance of 50 feet, for each construction phase [Reference 9]. These are generalized potential noise levels during typical phases of construction and do not represent expected noise levels from any specific equipment or construction operations. In practice, worst-case noise levels would typically be short-term in comparison to the project's overall schedule. The actual noise levels produced during construction of the proposed action will be a function of the specific methods employed during each stage of the construction process as well as the duration of each activity.

**Table 6.** Construction Phase Typical Noise Levels

| Construction Phase | Noise Level at 50 Feet ($L_{eq}$ dBA) |
|---|---|
| Ground Clearing | 84 |
| Excavation | 89 |
| Foundation | 78 |
| Structure Erection | 87 |
| Finishing | 89 |

Excavation and site finishing activities are expected to be the loudest phases of construction. However, the actual noise levels produced during construction will be a function of the methods employed during each stage of the construction process, the duration of construction activities, and the number of pieces of equipment used. The Datakustik CadnaA noise prediction software [Reference 10] was used to predict construction noise at receptor locations adjacent to the proposed action using the generalized construction noise levels in Table 6.

Detailed noise contours for existing and projected conditions during each construction phase are provided as Figures 5 to 15.

**Table 7** summarizes the results of the construction noise analysis for receptors located in the same locations as the L1 and L2 measurements locations as well as the "worst-case" modeled receptors located directly adjacent to the project site, 504 Kaulana Street and 503 Kaimana Street. Noise levels at residences further from construction would be expected to reduce with distance and shielding from intervening buildings. A detailed table summarizing the predicted noise levels during each construction alternative at all receptors within the study area is provided in Appendix C.

Construction noise levels will exceed maximum permissible noise limits specified in the HDOH Community Noise Control Rule [Reference 1] and as shown in Figure 2, therefore a permit must be obtained from the HDOH to allow the operation of construction equipment.

**Table 7.** General Construction Noise Analysis Results

| Receptor Locations | Modeled Distance[N1] to Nearest Construction Sources (ft.) | Maximum Ambient Noise ($L_{eq}$, dBA) | | Maximum Hourly Equivalent Predicted Noise Levels per Construction Phase ($L_{eq}$ dBA) | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Day | Night | Ground Clearing | Excavation | Foundations | Erection | Finishing |
| Near L1 | 150 | 58 | 49 | 76 | 81 | 69 | 79 | 81 |
| Near L2 | 95 | 61 | 51 | 74 | 79 | 66 | 77 | 79 |
| 504 Kaulana St | 40 | 56 | 47 | 82 | 87 | 76 | 85 | 87 |
| 503 Kaimana St | 60 | 60 | 50 | 81 | 85 | 73 | 83 | 85 |

Notes:
N1. The value is the approximate distance from the noise receptor to the location of the nearest project site boundary.

### 5.4.1 Construction Noise Receptor FTA Analysis Results

**Table 8** shows the results of the construction noise analysis against FTA receptor thresholds. Any receptors within the specified minimum impact distances for each Construction Alternative are expected to experience a noise impact. Distances are based on a theoretical 6 dBA reduction per doubling of distance from the construction noise source, which represent the best-case scenario. Actual impact distances may extend further than the values shown in Table 8.

**Table 8.** FTA Analysis Results – Maximum Distance to Noise Impact

| Receptor Land Use Category | FTA Criteria ($L_{eq}$ dBA) | Maximum Distance from Construction Activity to Receptor for FTA Noise Impact Criteria Exceedance (ft) | | | | |
|---|---|---|---|---|---|---|
| | | Ground Clearing | Excavation | Foundations | Erection | Finishing |
| Residential | 80 | 79 | 141 | 40 | 112 | 141 |

**Table 9** shows the predicted maximum increase above ambient levels resulting from construction.

**Table 9.** Predicted Total Noise Increases Above Ambient Levels with Construction

| Receptor | Maximum Increment in Total Noise Level Relative to Ambient Noise Levels (dBA) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Ground Clearing | | Excavation | | Foundations | | Erection | | Finishing | |
| | Day | Night | Day | Night | Day | Night | Day | Night | Day | Night |
| L1 | 18 | 27 | 23 | 32 | 11 | 20 | 21 | 30 | 23 | 32 |
| L2 | 13 | 23 | 18 | 28 | 6 | 15 | 16 | 26 | 18 | 28 |
| 504 Kaulana St | 37 | 46 | 42 | 51 | 31 | 40 | 40 | 49 | 42 | 51 |
| 503 Kaimana St | 29 | 39 | 34 | 44 | 22 | 32 | 32 | 42 | 34 | 44 |

Maximum predicted noise level increments above ambient conditions at residential receptors adjacent to the project site, 504 Kaulana Street and 503 Kaimana Street, will range from 22 dBA to 42 dBA during the daytime and 32 to 51 dBA at night. These increases are considered 4 to 9 times louder than ambient conditions, will be very noticeable, and likely objectionable to residents. Even when the construction equipment moves further in the project site, represented by L1 and L2 measurement locations, increments range from 6 to 27 dBA during the day and 15 to 32 dBA at night, which would

be considered at minimum easily perceptible to more than 4 times louder than ambient conditions.

Complaints from these residences are expected if high levels of unmitigated construction noise persist for long periods of time, but worst-case noise levels are expected to be short in duration and likely will not cause long-term noise complaints.

Construction activities will occur as near as approximately 40 feet from the nearest noise receptor. Consequently, maximum time averaged sound levels are calculated to be higher than the 85 dBA resulting from excavation and site finishing operations. The National Institute for Occupational Safety and Health (NIOSH) recommends noise standards to protect workers from hearing losses resulting from occupational noise exposure [Reference 11]. NIOSH recommends a noise exposure of no more than 85 dBA for an 8-hour duration. Following the NIOSH guidelines, it would be considered hazardous for people in the immediate vicinity of the construction sites to be exposed to noise levels of 85 dBA for more than approximately 8 hours a day. Hazardous noise levels can lead to hearing loss but only with repeated long-term exposures beyond the recommended dosages. Therefore, while the noise levels would be in the hazardous range, and should be mitigated as much as possible, it is important to note that the short-term duration of the noise levels is not expected to be able to produce long-term hearing concerns in those exposed to even the highest projected unmitigated noise levels.

### 5.4.2 HDOH Receptor Analysis

Based on the maximum generalized noise levels at the nearest residences, HDOH Community Noise Rule criteria will be exceeded during construction of the project, and the project will require a Noise Permit to proceed with construction. A Noise Variance will be required for any night-time work. While obtaining a noise variance would be sufficient for compliance with HDOH criteria, night-time construction is not recommended given the relatively quiet ambient noise levels and proximity of the site to noise sensitive neighboring uses. Noise level projections are shown in Figures 5 to 15 and Appendix C for all receptors included in the study. The projected noise levels for each receptor group are for outdoor spaces surrounding the construction activities. Indoor spaces in the vicinity of the construction activities would typically be expected to be lower than the adjacent outdoor area levels. The overall noise level reduction from adjacent outdoor to indoor spaces would vary based on the type and quality of construction of the building exterior as well as other factors such as ventilation penetrations and the location and condition of doors and windows located in the exterior walls of the building in question. Refer to Appendix C for detailed predicted exterior construction noise level results.

**Table 10** summarizes the HDOH noise analysis requirements and maximum existing noise levels at each receptor grouping. **Table 11** summarizes the maximum total noise levels predicted during construction at each receptor grouping for each phase of construction. **Table 12** summarizes whether the predicted total noise levels with construction would be sufficient to result in exceedance of HDOH criteria.

All studied receptors are expected, at times, to experience exceedances of HDOH criteria during daytime and nighttime construction. The most extreme exceedances of ambient conditions and HDOH criteria are expected at residences, the existing Hale Makua Kahului Facility and public park spaces adjacent to the project site, and residences in the neighborhood with line of sight to construction activities. The magnitude of noise level increments decreases with distance from the project site and shielding from other buildings. However, maximum noise levels at any one receptor will be short-term and vary with the phase of construction and equipment actually used on site. Therefore, while noise permits and variances for off-hours work will be required to comply with the HDOH Community Noise Rule, and noise mitigation measures should be incorporated into any construction alternative to reduce maximum noise levels, *significant* construction noise impacts are not expected at any receptor.

**Table 10.** HDOH Requirements and Existing Noise Levels for Detailed Analysis

| Receptor Group | Land Uses | HDOH Requirement | | Maximum Existing Noise Level ($L_{eq}$, dBA) | |
|---|---|---|---|---|---|
| | | Day | Night | Day | Night |
| Residences directly adjacent to Development Site | Single Family Homes | 55 | 45 | 60 | 50 |
| Residences across one roadway, Public Spaces within Kahului Community Center Park and the existing Hale Makua Kahului Facility | Single Family Homes, Public Parks, Medical | 55 | 45 | 60 | 50 |
| Residences up to 1/2 block away from Project Site | Single Family Homes and existing HMHS Building | 55 | 45 | 67 | 60 |
| All Other Receptors | Single Family Homes, Schools and Houses of Worship | 55 | 45 | 69 | 60 |

**Table 11.** HDOH Analysis – Maximum Property Line Noise Levels during Construction

| Receptor Group | Land Uses | Maximum Total Noise Level with Construction ($L_{eq}$, dBA) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ground Clearing | | Excavation | | Foundation | | Erection | | Finishing | |
| | | D | N | D | N | D | N | D | N | D | N |
| Residences directly adjacent to Development Site | Single Family Homes | 82 | 82 | 87 | 87 | 76 | 76 | 85 | 85 | 87 | 87 |
| Residences across one roadway, Public Spaces within Kahului Community Center Park and the existing Hale Makua Kahului Facility | Single Family Homes, Public Parks, Medical | 77 | 77 | 82 | 82 | 71 | 71 | 80 | 80 | 82 | 82 |
| Residences up to 1/2 block away from Project Site | Single Family Homes | 69 | 64 | 69 | 69 | 69 | 60 | 69 | 67 | 69 | 69 |
| All Other Receptors | Single Family Homes, Schools and Houses of Worship | 69 | 64 | 69 | 68 | 69 | 60 | 69 | 67 | 69 | 68 |

**Table 12.** HDOH Analysis – HDOH Exceedance Assessment[N1]

| Receptor Group | Land Uses | Maximum Noise Level Increments Above HDOH Code Limits ($L_{eq}$, dBA)[N2, N3] | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Ground Clearing** | | **Excavation** | | **Foundation** | | **Erection** | | **Finishing** | |
| | | **D** | **N** | **D** | **N** | **D** | **N** | **D** | **N** | **D** | **N** |
| Residences directly adjacent to Development Site | Single Family Homes | 27 | 37 | 32 | 42 | 21 | 31 | 30 | 40 | 32 | 42 |
| Residences across one roadway, Public Spaces within Kahului Community Center Park and the existing Hale Makua Kahului Facility | Single Family Homes, Public Parks, Medical | 22 | 31 | 27 | 36 | 16 | 25 | 25 | 34 | 27 | 36 |
| Residences up to 1/2 block away from project site | Single Family Homes | 9 | 19 | 14 | 24 | 2 | 8 | 12 | 22 | 14 | 24 |
| All Other Receptors | Single Family Homes, Schools and Houses of Worship | 3 | 11 | 6 | 16 | 1 | 3 | 5 | 14 | 6 | 16 |

Notes:

N1. For receptors where existing ambient noise levels already exceed HDOH property line limits, DLAA assumes no exceedance where total noise levels with construction do not exceed ambient condition. This assumption is based on DLAA experience with application of HDOH code requirements.

N2. Where ambient levels in Table 10 already exceeds requirement, increment is the difference between total noise levels with construction and ambient noise levels.

N3 D = Day (7:00 AM to 10:00 PM), N = Night (10:00 PM to 7:00 AM)

# 6.0 NOISE IMPACT MITIGATION

## 6.1 Hale Makua Rehabilitation Center Façade Design

Ambient exterior noise levels at the Hale Makua Rehabilitation site are expected to be approximately 60 dBA $L_{dn}$ and 74 dBA $L_{01}$. With these noise levels, the Facility Guidelines Institute requires the façade to achieve a minimum composite acoustical rating of 35 STC and 25 OITC.

## 6.2 HDOH Noise Permit for Construction Noise Impacts

In cases where construction noise exceeds, or is expected to exceed the State's "maximum permissible" property line noise levels [Reference 1], a permit must be obtained from HDOH to allow the operation of vehicles, cranes, construction equipment, power tools, etc., which emit noise levels in excess of the "maximum permissible" levels. The HDOH maximum permissible noise levels in the areas surrounding the proposed sites include a Class A 55 dBA daytime/45 dBA nighttime level in the single family homes, public park, house of worship, educational and quasi-public medical facility uses adjacent to proposed action sites.

In order for HDOH to issue a construction noise permit, the contractor must submit a noise permit application to HDOH, which describes the construction activities proposed. Prior to issuing the noise permit, HDOH may require action by the contractor to incorporate noise mitigation into the construction plan. HDOH may also require the contractor to conduct noise monitoring or community meetings inviting the neighboring residents and business owners to discuss construction noise. The contractor should use reasonable and standard practices to mitigate noise, such as using mufflers on diesel and gasoline engines, using properly tuned and balanced machines, etc. However, HDOH may require additional noise mitigation, such as temporary noise barriers, or time of day usage limits for certain kinds of construction activities.

Specific permit restrictions for construction activities [Reference 1] are:

> "No permit shall allow any construction activities which emit noise in excess of the maximum permissible sound levels ... before 7:00 AM and after 6:00 PM of the same day, Monday through Friday."
>
> "No permit shall allow any construction activities which emit noise in excess of the maximum permissible sound levels... before 9:00 AM and after 6:00 PM on Saturday."
>
> "No permit shall allow any construction activities which emit noise in excess of the maximum permissible sound levels on Sundays and on holidays."

The use of pile drivers, hoe rams and jack hammers 25 pounds or larger, high pressure sprayers, and chain saws are restricted to 9:00 AM to 5:30 PM, Monday through Friday. In addition, construction equipment and on-site vehicles or devices whose operations involve the exhausting of gas or air, excluding pile hammers and pneumatic hand tools weighing less than 15 pounds, must be equipped with mufflers [Reference 1].

The HDOH noise permit does not limit the noise level generated at the construction site, but rather the times at which noisy construction can take place. However, when considering a noise permit application, consideration is also given to any proposed noise mitigation for the project. Therefore, noise mitigation for construction activities should be addressed using project management and the source and path noise control measures discussed in Section 6.3 below.

## 6.3 HDOH Noise Variance for Night-time Construction Noise Impacts

At present no plan has been established regarding whether construction will occur beyond daytime hours defined by the HDOH. A variance must be obtained from HDOH to allow the operation of noise sources which emit noise levels in excess of the maximum permissible levels and which

operation does not conform to the requirements of the noise permit (i.e., nighttime construction activities which occur between 6:00 PM and 7:00 AM, Monday through Friday, before 9:00 AM or after 6:00 PM on Saturday, on Sundays or on Holidays.).

In order for HDOH to issue a construction noise variance, the project must submit a noise variance application to HDOH which describes the construction activities for the project. The project is required to prove that nighttime work is in the public interest, that it does not substantially endanger public health or safety, and that appropriate measures for the attenuation of excessive noise will be taken. Reasonable and standard practices to mitigate noise include the use of mufflers on diesel and gasoline engines, using properly tuned and balanced machines, and temporary noise barriers. In addition, property owners and residents in the neighborhood surrounding the project site must be notified of the variance application through a public notice procedure. A public hearing may be requested where the neighboring residents and business owners can discuss construction noise. If a public hearing is required, a letter stating the purpose of the project and indicating the time and place of the public hearing must be delivered to all affected residences and property owners.

**REFERENCES**


1. Chapter 46, *Community Noise Control*, Department of Health, State of Hawaii, Administrative Rules, Title 11, September 23, 1996.

2. U.S. Department of Transportation - Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.

3. *Highway Noise Policy and Abatement Guidelines*, Department of Transportation, Highways Division, State of Hawaii, April 25, 2011.

4. M. David Egan, *Architectural Acoustics*, McGraw-Hill Book Company, 1998

5. International Standards Organization ISO/TC 43, *Noise Assessment with Respect to Community Responses*, New York: United Nations, November 1969.

6. *HUD Noise Guidebook*, U.S. Department of Housing and Urban Development, March 2009.

7. *Guidelines for Design and Construction of Hospitals and Outpatient Facilities*, The Facility Guidelines Institute, 2014 edition.

8. *Traffic Impact Analysis Report, Hale Makua Rehabilitation Facility* Austin, Tsutsumi & Associates, Inc. August 10, 2021, DRAFT.

9. *Noise from Construction Equipment and Operations, Building Equipment, And Home Appliances*, NTID300.1, Bolt, Beranek and Newman for the U.S. Environmental Protection Agency, 31 December 1971.

10. *DataKustik CadnaA software program*, Build 177.5010; DataKustik GmbH, 2020 MR1.

11. *Criteria for a Recommended Standard – Occupational Noise Exposure*, Department of Health and Human Services, Centers for Disease Control and Prevention, June 1998.

# Project Site and Noise Measurement Locations

## Legend

L1 **Meter L1 Location**

L2 **- Meter L2 Location**

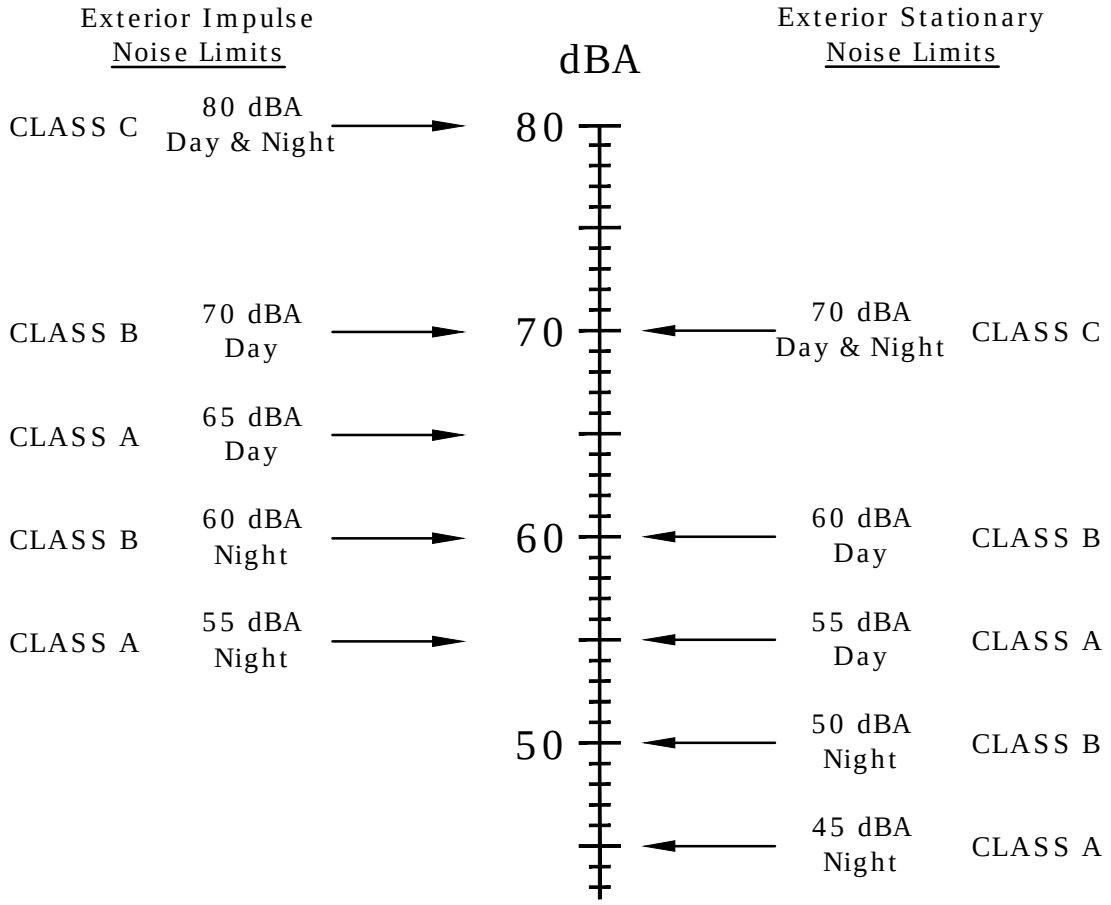
| | | | |
|---|---|---|---|
| D. L. ADAMS ASSOCIATES<br>acoustics \| performing arts \| technology | PROJECT: Hale Makua Environmental Assessment | | |
| | PROJECT NO: 21-021 | DATE: December 2021 | DETAIL: FIGURE: 1 |

## HAWAII DEPARTMENT OF HEALTH MAXIMUM PERMISSIBLE SOUND LEVELS FOR VARIOUS ZONING DISTRICTS

| Zoning District | Day Hours (7 AM to 10 PM) | Night Hours (10 PM to 7 AM) |
|---|---|---|
| CLASS A<br>Residential, Conservation, Preservation, Public Space, Open Space | 55 dBA (Exterior) | 45 dBA (Exterior) |
| CLASS B<br>Multi-Family Dwellings, Apartments, Business, Commercial, Hotel, Resort | 60 dBA (Exterior) | 50 dBA (Exterior) |
| CLASS C<br>Agriculture, Country, Industrial | 70 dBA (Exterior) | 70 dBA (Exterior) |

IMPULSE NOISE:

The maximum permissible noise limit for impulse noise is 10 dBA above the stationary noise limits.

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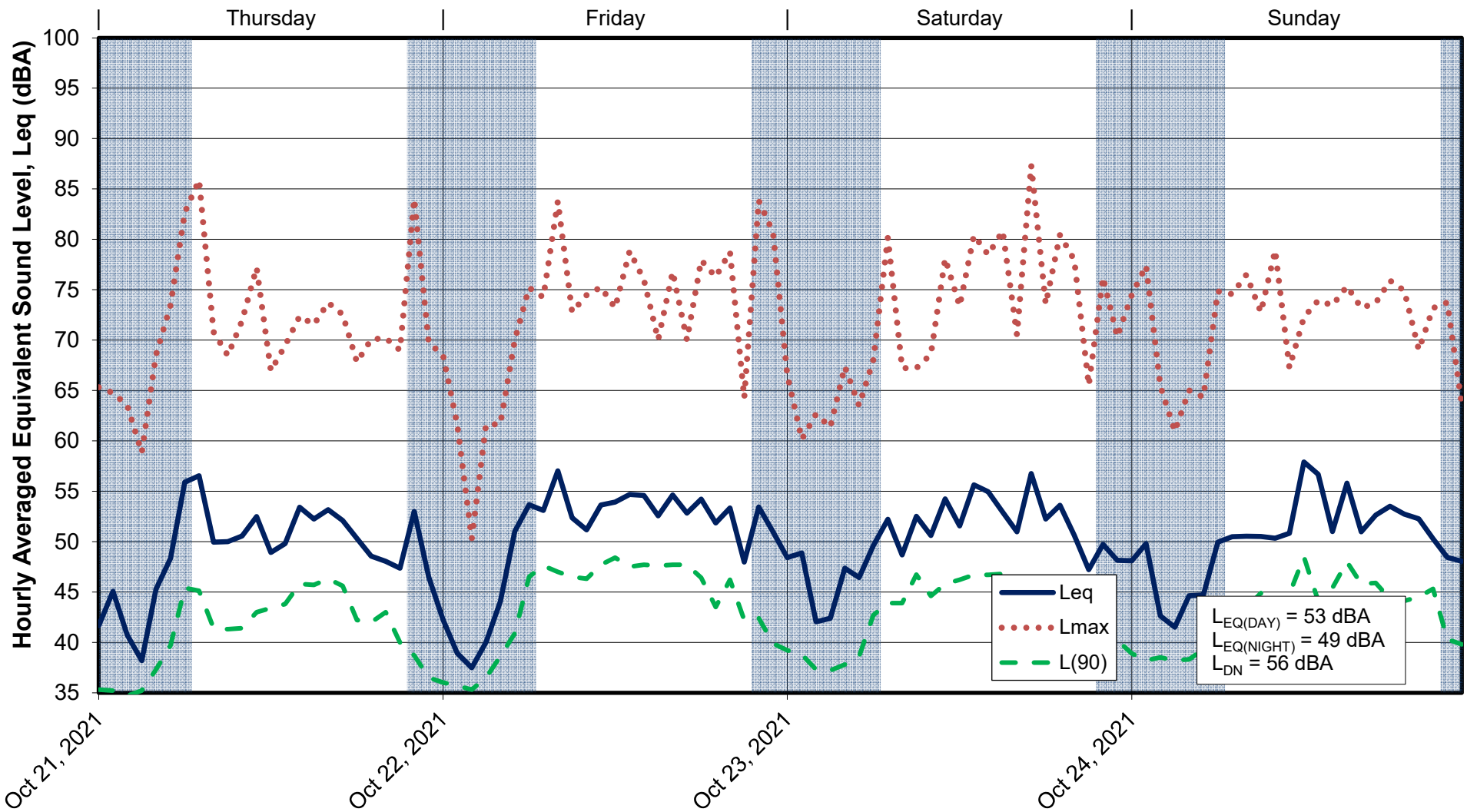
| PROJECT: Hale Makua Environemtnal Assessment | | |
|---|---|---|
| PROJECT NO: 21-021 | DATE: December 2021 | FIGURE: 2 |

# Kaulana Street and Laau Street




**Date & Time of Measurement**

**$L_{eq}$: Equivalent Sound Level - Logrithmic average of sound levels of time.**
**$L_{max}$: Maximum Noise Level - Highest noise level reached during each hourly measurement**
**$L_{90}$: Ambient Noise Level: Highest noise level exceeded 90% of each hourly recording.**

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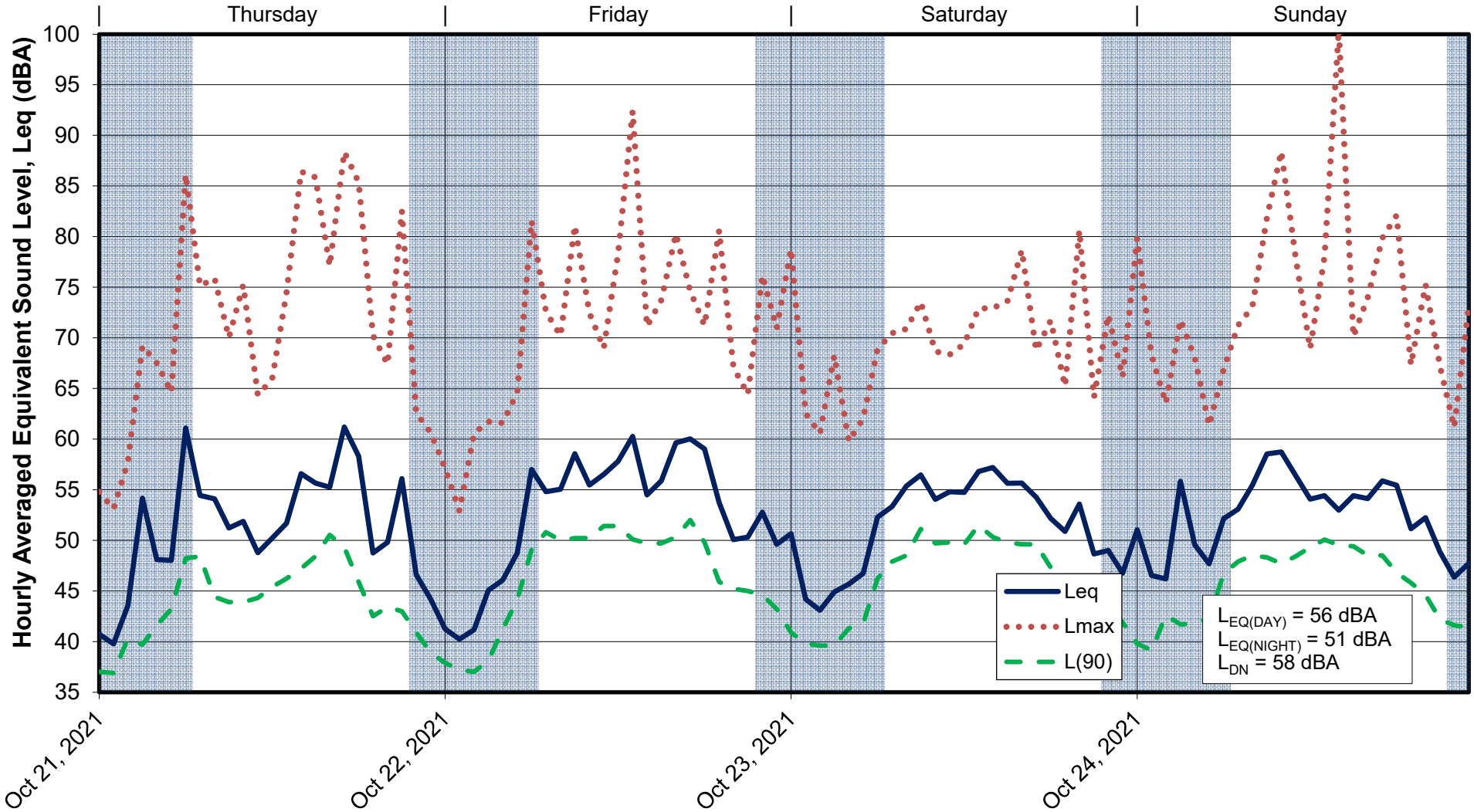
| PROJECT: | | |
|---|---|---|
| Hale Makua EA | | |
| PROJECT NO: 21-021 | DATE: December 2021 | FIGURE: 3 |

## Kaimana Street and Uhu Street




**Date & Time of Measurement**

**$L_{eq}$: Equivalent Sound Level - Logrithmic average of sound levels of time.**
**$L_{max}$: Maximum Noise Level - Highest noise level reached during each hourly measurement**
**$L_{90}$: Ambient Noise Level: Highest noise level exceeded 90% of each hourly recording.**

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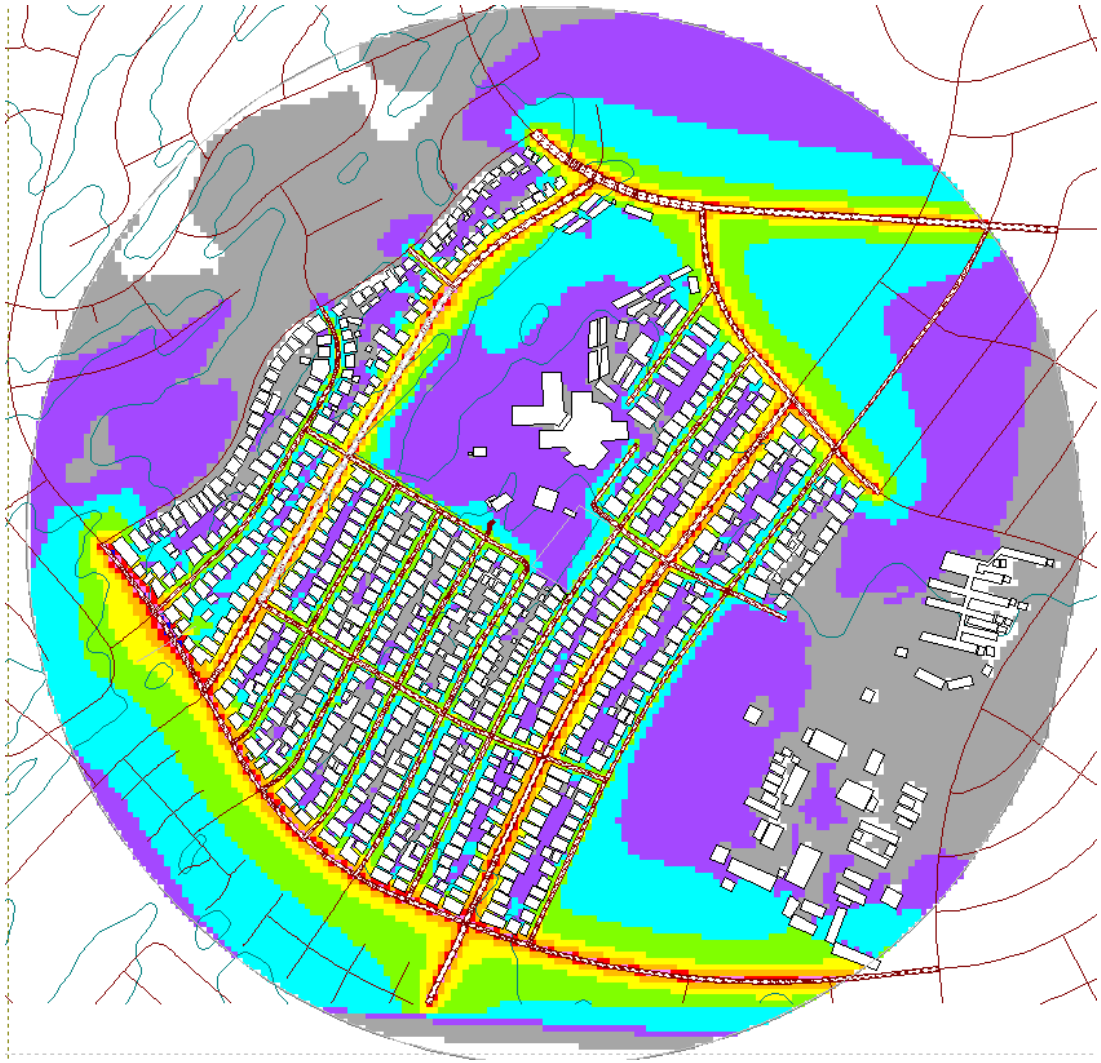
| PROJECT: | | |
|---|---|---|
| Hale Makua EA | | |
| PROJECT NO: 21-021 | DATE: December 2021 | FIGURE: 4 |

**EXISTING CONDITIONS:** Traffic Noise Data



**Noise Level Contour Key (dBA)**

- ... <= 45.0
- 45.0 < ... <= 50.0
- 50.0 < ... <= 55.0
- 55.0 < ... <= 60.0
- 60.0 < ... <= 65.0
- 65.0 < ... <= 70.0
- 70.0 < ... <= 75.0
- 75.0 < ... <= 80.0
- 80.0 < ... <= 85.0
- 85.0 < ... <= 90.0
- 90.0 < ... <= 95.0
- 95.0 < ...

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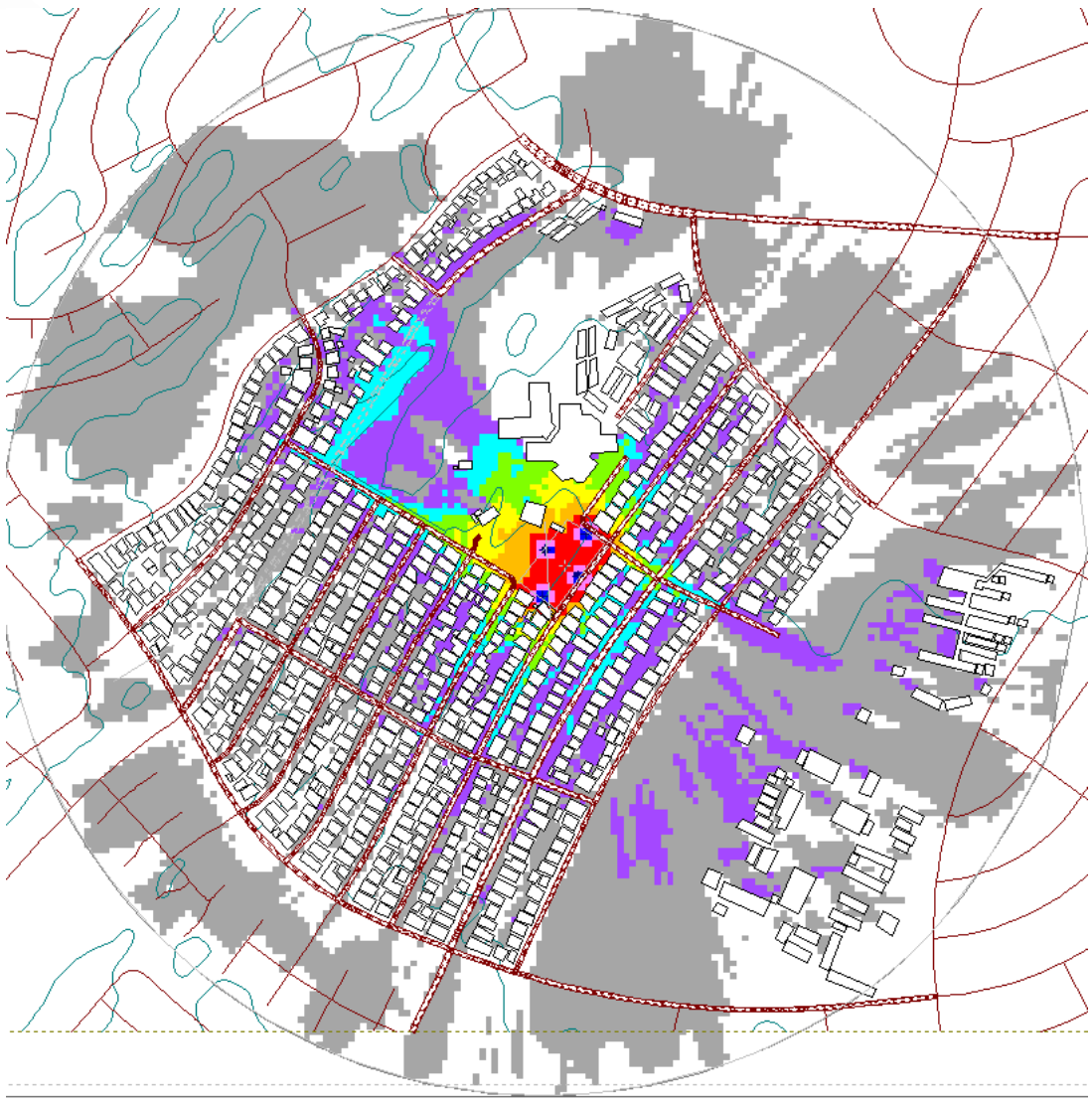
| PROJECT: | | |
|---|---|---|
| Hale Makua EA | | |
| PROJECT NO: 21-021 | DATE: December 2021 | FIGURE: 5 |

**PROJECTED NOISE LEVELS:** Ground Clearing



**Noise Level Contour Key (dBA)**

- ... <= 45.0
- 45.0 < ... <= 50.0
- 50.0 < ... <= 55.0
- 55.0 < ... <= 60.0
- 60.0 < ... <= 65.0
- 65.0 < ... <= 70.0
- 70.0 < ... <= 75.0
- 75.0 < ... <= 80.0
- 80.0 < ... <= 85.0
- 85.0 < ... <= 90.0
- 90.0 < ... <= 95.0
- 95.0 < ...

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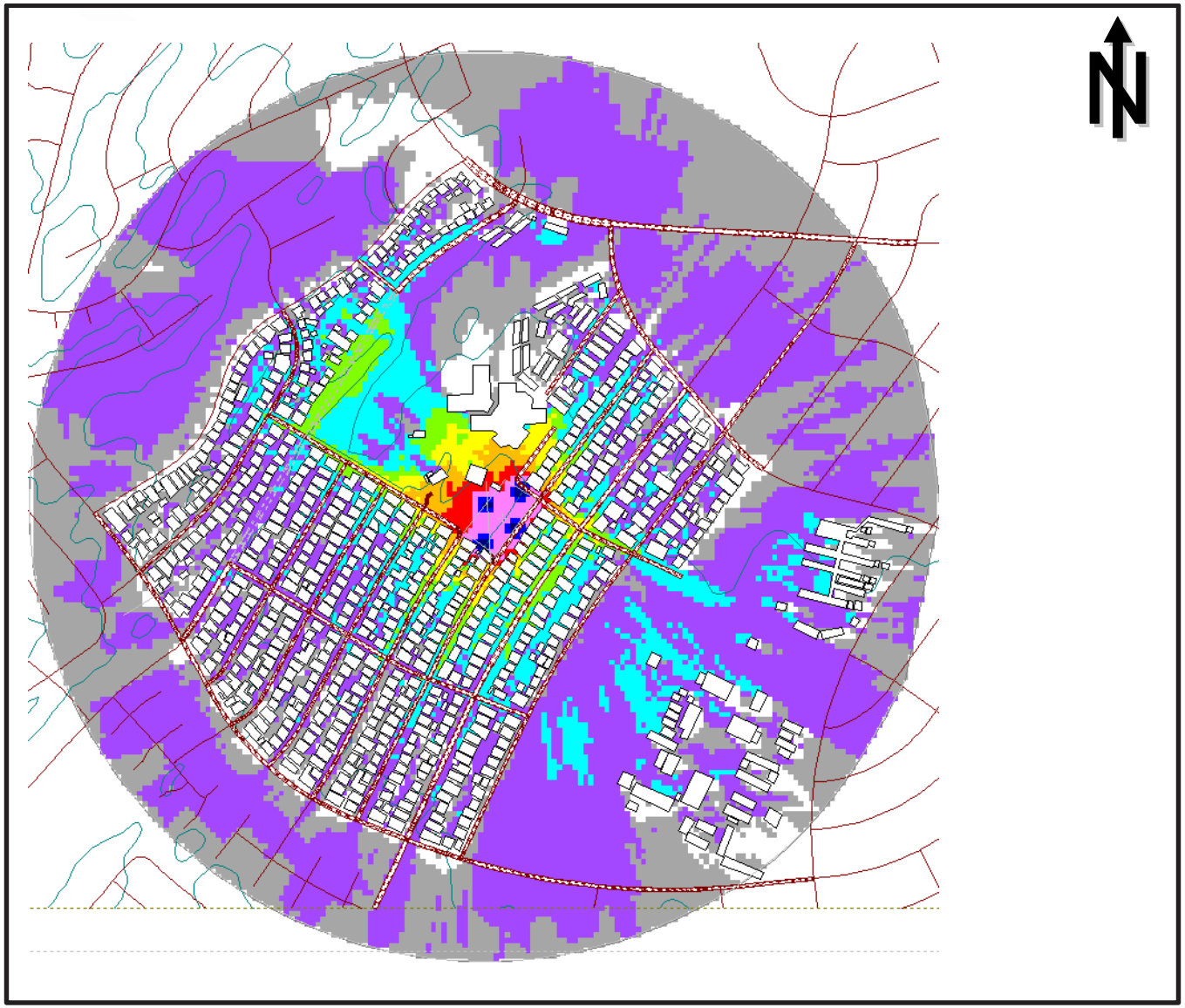
| PROJECT: | | |
|---|---|---|
| Hale Makua EA | | |
| PROJECT NO: 21-021 | DATE: December 2021 | FIGURE: 6 |

**PROJECTED NOISE LEVEL:** Excavation



**Noise Level Contour Key (dBA)**

- ... <= 45.0
- 45.0 < ... <= 50.0
- 50.0 < ... <= 55.0
- 55.0 < ... <= 60.0
- 60.0 < ... <= 65.0
- 65.0 < ... <= 70.0
- 70.0 < ... <= 75.0
- 75.0 < ... <= 80.0
- 80.0 < ... <= 85.0
- 85.0 < ... <= 90.0
- 90.0 < ... <= 95.0
- 95.0 < ...

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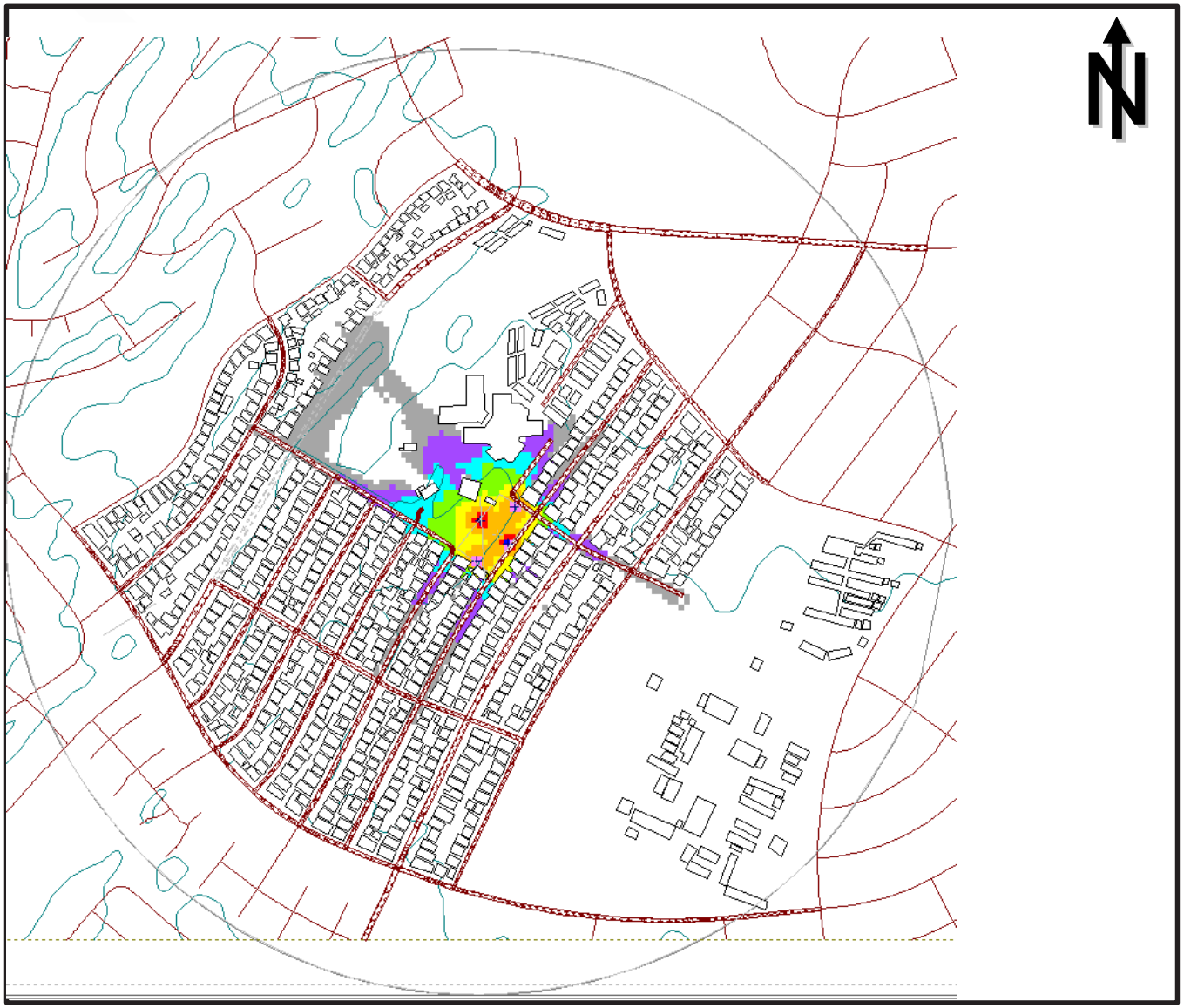
| PROJECT: | | |
|---|---|---|
| Hale Makua EA | | |
| PROJECT NO: 21-021 | DATE: December 2021 | FIGURE: 7 |

**PROJECTED NOISE LEVEL:** Foundation



**Noise Level Contour Key (dBA)**

- ... <= 45.0
- 45.0 < ... <= 50.0
- 50.0 < ... <= 55.0
- 55.0 < ... <= 60.0
- 60.0 < ... <= 65.0
- 65.0 < ... <= 70.0
- 70.0 < ... <= 75.0
- 75.0 < ... <= 80.0
- 80.0 < ... <= 85.0
- 85.0 < ... <= 90.0
- 90.0 < ... <= 95.0
- 95.0 < ...

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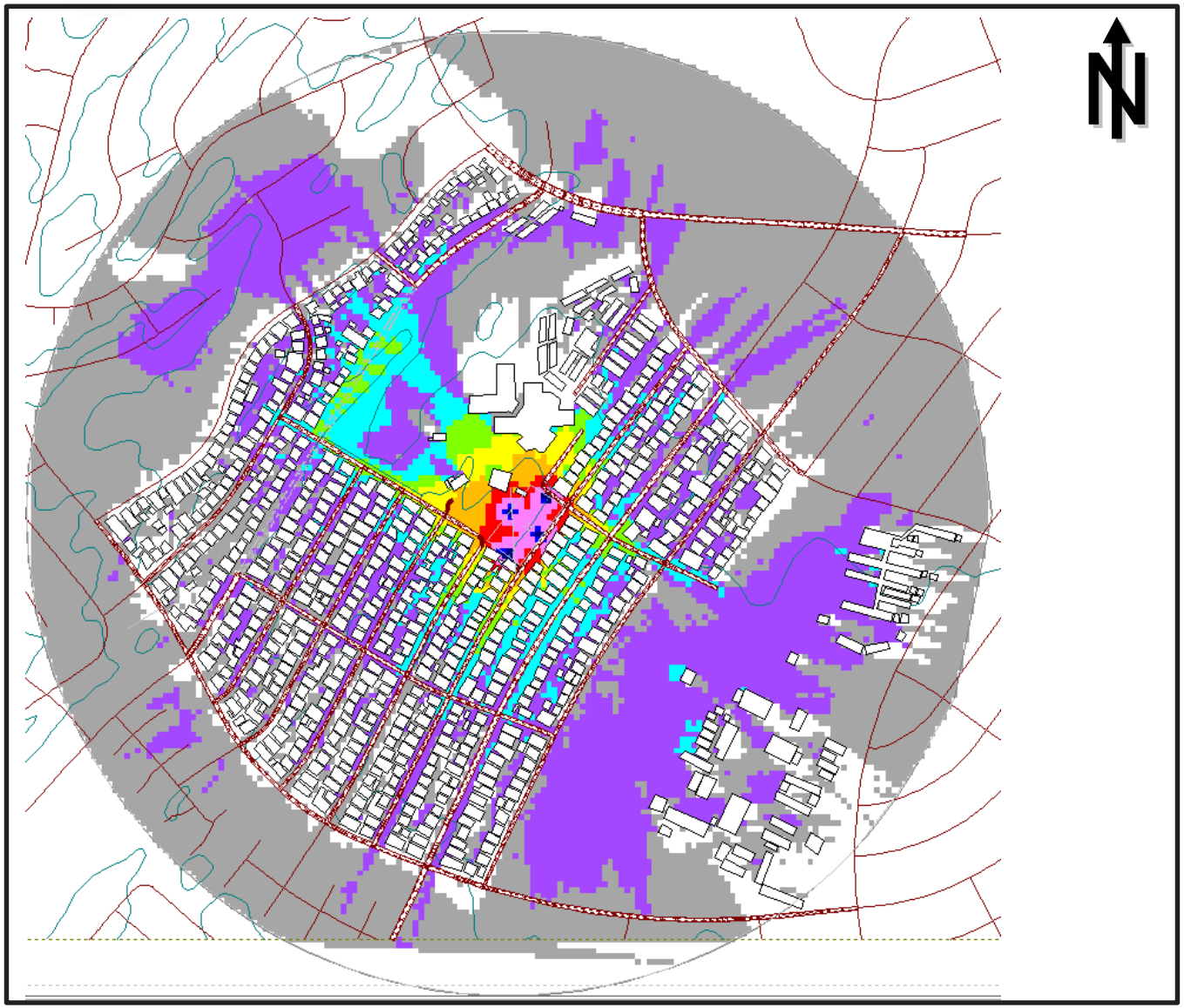
| PROJECT: | | |
|---|---|---|
| Hale Makua EA | | |
| PROJECT NO: 21-021 | DATE: December 2021 | FIGURE: 8 |

**PROJECTED NOISE LEVEL:** Structure Erection



**Noise Level Contour Key (dBA)**

- ... <= 45.0
- 45.0 < ... <= 50.0
- 50.0 < ... <= 55.0
- 55.0 < ... <= 60.0
- 60.0 < ... <= 65.0
- 65.0 < ... <= 70.0
- 70.0 < ... <= 75.0
- 75.0 < ... <= 80.0
- 80.0 < ... <= 85.0
- 85.0 < ... <= 90.0
- 90.0 < ... <= 95.0
- 95.0 < ...

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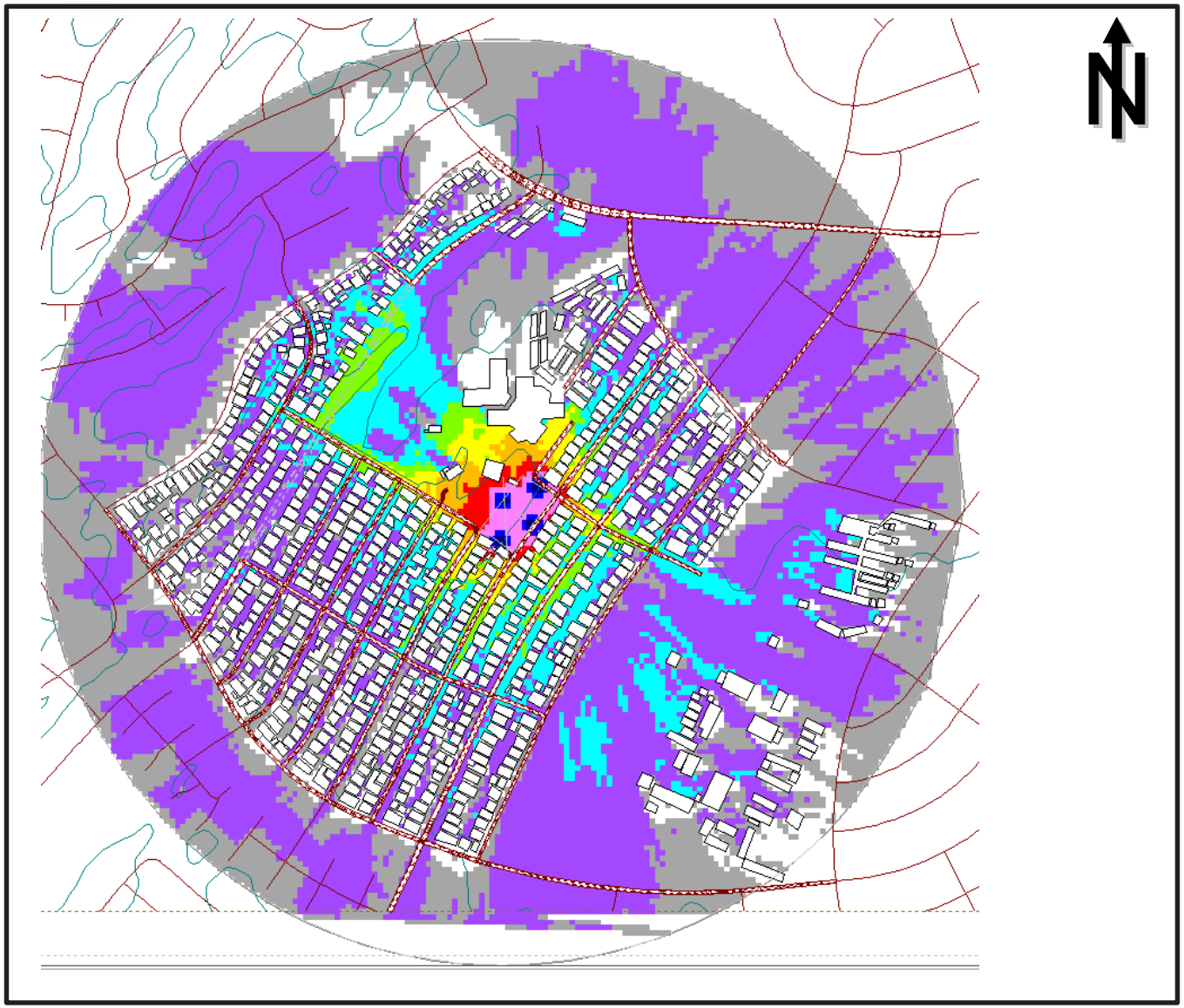
| PROJECT: | | |
|---|---|---|
| Hale Makua EA | | |
| PROJECT NO: 21-021 | DATE: December 2021 | FIGURE: 9 |

**PROJECTED NOISE LEVEL:** Site Finishing



**Noise Level Contour Key (dBA)**

- ... <= 45.0
- 45.0 < ... <= 50.0
- 50.0 < ... <= 55.0
- 55.0 < ... <= 60.0
- 60.0 < ... <= 65.0
- 65.0 < ... <= 70.0
- 70.0 < ... <= 75.0
- 75.0 < ... <= 80.0
- 80.0 < ... <= 85.0
- 85.0 < ... <= 90.0
- 90.0 < ... <= 95.0
- 95.0 < ...

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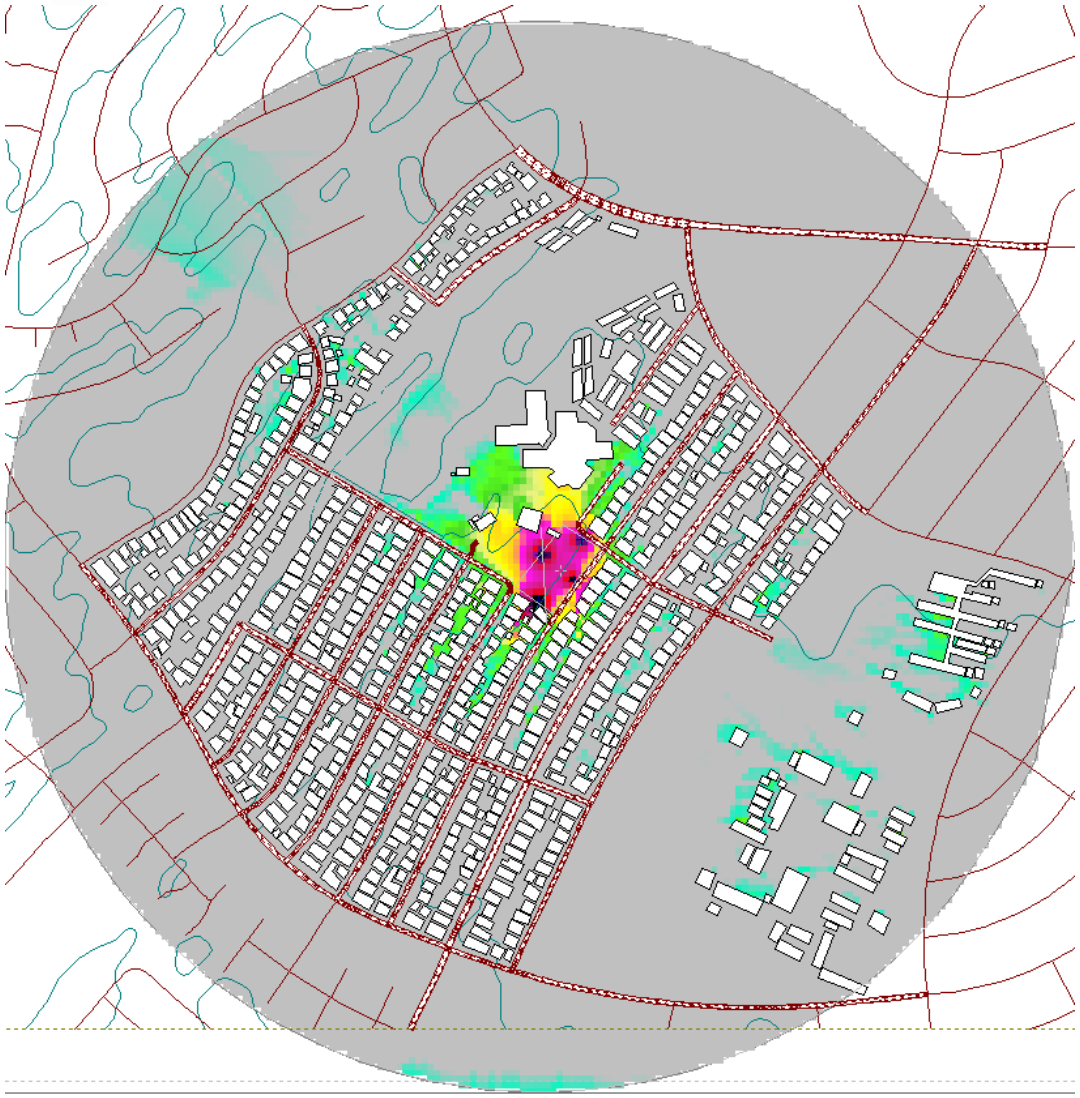
| PROJECT: | | |
|---|---|---|
| Hale Makua EA | | |
| PROJECT NO: 21-021 | DATE: December 2021 | FIGURE: 10 |

**PROJECTED NOISE LEVELS INCREASES:** Ground Clearing



**Noise Level Contour Key (dBA)**

- >= 3.0
- >= 6.0
- >= 9.0
- >= 12.0
- >= 15.0
- >= 18.0
- >= 21.0
- >= 24.0
- >= 27.0
- >= 30.0
- >= 33.0

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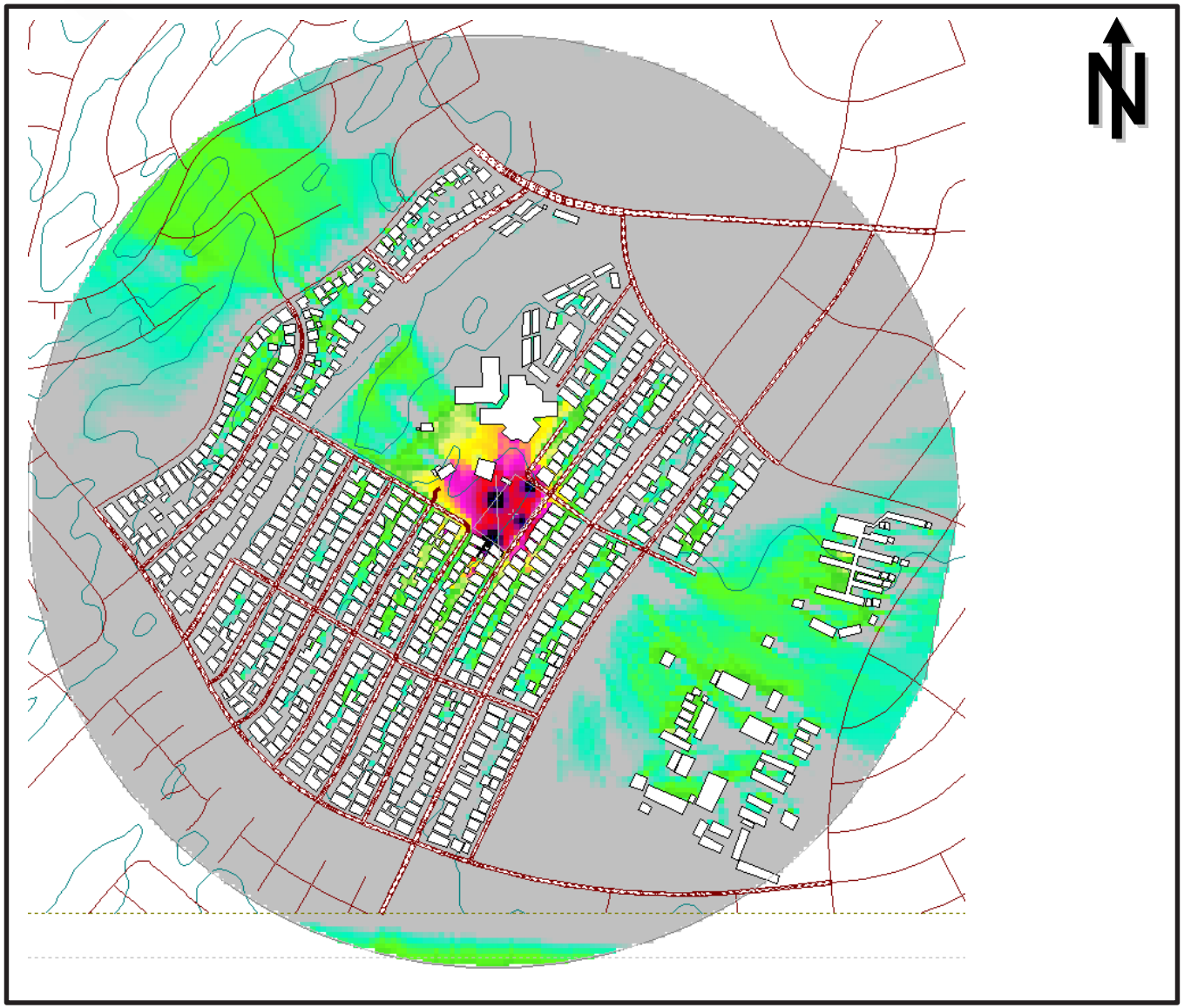
| PROJECT: | | |
|---|---|---|
| Hale Makua EA | | |
| PROJECT NO: 21-021 | DATE: December 2021 | FIGURE: 11 |

**PROJECTED NOISE LEVEL INCREASES:** Excavation



**Noise Level Contour Key (dBA)**

- >= 3.0
- >= 6.0
- >= 9.0
- >= 12.0
- >= 15.0
- >= 18.0
- >= 21.0
- >= 24.0
- >= 27.0
- >= 30.0
- >= 33.0

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| PROJECT: | | |
|---|---|---|
| Hale Makua EA | | |
| PROJECT NO: 21-021 | DATE: December 2021 | FIGURE: 12 |

**PROJECTED NOISE LEVEL INCREASES:** Foundation

**Noise Level Contour Key (dBA)**

- >= 3.0
- >= 6.0
- >= 9.0
- >= 12.0
- >= 15.0
- >= 18.0
- >= 21.0
- >= 24.0
- >= 27.0
- >= 30.0
- >= 33.0

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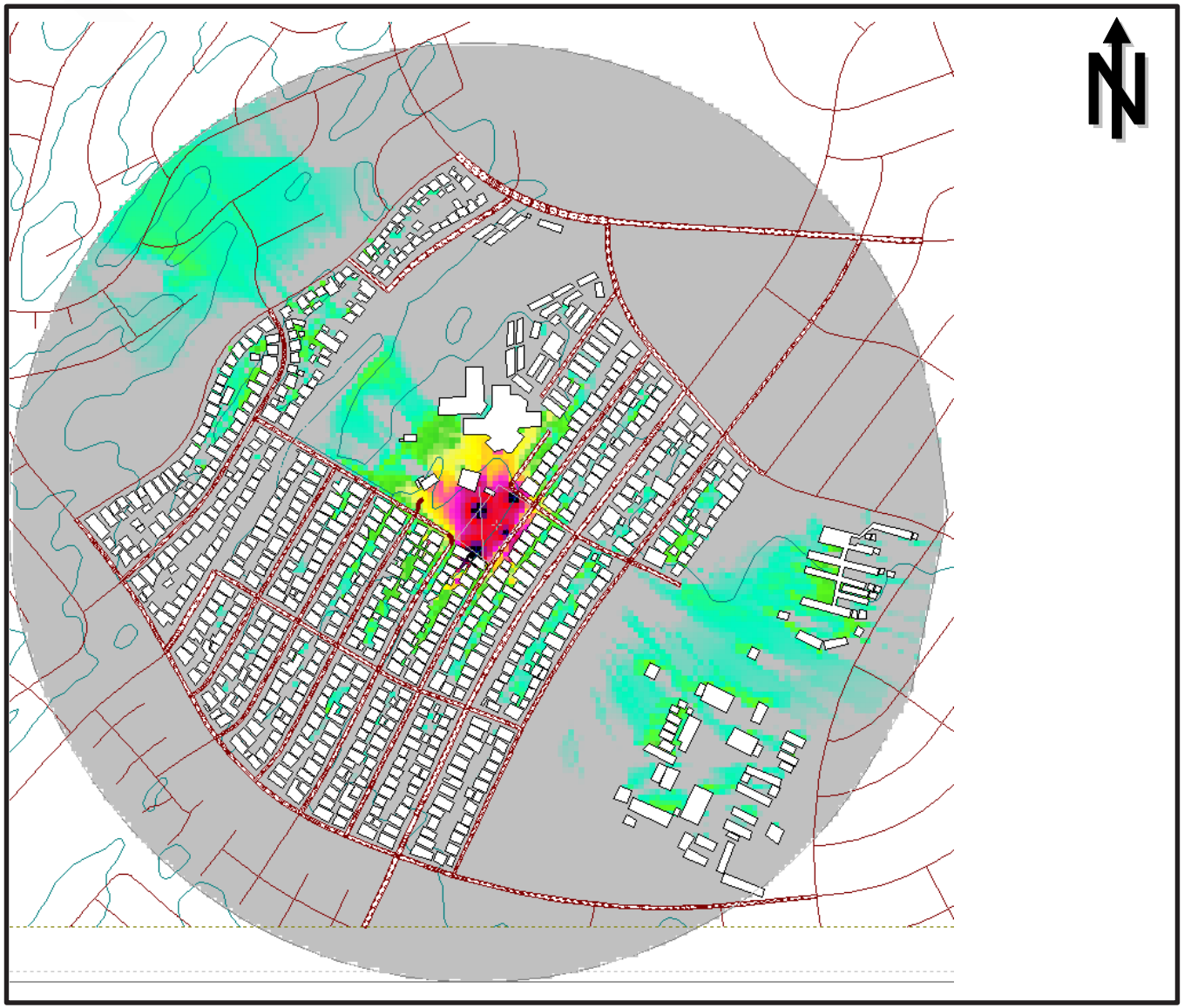
| PROJECT: | | |
|---|---|---|
| Hale Makua EA | | |
| PROJECT NO: 21-021 | DATE: December 2021 | FIGURE: 13 |

**PROJECTED NOISE LEVEL INCREASES:** Structure Erection



**Noise Level Contour Key (dBA)**

- >= 3.0
- >= 6.0
- >= 9.0
- >= 12.0
- >= 15.0
- >= 18.0
- >= 21.0
- >= 24.0
- >= 27.0
- >= 30.0
- >= 33.0

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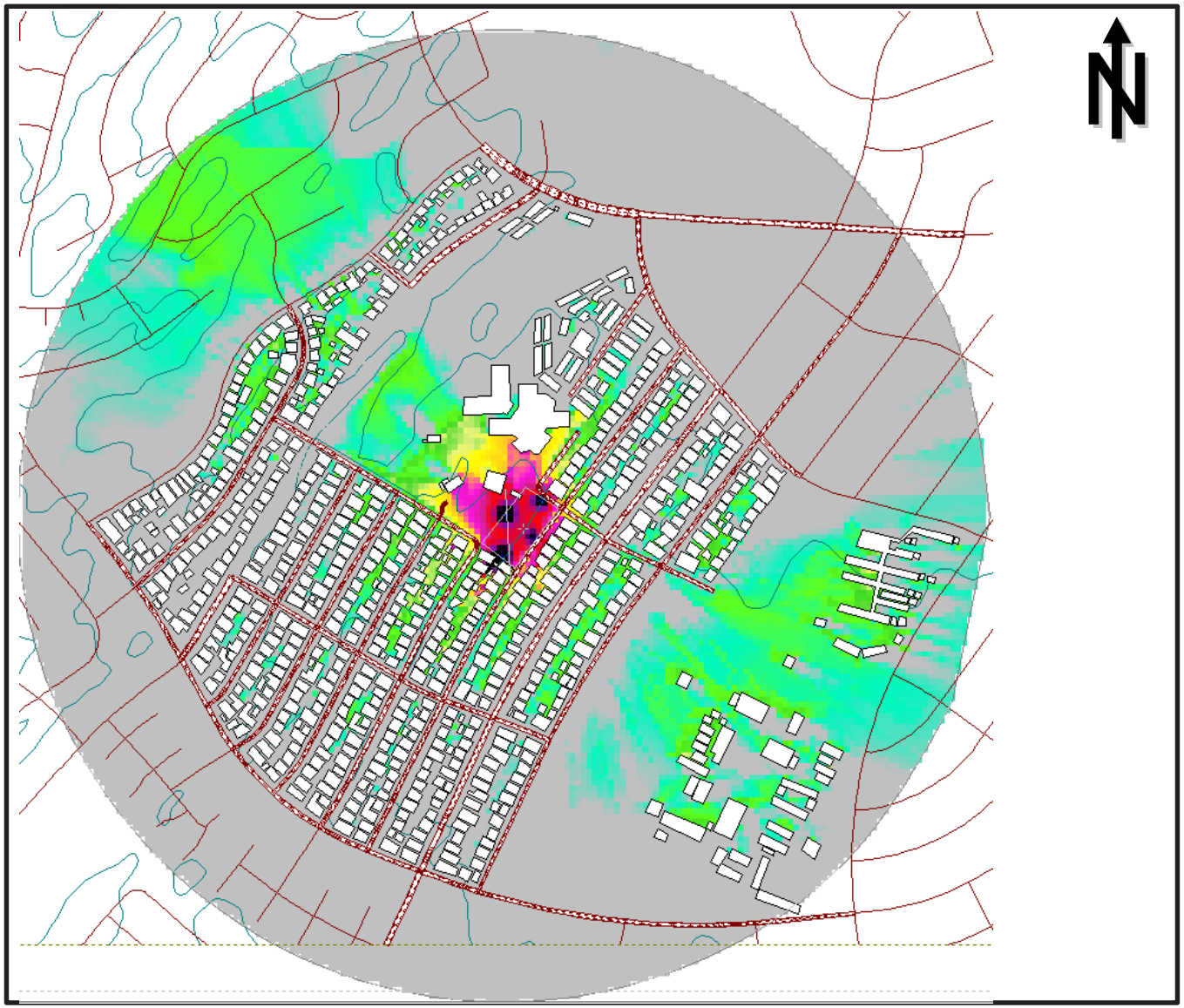
| PROJECT: | | |
|---|---|---|
| Hale Makua EA | | |
| PROJECT NO: 21-021 | DATE: December 2021 | FIGURE: 14 |

**PROJECTED NOISE LEVEL INCREASES:** Site Finishing



**Noise Level Contour Key (dBA)**

- >= 3.0
- >= 6.0
- >= 9.0
- >= 12.0
- >= 15.0
- >= 18.0
- >= 21.0
- >= 24.0
- >= 27.0
- >= 30.0
- >= 33.0

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| PROJECT: | | |
|---|---|---|
| Hale Makua EA | | |
| PROJECT NO: 21-021 | DATE: December 2021 | FIGURE: 15 |

# APPENDIX A

## Acoustic Terminology

# Acoustic Terminology

Sound Pressure Level

Sound, or noise, is the term given to variations in air pressure that are capable of being detected by the human ear. Small fluctuations in atmospheric pressure (sound pressure) constitute the physical property measured with a sound pressure level meter. Because the human ear can detect variations in atmospheric pressure over such a large range of magnitudes, sound pressure is expressed on a logarithmic scale in units called decibels (dB). Noise is defined as unwanted sound.

Technically, sound pressure level (SPL) is defined as:

$$SPL = 20 \log (P/P_{ref}) \text{ dB}$$

where P is the sound pressure fluctuation (above or below atmospheric pressure) and $P_{ref}$ is the reference pressure, 20 µPa, which is approximately the lowest sound pressure that can be detected by the human ear. For example:

If P = 20 µPa, then SPL = 0 dB
If P = 200 µPa, then SPL = 20 dB
If P = 2000 µPa, then SPL = 40 dB

The sound pressure level that results from a combination of noise sources is not the arithmetic sum of the individual sound sources, but rather the logarithmic sum. For example, two sound levels of 50 dB produce a combined sound level of 53 dB, not 100 dB. Two sound levels of 40 and 50 dB produce a combined level of 50.4 dB.

Human sensitivity to changes in sound pressure level is highly individualized. Sensitivity to sound depends on frequency content, time of occurrence, duration, and psychological factors such as emotions and expectations. However, in general, a change of 1 or 2 dB in the level of sound is difficult for most people to detect. A 3 dB change is commonly taken as the smallest perceptible change and a 6 dB change corresponds to a noticeable change in loudness. A 10 dB increase or decrease in sound level corresponds to an approximate doubling or halving of loudness, respectively.

A-Weighted Sound Level

Studies have shown conclusively that at equal sound pressure levels, people are generally more sensitive to certain higher frequency sounds (such as made by speech, horns, and whistles) than most lower frequency sounds (such as made by motors and engines)[1] at the same level. To address this preferential response to frequency, the A-weighted scale was developed. The A-weighted scale adjusts the sound level in each frequency band in much the same manner that the

---

[1] D.W. Robinson and R.S. Dadson, AA Re-Determination of the Equal-Loudness Relations for Pure Tones,@ *British Journal of Applied Physics*, vol. 7, pp. 166 - 181, 1956. (Adopted by the International Standards Organization as Recommendation R-226.

human auditory system does. Thus the A-weighted sound level (read as "dBA") becomes a single number that defines the level of a sound and has some correlation with the sensitivity of the human ear to that sound. Different sounds with the same A-weighted sound level are perceived as being equally loud. The A-weighted noise level is commonly used today in environmental noise analysis and in noise regulations. Typical values of the A-weighted sound level of various noise sources are shown in Figure A-1.

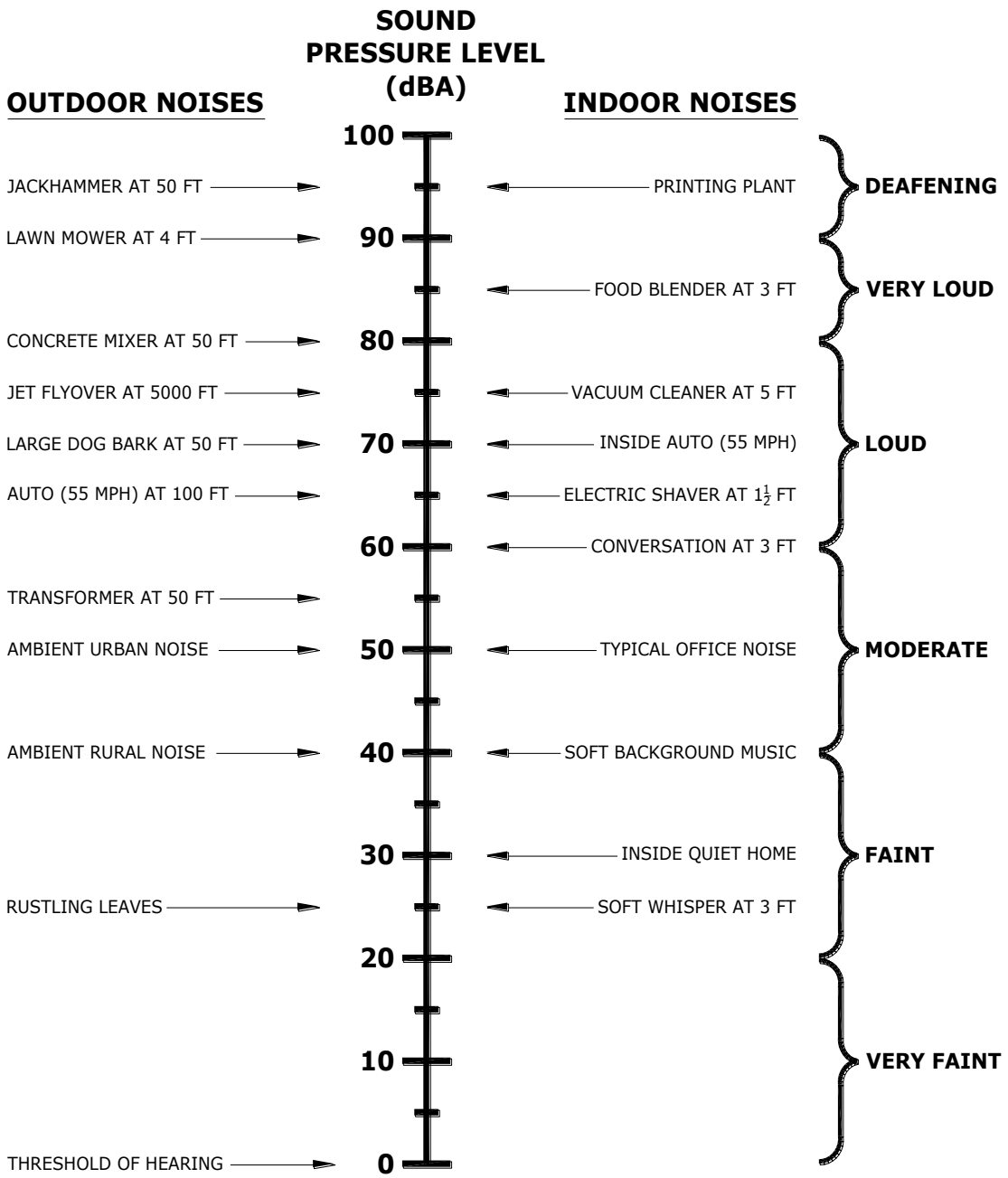



**Figure A-1. Common Outdoor/Indoor Sound Levels**

Equivalent Sound Level

The Equivalent Sound Level ($L_{eq}$) is a type of average which represents the steady level that, integrated over a time period, would produce the same energy as the actual signal. The actual *instantaneous* noise levels typically fluctuate above and below the measured $L_{eq}$ during the measurement period. The A-weighted $L_{eq}$ is a common index for measuring environmental noise. A graphical description of the equivalent sound level is shown in Figure A-2.

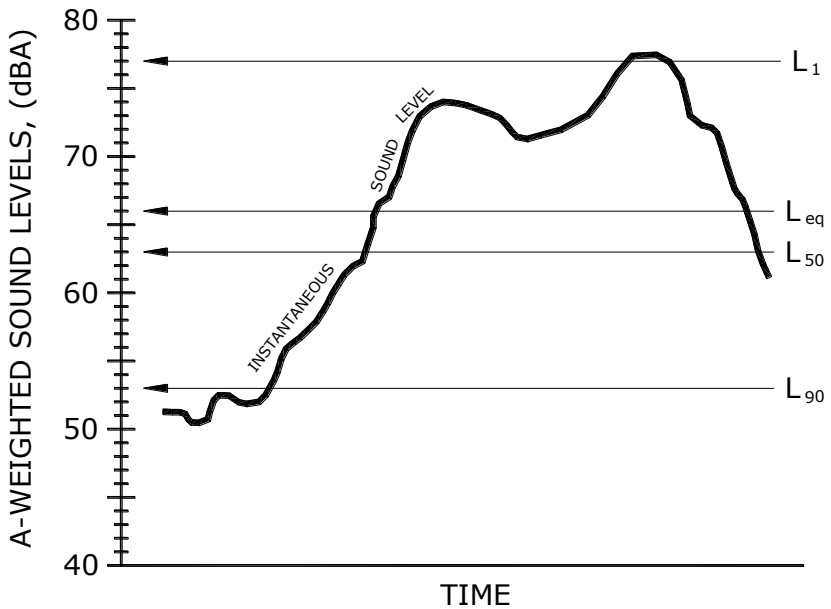



**Figure A-2. Example Graph of Equivalent and Statistical Sound Levels**

Statistical Sound Level

The sound levels of long-term noise producing activities such as traffic movement, aircraft operations, etc., can vary considerably with time. In order to obtain a single number rating of such a noise source, a statistically-based method of expressing sound or noise levels has been developed. It is known as the Exceedance Level, $L_n$. The $L_n$ represents the sound level that is exceeded for n% of the measurement time period. For example, $L_{10}$ = 60 dBA indicates that for the duration of the measurement period, the sound level exceeded 60 dBA 10% of the time. Typically, in noise regulations and standards, the specified time period is one hour. Commonly used Exceedance Levels include $L_{01}$, $L_{10}$, $L_{50}$, and $L_{90}$, which are widely used to assess community and environmental noise. A graphical description of the equivalent sound level is shown in Figure A-2.

Day-Night Equivalent Sound Level

The Day-Night Equivalent Sound Level, $L_{dn}$, is the Equivalent Sound Level, $L_{eq}$, measured over a 24-hour period. However, a 10 dB penalty is added to the noise levels recorded between 10 p.m. and 7 a.m. to account for people's higher sensitivity to noise at night when the background noise level is typically lower. The $L_{dn}$ is a commonly used noise descriptor in assessing land use compatibility, and is widely used by federal and local agencies and standards organizations.

# APPENDIX B

## Photographs of Sound Level Meter Locations

**Noise Measurement Location L1**

**Noise Measurement Location L2**

# APPENDIX C

## Detailed Noise Prediction Results

| | | | | | | | CadnaA Construction Results | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Clearing | | | | | | | | | | | | | |
| Receptor | | | Traffic Noise Assessment | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Existing Noise Level | | Future Peak Noise levels | With Project Increment | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Day | Night | dBA Leq | in dBA | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| RES 1A | 504 Kaulana Street | 38056037 | 45 | 36 | 47 | 1 | 64 | 76 | 64 | 76 | 64 | 76 | 19 | 31 | 28 | 40 | 9 | 21 | 19 | 31 |
| RES 1B | | | 56 | 47 | 58 | 2 | 60 | 68 | 61 | 68 | 60 | 68 | 5 | 12 | 13 | 21 | 5 | 12 | 13 | 21 |
| RES 1C | | | 46 | 37 | 47 | 2 | 49 | 58 | 50 | 58 | 49 | 58 | 4 | 12 | 12 | 21 | -5 | 3 | 4 | 13 |
| RES 1D | | | 45 | 36 | 47 | 1 | 65 | 82 | 65 | 82 | 65 | 82 | 20 | 37 | 29 | 46 | 10 | 27 | 20 | 37 |
| RES 2A EG | 508 Kaulana Street | 38056038 | 47 | 38 | 48 | 2 | 46 | 56 | 49 | 57 | 47 | 56 | 3 | 11 | 10 | 19 | -6 | 2 | 2 | 11 |
| RES 2A 1.OG | | | 50 | 41 | 52 | 2 | 54 | 61 | 56 | 61 | 54 | 61 | 6 | 11 | 13 | 20 | 1 | 6 | 9 | 16 |
| RES 2B EG | | | 58 | 49 | 59 | 2 | 62 | 65 | 63 | 66 | 62 | 65 | 6 | 9 | 14 | 17 | 6 | 9 | 14 | 17 |
| RES 2B 1.OG | | | 58 | 49 | 60 | 2 | 63 | 66 | 64 | 67 | 63 | 66 | 6 | 9 | 14 | 17 | 6 | 9 | 14 | 17 |
| RES 2C EG | | | 48 | 39 | 50 | 2 | 48 | 56 | 51 | 57 | 49 | 56 | 3 | 9 | 10 | 17 | -4 | 2 | 4 | 11 |
| RES 2C 1.OG | | | 52 | 43 | 53 | 1 | 54 | 60 | 56 | 61 | 54 | 60 | 4 | 9 | 11 | 17 | 1 | 6 | 9 | 15 |
| RES 2D EG | | | 43 | 34 | 45 | 1 | 54 | 74 | 54 | 74 | 54 | 74 | 11 | 31 | 20 | 40 | -1 | 19 | 9 | 29 |
| RES 2D 1.OG | | | 49 | 40 | 50 | 1 | 58 | 74 | 58 | 74 | 58 | 74 | 10 | 26 | 19 | 35 | 3 | 19 | 13 | 29 |
| RES 3A | 516 Kaulana Street | 38056040 | 57 | 48 | 59 | 2 | 53 | 64 | 58 | 64 | 54 | 64 | 1 | 7 | 6 | 16 | 1 | 7 | 6 | 16 |
| RES 3C | | | 46 | 37 | 47 | 2 | 48 | 54 | 50 | 54 | 48 | 54 | 5 | 9 | 12 | 18 | -5 | -1 | 3 | 9 |
| RES 3D | | | 44 | 35 | 45 | 1 | 49 | 64 | 50 | 64 | 49 | 64 | 6 | 20 | 14 | 29 | -5 | 9 | 4 | 19 |
| RES 3A | | | 48 | 39 | 50 | 2 | 47 | 54 | 50 | 55 | 47 | 54 | 2 | 7 | 8 | 15 | -5 | 0 | 2 | 9 |
| RES 4A | 526 Kaulana Street | 38056042 | 46 | 37 | 47 | 2 | 44 | 52 | 48 | 52 | 45 | 52 | 3 | 7 | 9 | 16 | -7 | -3 | 0 | 7 |
| RES 4B | | | 57 | 48 | 59 | 2 | 42 | 57 | 57 | 60 | 49 | 58 | 0 | 3 | 1 | 10 | 0 | 3 | 1 | 10 |
| RES 4C | | | 45 | 36 | 46 | 2 | 43 | 50 | 47 | 51 | 43 | 50 | 2 | 6 | 7 | 14 | -8 | -4 | -2 | 5 |
| RES 4D | | | 45 | 36 | 46 | 1 | 50 | 52 | 51 | 53 | 50 | 52 | 6 | 8 | 14 | 16 | -4 | -2 | 5 | 7 |
| RES 5A | 532 Kaulana Street | 38056043 | 46 | 37 | 48 | 2 | 43 | 48 | 48 | 50 | 44 | 48 | 2 | 4 | 7 | 11 | -7 | -5 | -1 | 3 |
| RES 5B | | | 57 | 48 | 58 | 2 | 40 | 58 | 57 | 60 | 48 | 58 | 1 | 4 | 1 | 11 | 1 | 4 | 1 | 11 |
| RES 5C | | | 46 | 37 | 48 | 2 | 42 | 48 | 47 | 50 | 43 | 48 | 1 | 4 | 6 | 11 | -8 | -5 | -2 | 3 |
| RES 5D | | | 45 | 36 | 46 | 1 | 38 | 50 | 46 | 51 | 40 | 50 | 1 | 6 | 4 | 14 | -9 | -4 | -5 | 5 |
| RES 6A | 540 Kaulana Street | 38056045 | 47 | 39 | 48 | 2 | 40 | 46 | 47 | 49 | 43 | 47 | 1 | 3 | 4 | 8 | -8 | -6 | -2 | 2 |
| RES 6B | | | 57 | 48 | 59 | 2 | 41 | 52 | 57 | 58 | 48 | 54 | 0 | 1 | 0 | 6 | 0 | 1 | 0 | 6 |
| RES 6C | | | 46 | 39 | 48 | 1 | 39 | 45 | 47 | 49 | 42 | 46 | 1 | 3 | 3 | 7 | -8 | -6 | -3 | 1 |
| RES 6D | | | 45 | 39 | 46 | 1 | 38 | 49 | 46 | 50 | 42 | 49 | 1 | 5 | 3 | 10 | -9 | -5 | -3 | 4 |
| RES 7A | 548 Kaulana Street | 38056047 | 45 | 39 | 47 | 2 | 36 | 41 | 46 | 47 | 41 | 43 | 1 | 2 | 2 | 4 | -9 | -8 | -4 | -2 |
| RES 7B | | | 57 | 48 | 59 | 2 | 46 | 53 | 57 | 58 | 50 | 54 | 0 | 1 | 2 | 6 | 0 | 1 | 2 | 6 |
| RES 7C | | | 45 | 39 | 46 | 1 | 36 | 42 | 45 | 47 | 41 | 43 | 0 | 2 | 2 | 4 | -10 | -8 | -4 | -2 |
| RES 7D | | | 45 | 39 | 45 | 0 | 48 | 50 | 49 | 51 | 48 | 50 | 4 | 6 | 9 | 11 | -6 | -4 | 3 | 5 |
| RES 8A | 640 Molokai Akau Street | 38056049 | 45 | 39 | 46 | 1 | 34 | 40 | 45 | 46 | 40 | 42 | 0 | 1 | 1 | 3 | -10 | -9 | -5 | -3 |
| RES 8B | | | 58 | 49 | 60 | 2 | 48 | 54 | 58 | 59 | 51 | 55 | 0 | 1 | 2 | 6 | 0 | 1 | 2 | 6 |
| RES 8C | | | 58 | 49 | 59 | 2 | 41 | 49 | 58 | 58 | 49 | 52 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 4 |
| RES 8D | | | 49 | 40 | 50 | 2 | 31 | 40 | 49 | 49 | 40 | 43 | 0 | 0 | 0 | 3 | -6 | -6 | -5 | -2 |
| RES 9A | 503 KAIMANA ST | 38056062 | 54 | 44 | 52 | -2 | 66 | 77 | 66 | 77 | 66 | 77 | 12 | 23 | 22 | 33 | 11 | 22 | 21 | 32 |
| RES 9B | | | 51 | 41 | 49 | -2 | 65 | 80 | 65 | 80 | 65 | 80 | 14 | 29 | 24 | 39 | 10 | 25 | 20 | 35 |
| RES 9C | | | 49 | 39 | 47 | -2 | 55 | 57 | 56 | 57 | 55 | 57 | 7 | 8 | 16 | 18 | 1 | 2 | 10 | 12 |
| RES 9D | | | 60 | 50 | 58 | -1 | 48 | 64 | 60 | 66 | 52 | 64 | 0 | 6 | 2 | 14 | 0 | 6 | 2 | 14 |
| RES 10A | 511 KAIMANA ST | 38056060 | 49 | 39 | 48 | -2 | 46 | 53 | 51 | 55 | 47 | 53 | 2 | 6 | 8 | 14 | -4 | 0 | 2 | 8 |
| RES 10B | | | 50 | 40 | 48 | -2 | 54 | 67 | 55 | 67 | 54 | 67 | 5 | 17 | 14 | 27 | 0 | 12 | 9 | 22 |
| RES 10C | | | 49 | 39 | 48 | -2 | 47 | 53 | 51 | 55 | 48 | 54 | 2 | 6 | 9 | 15 | -4 | 0 | 3 | 9 |
| RES 10D | | | 58 | 48 | 57 | -1 | 58 | 54 | 61 | 60 | 59 | 55 | 3 | 2 | 11 | 7 | 3 | 2 | 11 | 7 |
| RES 11A | 523 KAIMANA ST | 38056058 | 50 | 40 | 48 | -2 | 44 | 52 | 51 | 54 | 45 | 52 | 1 | 4 | 5 | 12 | -4 | -1 | 0 | 7 |
| RES 11B | | | 52 | 42 | 50 | -2 | 50 | 52 | 54 | 55 | 51 | 52 | 2 | 3 | 9 | 10 | -1 | 0 | 6 | 7 |
| RES 11C | | | 51 | 41 | 49 | -2 | 42 | 50 | 51 | 53 | 45 | 50 | 1 | 3 | 5 | 10 | -4 | -2 | 0 | 5 |
| RES 11D | | | 58 | 48 | 57 | -1 | 47 | 60 | 59 | 62 | 51 | 60 | 1 | 4 | 3 | 12 | 1 | 4 | 3 | 12 |
| RES 12A | 531 KAIMANA ST | 38056056 | 49 | 39 | 47 | -2 | 46 | 49 | 51 | 52 | 46 | 50 | 2 | 3 | 7 | 11 | -4 | -3 | 1 | 5 |
| RES 12B | | | 50 | 40 | 48 | -2 | 47 | 52 | 52 | 54 | 48 | 52 | 2 | 4 | 8 | 12 | -3 | -1 | 3 | 7 |
| RES 12C | | | 49 | 39 | 48 | -2 | 38 | 44 | 50 | 50 | 42 | 45 | 1 | 1 | 3 | 6 | -5 | -5 | -3 | 0 |
| RES 12D | | | 58 | 48 | 57 | -1 | 34 | 49 | 58 | 59 | 48 | 52 | 0 | 1 | 0 | 4 | 0 | 1 | 0 | 4 |
| RES 13A | 541 KAIMANA ST | 38056054 | 47 | 39 | 45 | -2 | 36 | 42 | 47 | 48 | 41 | 44 | 0 | 1 | 2 | 5 | -8 | -7 | -4 | -1 |
| RES 13B | | | 48 | 39 | 46 | -2 | 46 | 47 | 50 | 51 | 46 | 48 | 2 | 3 | 7 | 9 | -5 | -4 | 1 | 3 |
| RES 13C | | | 48 | 39 | 46 | -2 | 37 | 43 | 48 | 49 | 41 | 44 | 0 | 1 | 2 | 5 | -7 | -6 | -4 | -1 |
| RES 13D | | | 58 | 48 | 57 | -1 | 33 | 51 | 58 | 59 | 48 | 53 | 0 | 1 | 0 | 5 | 0 | 1 | 0 | 5 |

| | | | | | | | CadnaA Construction Results | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Clearing | | | | | | | | | | | | | |
| Receptor | | | Traffic Noise Assessment | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Existing Noise Level | | Future Peak Noise levels | With Project Increment | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Day | Night | dBA Leq | in dBA | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| RES 14A | 549 KAIMANA ST | 38056052 | 46 | 39 | 45 | -2 | 34 | 40 | 46 | 47 | 40 | 42 | 0 | 1 | 1 | 3 | -9 | -8 | -5 | -3 |
| RES 14B | | | 48 | 39 | 46 | -2 | 48 | 51 | 51 | 53 | 48 | 52 | 3 | 5 | 9 | 13 | -4 | -2 | 3 | 7 |
| RES 14C | | | 48 | 39 | 46 | -2 | 36 | 41 | 48 | 49 | 41 | 43 | 0 | 1 | 2 | 4 | -7 | -6 | -4 | -2 |
| RES 14D | | | 59 | 49 | 58 | -1 | 31 | 47 | 59 | 59 | 49 | 51 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| RES 15A | 648 MOLOKAI AKAU ST | 38056050 | 47 | 39 | 45 | -2 | 33 | 39 | 47 | 47 | 40 | 42 | 0 | 0 | 1 | 3 | -8 | -8 | -5 | -3 |
| RES 15B | | | 53 | 43 | 52 | -2 | 44 | 45 | 54 | 54 | 46 | 47 | 1 | 1 | 3 | 4 | -1 | -1 | 1 | 2 |
| RES 15C | | | 60 | 50 | 59 | -2 | 43 | 45 | 60 | 60 | 51 | 51 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| RES 15D | | | 60 | 50 | 58 | -1 | 30 | 37 | 60 | 60 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 16A | 473 KAULANA ST | 38056036 | 56 | 47 | 59 | 3 | 60 | 63 | 61 | 64 | 60 | 63 | 5 | 8 | 13 | 16 | 5 | 8 | 13 | 16 |
| RES 16B | | | 54 | 45 | 57 | 3 | 46 | 52 | 54 | 56 | 48 | 53 | 0 | 2 | 3 | 8 | -1 | 1 | 3 | 8 |
| RES 16C | | | 45 | 39 | 46 | 1 | 49 | 54 | 50 | 55 | 49 | 54 | 5 | 10 | 10 | 15 | -5 | 0 | 4 | 9 |
| RES 16D | | | 54 | 45 | 57 | 3 | 65 | 72 | 66 | 72 | 65 | 72 | 12 | 18 | 20 | 27 | 11 | 17 | 20 | 27 |
| RES 17A | 483 KAULANA ST | 38056034 | 45 | 39 | 48 | 3 | 51 | 61 | 52 | 61 | 51 | 61 | 7 | 16 | 12 | 22 | -3 | 6 | 6 | 16 |
| RES 17B | | | 49 | 40 | 52 | 3 | 46 | 52 | 51 | 54 | 47 | 52 | 2 | 5 | 7 | 12 | -4 | -1 | 2 | 7 |
| RES 17C | | | 45 | 39 | 47 | 2 | 67 | 73 | 67 | 73 | 67 | 73 | 22 | 28 | 28 | 34 | 12 | 18 | 22 | 28 |
| RES 17D | | | 54 | 45 | 57 | 3 | 69 | 76 | 69 | 76 | 69 | 76 | 15 | 22 | 24 | 31 | 14 | 21 | 24 | 31 |
| RES 18A | 495 KAULANA ST | 38056032 | 47 | 39 | 48 | 2 | 66 | 72 | 66 | 72 | 66 | 72 | 19 | 25 | 27 | 33 | 11 | 17 | 21 | 27 |
| RES 18B | | | 51 | 42 | 52 | 1 | 49 | 55 | 53 | 56 | 50 | 55 | 2 | 5 | 8 | 13 | -2 | 1 | 5 | 10 |
| RES 18C | | | 50 | 41 | 51 | 1 | 64 | 71 | 65 | 71 | 64 | 71 | 15 | 21 | 23 | 30 | 10 | 16 | 19 | 26 |
| RES 18D | | | 54 | 45 | 56 | 2 | 68 | 74 | 68 | 74 | 68 | 74 | 14 | 20 | 23 | 29 | 13 | 19 | 23 | 29 |
| RES 19A | 503 KAULANA ST | 38056030 | 48 | 39 | 49 | 1 | 47 | 63 | 50 | 63 | 48 | 63 | 2 | 15 | 9 | 24 | -5 | 8 | 3 | 18 |
| RES 19B | | | 50 | 41 | 52 | 1 | 49 | 55 | 53 | 56 | 50 | 55 | 3 | 6 | 9 | 14 | -2 | 1 | 5 | 10 |
| RES 19C | | | 46 | 39 | 47 | 2 | 46 | 61 | 49 | 61 | 47 | 61 | 4 | 16 | 8 | 22 | -6 | 6 | 2 | 16 |
| RES 19D | | | 56 | 47 | 58 | 2 | 64 | 72 | 65 | 72 | 64 | 72 | 9 | 16 | 17 | 25 | 9 | 16 | 17 | 25 |
| RES 20A | 511 KAULANA ST | 38056028 | 45 | 39 | 47 | 2 | 43 | 51 | 47 | 52 | 45 | 51 | 2 | 7 | 6 | 12 | -8 | -3 | 0 | 6 |
| RES 20B | | | 49 | 40 | 50 | 1 | 46 | 52 | 50 | 53 | 47 | 52 | 2 | 5 | 8 | 13 | -5 | -2 | 2 | 7 |
| RES 20C | | | 47 | 39 | 49 | 2 | 45 | 52 | 49 | 53 | 46 | 52 | 2 | 6 | 7 | 13 | -6 | -2 | 1 | 7 |
| RES 20D | | | 54 | 45 | 56 | 2 | 59 | 59 | 60 | 60 | 59 | 59 | 6 | 6 | 14 | 14 | 5 | 5 | 14 | 14 |
| RES 21A | 521 KAULANA ST | 38056026 | 49 | 40 | 50 | 2 | 43 | 50 | 50 | 52 | 45 | 50 | 1 | 3 | 5 | 10 | -5 | -3 | 0 | 5 |
| RES 21B | | | 52 | 43 | 53 | 1 | 48 | 52 | 53 | 55 | 49 | 52 | 1 | 3 | 6 | 9 | -2 | 0 | 4 | 7 |
| RES 21C | | | 47 | 39 | 49 | 2 | 44 | 49 | 49 | 51 | 45 | 49 | 2 | 4 | 6 | 10 | -6 | -4 | 0 | 4 |
| RES 21D | | | 55 | 46 | 57 | 2 | 59 | 61 | 60 | 62 | 59 | 61 | 5 | 7 | 13 | 15 | 5 | 7 | 13 | 15 |
| RES 22A | 533 KAULANA ST | 38056024 | 47 | 39 | 49 | 1 | 41 | 48 | 48 | 51 | 43 | 48 | 1 | 4 | 4 | 9 | -7 | -4 | -2 | 3 |
| RES 22B | | | 52 | 43 | 53 | 1 | 38 | 51 | 52 | 55 | 44 | 51 | 0 | 3 | 1 | 8 | -3 | 0 | -1 | 6 |
| RES 22C | | | 47 | 39 | 49 | 2 | 41 | 48 | 48 | 50 | 43 | 48 | 1 | 3 | 4 | 9 | -7 | -5 | -2 | 3 |
| RES 22D | | | 55 | 46 | 57 | 2 | 51 | 58 | 57 | 60 | 52 | 58 | 2 | 5 | 6 | 12 | 2 | 5 | 6 | 12 |
| RES 23A | 543 KAULANA ST | 38056022 | 46 | 39 | 47 | 2 | 39 | 48 | 47 | 50 | 42 | 48 | 1 | 4 | 3 | 9 | -8 | -5 | -3 | 3 |
| RES 23B | | | 49 | 40 | 51 | 1 | 33 | 50 | 50 | 53 | 41 | 50 | 1 | 4 | 1 | 10 | -5 | -2 | -4 | 5 |
| RES 23C | | | 49 | 40 | 50 | 1 | 38 | 46 | 49 | 51 | 42 | 47 | 0 | 2 | 2 | 7 | -6 | -4 | -3 | 2 |
| RES 23D | | | 55 | 46 | 57 | 2 | 36 | 51 | 55 | 56 | 46 | 52 | 0 | 1 | 0 | 6 | 0 | 1 | 0 | 6 |
| RES 24A | 557 KAULANA ST | 38056019 | 48 | 39 | 50 | 2 | 37 | 46 | 49 | 50 | 41 | 47 | 1 | 2 | 2 | 8 | -6 | -5 | -4 | 2 |
| RES 24B | | | 49 | 40 | 51 | 1 | 48 | 47 | 51 | 51 | 48 | 48 | 2 | 2 | 8 | 8 | -4 | -4 | 3 | 3 |
| RES 24C | | | 58 | 49 | 60 | 2 | 42 | 49 | 58 | 59 | 50 | 52 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 |
| RES 24D | | | 56 | 47 | 58 | 2 | 48 | 55 | 57 | 59 | 51 | 55 | 1 | 3 | 4 | 8 | 1 | 3 | 4 | 8 |
| RES 25A | 252 LAAU ST | 38056001 | 59 | 50 | 62 | 3 | 56 | 62 | 61 | 64 | 57 | 63 | 2 | 5 | 7 | 13 | 2 | 5 | 7 | 13 |
| RES 25B | | | 66 | 57 | 68 | 2 | 41 | 57 | 66 | 66 | 57 | 60 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 |
| RES 25C | | | 54 | 45 | 56 | 2 | 48 | 51 | 55 | 55 | 50 | 51 | 1 | 1 | 5 | 6 | 0 | 0 | 5 | 6 |
| RES 25D | | | 50 | 41 | 53 | 3 | 46 | 53 | 51 | 54 | 47 | 53 | 1 | 4 | 6 | 12 | -4 | -1 | 2 | 8 |
| RES 26A | 482 S KAMEHAMEHA AVE | 38056003 | 48 | 39 | 51 | 2 | 46 | 51 | 50 | 53 | 47 | 51 | 2 | 5 | 8 | 12 | -5 | -2 | 2 | 6 |
| RES 26B | | | 66 | 57 | 68 | 2 | 49 | 52 | 66 | 66 | 58 | 58 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| RES 26C | | | 54 | 45 | 57 | 2 | 43 | 52 | 55 | 56 | 47 | 53 | 1 | 2 | 2 | 8 | 0 | 1 | 2 | 8 |
| RES 26D | | | 47 | 39 | 49 | 2 | 45 | 51 | 49 | 52 | 46 | 51 | 2 | 5 | 7 | 12 | -6 | -3 | 1 | 6 |
| RES 27A | 492 S KAMEHAMEHA AVE | 38056005 | 53 | 44 | 55 | 2 | 51 | 56 | 55 | 58 | 52 | 56 | 2 | 5 | 8 | 12 | 0 | 3 | 7 | 11 |
| RES 27B | | | 67 | 58 | 70 | 2 | 46 | 52 | 67 | 67 | 58 | 59 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 27C | | | 52 | 43 | 54 | 2 | 47 | 54 | 53 | 56 | 48 | 54 | 1 | 4 | 5 | 11 | -2 | 1 | 3 | 9 |
| RES 27D | | | 46 | 39 | 49 | 2 | 45 | 52 | 49 | 53 | 46 | 52 | 3 | 7 | 7 | 13 | -6 | -2 | 1 | 7 |

| | | | | | | | CadnaA Construction Results | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Clearing | | | | | | | | | | | | | |
| Receptor | | | Traffic Noise Assessment | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Existing Noise Level | | Future Peak Noise levels | With Project Increment | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Day | Night | dBA Leq | in dBA | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| RES 28A | 500 S KAMEHAMEHA AVE | 38056007 | 54 | 45 | 56 | 2 | 46 | 55 | 55 | 57 | 49 | 55 | 1 | 3 | 4 | 10 | 0 | 2 | 4 | 10 |
| RES 28B | | | 67 | 58 | 70 | 2 | 47 | 52 | 67 | 67 | 58 | 59 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 28C | | | 55 | 46 | 57 | 2 | 49 | 54 | 56 | 57 | 51 | 54 | 1 | 2 | 5 | 8 | 1 | 2 | 5 | 8 |
| RES 28D | | | 45 | 39 | 46 | 1 | 51 | 57 | 52 | 57 | 51 | 57 | 7 | 12 | 12 | 18 | -3 | 2 | 6 | 12 |
| RES 29A EG | 508 S KAMEHAMEHA AVE | 38056009 | 56 | 47 | 57 | 1 | 44 | 53 | 56 | 58 | 48 | 54 | 0 | 2 | 1 | 7 | 0 | 2 | 1 | 7 |
| RES 29A 1.OG | | | 59 | 50 | 60 | 1 | 50 | 56 | 59 | 60 | 53 | 57 | 1 | 2 | 4 | 8 | 1 | 2 | 4 | 8 |
| RES 29B EG | | | 68 | 59 | 69 | 1 | 47 | 54 | 68 | 68 | 59 | 60 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 29B 1.OG | | | 69 | 60 | 70 | 1 | 38 | 46 | 69 | 69 | 60 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 29C EG | | | 59 | 50 | 60 | 1 | 48 | 52 | 59 | 59 | 52 | 54 | 1 | 1 | 3 | 5 | 1 | 1 | 3 | 5 |
| RES 29C 1.OG | | | 61 | 52 | 62 | 1 | 49 | 55 | 61 | 62 | 54 | 57 | 0 | 1 | 2 | 5 | 0 | 1 | 2 | 5 |
| RES 29D EG | | | 46 | 39 | 48 | 1 | 50 | 54 | 51 | 54 | 50 | 54 | 5 | 8 | 11 | 15 | -4 | -1 | 5 | 9 |
| RES 29D 1.OG | | | 51 | 42 | 52 | 1 | 55 | 58 | 56 | 58 | 55 | 58 | 6 | 8 | 14 | 17 | 1 | 3 | 10 | 13 |
| RES 30A | 516 S KAMEHAMEHA AVE | 38056011 | 56 | 47 | 57 | 1 | 40 | 48 | 56 | 56 | 47 | 51 | 1 | 1 | 1 | 5 | 1 | 1 | 1 | 5 |
| RES 30B | | | 67 | 58 | 68 | 1 | 38 | 54 | 67 | 67 | 58 | 60 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| RES 30C | | | 58 | 49 | 59 | 1 | 44 | 51 | 58 | 59 | 50 | 53 | 0 | 1 | 1 | 4 | 0 | 1 | 1 | 4 |
| RES 30D | | | 49 | 40 | 50 | 1 | 49 | 53 | 52 | 54 | 49 | 53 | 3 | 5 | 9 | 13 | -3 | -1 | 4 | 8 |
| RES 31A | 526 S KAMEHAMEHA AVE | 38056013 | 57 | 48 | 58 | 1 | 40 | 50 | 57 | 58 | 49 | 52 | 0 | 1 | 1 | 4 | 0 | 1 | 1 | 4 |
| RES 31B | | | 69 | 60 | 70 | 1 | 48 | 49 | 69 | 69 | 60 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 31C | | | 58 | 49 | 59 | 1 | 41 | 48 | 58 | 58 | 49 | 51 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| RES 31D | | | 48 | 39 | 49 | 1 | 44 | 52 | 49 | 53 | 45 | 52 | 1 | 5 | 6 | 13 | -6 | -2 | 0 | 7 |
| RES 32A | 534 S KAMEHAMEHA AVE | 38056015 | 56 | 47 | 57 | 1 | 38 | 46 | 56 | 56 | 47 | 49 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| RES 32B | | | 69 | 60 | 70 | 1 | 49 | 49 | 69 | 69 | 60 | 60 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| RES 32C | | | 57 | 48 | 58 | 1 | 38 | 45 | 57 | 57 | 49 | 50 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 2 |
| RES 32D | | | 47 | 39 | 48 | 1 | 49 | 52 | 51 | 54 | 49 | 53 | 4 | 7 | 10 | 14 | -4 | -1 | 4 | 8 |
| RES 33A | 548 S KAMEHAMEHA AVE | 38056018 | 59 | 50 | 60 | 1 | 36 | 44 | 59 | 59 | 50 | 51 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 33B | | | 69 | 60 | 70 | 1 | 36 | 48 | 69 | 69 | 60 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 33C | | | 63 | 54 | 65 | 1 | 39 | 46 | 63 | 63 | 54 | 55 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 33D | | | 52 | 43 | 54 | 1 | 46 | 45 | 53 | 53 | 48 | 47 | 1 | 1 | 5 | 4 | -2 | -2 | 3 | 2 |
| RES 34A | 504 KAIMANA ST | 38056063 | 60 | 50 | 59 | -1 | 61 | 68 | 64 | 69 | 61 | 68 | 4 | 9 | 11 | 18 | 4 | 9 | 11 | 18 |
| RES 34B | | | 58 | 48 | 57 | -2 | 63 | 68 | 64 | 68 | 63 | 68 | 6 | 10 | 15 | 20 | 6 | 10 | 15 | 20 |
| RES 34C | | | 48 | 39 | 46 | -2 | 45 | 52 | 50 | 53 | 46 | 52 | 2 | 5 | 7 | 13 | -5 | -2 | 1 | 7 |
| RES 34D | | | 53 | 43 | 51 | -2 | 59 | 53 | 60 | 56 | 59 | 53 | 8 | 4 | 17 | 11 | 5 | 1 | 14 | 8 |
| RES 35A EG | 516 KAIMANA ST | 38056066 | 48 | 39 | 46 | -2 | 44 | 49 | 49 | 52 | 45 | 50 | 1 | 4 | 6 | 11 | -6 | -3 | 0 | 5 |
| RES 35A 1.OG | | | 52 | 42 | 50 | -2 | 52 | 56 | 55 | 57 | 52 | 56 | 4 | 6 | 11 | 15 | 0 | 2 | 7 | 11 |
| RES 35B EG | | | 59 | 49 | 58 | -1 | 51 | 62 | 60 | 63 | 53 | 62 | 1 | 4 | 4 | 13 | 1 | 4 | 4 | 13 |
| RES 35B 1.OG | | | 60 | 50 | 58 | -2 | 55 | 63 | 61 | 64 | 56 | 63 | 1 | 4 | 6 | 13 | 1 | 4 | 6 | 13 |
| RES 35C EG | | | 49 | 39 | 48 | -2 | 43 | 50 | 50 | 53 | 45 | 50 | 1 | 4 | 6 | 11 | -5 | -2 | 0 | 5 |
| RES 35C 1.OG | | | 53 | 43 | 51 | -2 | 49 | 55 | 54 | 57 | 50 | 55 | 1 | 4 | 7 | 12 | -1 | 2 | 5 | 10 |
| RES 35D EG | | | 47 | 39 | 45 | -2 | 47 | 51 | 50 | 52 | 48 | 51 | 3 | 5 | 9 | 12 | -5 | -3 | 3 | 6 |
| RES 35D 1.OG | | | 52 | 42 | 50 | -2 | 53 | 55 | 55 | 57 | 53 | 55 | 3 | 5 | 11 | 13 | 0 | 2 | 8 | 10 |
| RES 36A | 524 KAIMANA ST | 38056068 | 49 | 39 | 48 | -2 | 44 | 48 | 50 | 51 | 45 | 48 | 1 | 2 | 6 | 9 | -5 | -4 | 0 | 3 |
| RES 36B | | | 58 | 48 | 57 | -1 | 49 | 56 | 58 | 60 | 51 | 57 | 0 | 2 | 3 | 9 | 0 | 2 | 3 | 9 |
| RES 36C | | | 50 | 40 | 49 | -2 | 39 | 47 | 51 | 52 | 43 | 48 | 1 | 2 | 3 | 8 | -4 | -3 | -2 | 3 |
| RES 36D | | | 45 | 39 | 44 | -2 | 49 | 53 | 51 | 54 | 50 | 53 | 6 | 9 | 11 | 14 | -4 | -1 | 5 | 8 |
| RES 37A | 532 KAIMANA ST | 38056070 | 47 | 39 | 45 | -2 | 36 | 48 | 47 | 51 | 41 | 49 | 0 | 4 | 2 | 10 | -8 | -4 | -4 | 4 |
| RES 37B | | | 59 | 49 | 58 | -1 | 47 | 56 | 59 | 61 | 51 | 57 | 0 | 2 | 2 | 8 | 0 | 2 | 2 | 8 |
| RES 37C | | | 49 | 39 | 47 | -2 | 42 | 48 | 50 | 52 | 44 | 49 | 1 | 3 | 5 | 10 | -5 | -3 | -1 | 4 |
| RES 37D | | | 48 | 39 | 46 | -2 | 31 | 48 | 48 | 51 | 40 | 48 | 0 | 3 | 1 | 9 | -7 | -4 | -5 | 3 |
| RES 38A | 544 KAIMANA ST | 38056072 | 48 | 39 | 47 | -2 | 36 | 42 | 48 | 49 | 41 | 44 | 0 | 1 | 2 | 5 | -7 | -6 | -4 | -1 |
| RES 38B | | | 59 | 49 | 57 | -1 | 46 | 52 | 59 | 59 | 50 | 53 | 1 | 1 | 2 | 5 | 1 | 1 | 2 | 5 |
| RES 38C | | | 50 | 40 | 48 | -2 | 37 | 44 | 50 | 51 | 42 | 45 | 0 | 1 | 2 | 5 | -5 | -4 | -3 | 0 |
| RES 38D | | | 46 | 39 | 44 | -2 | 43 | 49 | 48 | 51 | 44 | 50 | 2 | 5 | 5 | 11 | -7 | -4 | -1 | 5 |
| RES 39A | 670 MOLOKAI AKAU ST | 38056075 | 49 | 39 | 47 | -2 | 34 | 44 | 49 | 50 | 40 | 45 | 0 | 1 | 1 | 6 | -6 | -5 | -5 | 0 |
| RES 39B | | | 59 | 49 | 57 | -1 | 46 | 51 | 59 | 59 | 50 | 53 | 0 | 0 | 1 | 4 | 0 | 0 | 1 | 4 |
| RES 39C | | | 61 | 51 | 59 | -1 | 41 | 47 | 61 | 61 | 51 | 52 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 39D | | | 53 | 43 | 52 | -2 | 29 | 42 | 53 | 54 | 44 | 46 | 0 | 1 | 1 | 3 | -2 | -1 | -1 | 1 |

| | | | | | | | CadnaA Construction Results | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Clearing | | | | | | | | | | | | | |
| Receptor | | | Traffic Noise Assessment | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Existing Noise Level | | Future Peak Noise levels | With Project Increment | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Day | Night | dBA Leq | in dBA | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| RES 40A | 290 UHU ST | 38056088 | 60 | 50 | 59 | -1 | 59 | 66 | 62 | 67 | 59 | 66 | 2 | 7 | 9 | 16 | 2 | 7 | 9 | 16 |
| RES 40B | | | 53 | 43 | 52 | -2 | 49 | 64 | 54 | 64 | 50 | 64 | 1 | 11 | 7 | 21 | -1 | 9 | 5 | 19 |
| RES 40C | | | 49 | 39 | 48 | -2 | 55 | 58 | 56 | 59 | 55 | 58 | 7 | 10 | 16 | 19 | 1 | 4 | 10 | 13 |
| RES 40D | | | 59 | 49 | 57 | -1 | 38 | 56 | 59 | 61 | 49 | 57 | 0 | 2 | 0 | 8 | 0 | 2 | 0 | 8 |
| RES 41A | 511 POHAI ST | 38056086 | 50 | 40 | 49 | -2 | 44 | 49 | 51 | 52 | 45 | 49 | 1 | 2 | 5 | 9 | -4 | -3 | 0 | 4 |
| RES 41B | | | 46 | 39 | 44 | -2 | 44 | 47 | 48 | 50 | 45 | 48 | 3 | 5 | 6 | 9 | -7 | -5 | 0 | 3 |
| RES 41C | | | 50 | 40 | 49 | -2 | 47 | 49 | 52 | 52 | 47 | 49 | 2 | 2 | 7 | 9 | -3 | -3 | 2 | 4 |
| RES 41D | | | 60 | 50 | 58 | -1 | 47 | 56 | 60 | 61 | 51 | 57 | 1 | 2 | 2 | 8 | 1 | 2 | 2 | 8 |
| RES 42A | 521 POHAI ST | 38056084 | 48 | 39 | 47 | -2 | 39 | 45 | 49 | 50 | 42 | 46 | 1 | 2 | 3 | 7 | -6 | -5 | -3 | 1 |
| RES 42B | | | 48 | 39 | 46 | -2 | 48 | 51 | 51 | 53 | 48 | 51 | 4 | 6 | 9 | 12 | -4 | -2 | 3 | 6 |
| RES 42C | | | 49 | 39 | 47 | -2 | 43 | 49 | 50 | 52 | 44 | 49 | 1 | 3 | 5 | 10 | -5 | -3 | -1 | 4 |
| RES 42D | | | 59 | 49 | 57 | -1 | 44 | 50 | 59 | 59 | 50 | 53 | 1 | 1 | 2 | 5 | 1 | 1 | 2 | 5 |
| RES 43A | 529 POHAI ST | 38056082 | 47 | 39 | 45 | -2 | 46 | 47 | 49 | 50 | 47 | 48 | 2 | 3 | 8 | 9 | -6 | -5 | 2 | 3 |
| RES 43B | | | 47 | 39 | 45 | -2 | 40 | 52 | 48 | 53 | 42 | 52 | 1 | 6 | 3 | 13 | -7 | -2 | -3 | 7 |
| RES 43C | | | 49 | 39 | 47 | -2 | 41 | 45 | 49 | 50 | 43 | 46 | 0 | 1 | 4 | 7 | -6 | -5 | -2 | 1 |
| RES 43D | | | 59 | 49 | 57 | -1 | 44 | 49 | 59 | 59 | 50 | 52 | 0 | 0 | 1 | 3 | 0 | 0 | 1 | 3 |
| RES 44A | 539 POHAI ST | 38056080 | 51 | 41 | 49 | -2 | 35 | 47 | 51 | 52 | 42 | 48 | 1 | 2 | 2 | 8 | -4 | -3 | -3 | 3 |
| RES 44B | | | 48 | 39 | 46 | -2 | 45 | 51 | 50 | 53 | 46 | 51 | 2 | 5 | 7 | 12 | -5 | -2 | 1 | 6 |
| RES 44C | | | 52 | 42 | 50 | -2 | 36 | 46 | 52 | 53 | 43 | 48 | 0 | 1 | 1 | 6 | -3 | -2 | -2 | 3 |
| RES 44D | | | 58 | 48 | 57 | -1 | 30 | 43 | 58 | 59 | 48 | 49 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| RES 45A | 549 POHAI ST | 38056078 | 50 | 40 | 49 | -2 | 33 | 42 | 50 | 51 | 41 | 44 | 0 | 1 | 1 | 4 | -5 | -4 | -4 | -1 |
| RES 45B | | | 49 | 39 | 46 | -2 | 39 | 48 | 49 | 51 | 42 | 49 | 1 | 3 | 3 | 10 | -6 | -4 | -3 | 4 |
| RES 45C | | | 51 | 41 | 49 | -2 | 35 | 42 | 51 | 51 | 42 | 44 | 0 | 0 | 1 | 3 | -4 | -4 | -3 | -1 |
| RES 45D | | | 59 | 49 | 57 | -1 | 29 | 48 | 59 | 59 | 49 | 51 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| RES 46A | 680 MOLOKAI AKAU ST | 38056076 | 49 | 39 | 47 | -2 | 32 | 40 | 49 | 49 | 40 | 42 | 0 | 0 | 1 | 3 | -6 | -6 | -5 | -3 |
| RES 46B | | | 50 | 40 | 48 | -2 | 40 | 46 | 50 | 51 | 43 | 47 | 0 | 1 | 3 | 7 | -5 | -4 | -2 | 2 |
| RES 46C | | | 60 | 50 | 58 | -2 | 36 | 46 | 60 | 60 | 50 | 51 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 46D | | | 59 | 49 | 58 | -1 | 39 | 48 | 59 | 60 | 50 | 52 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 |
| RES 47A EG | 470 KAULANA ST | 38048049 | 45 | 39 | 48 | 3 | 39 | 49 | 46 | 50 | 42 | 49 | 1 | 5 | 3 | 10 | -9 | -5 | -3 | 4 |
| RES 47A 1.OG | | | 50 | 41 | 53 | 3 | 39 | 49 | 50 | 52 | 43 | 49 | 0 | 2 | 2 | 8 | -5 | -3 | -2 | 4 |
| RES 47B EG | | | 57 | 48 | 60 | 3 | 49 | 65 | 58 | 65 | 51 | 65 | 1 | 8 | 3 | 17 | 1 | 8 | 3 | 17 |
| RES 47B 1.OG | | | 58 | 49 | 61 | 3 | 47 | 65 | 58 | 66 | 51 | 65 | 0 | 8 | 2 | 16 | 0 | 8 | 2 | 16 |
| RES 47C EG | | | 55 | 46 | 58 | 3 | 65 | 76 | 66 | 76 | 65 | 76 | 11 | 21 | 19 | 30 | 11 | 21 | 19 | 30 |
| RES 47C 1.OG | | | 55 | 46 | 59 | 3 | 66 | 77 | 66 | 77 | 66 | 77 | 11 | 22 | 20 | 31 | 11 | 22 | 20 | 31 |
| RES 47D EG | | | 52 | 43 | 55 | 3 | 54 | 65 | 56 | 65 | 54 | 65 | 5 | 14 | 12 | 23 | 1 | 10 | 9 | 20 |
| RES 47D 1.OG | | | 53 | 44 | 56 | 3 | 55 | 67 | 57 | 67 | 55 | 67 | 4 | 14 | 11 | 23 | 2 | 12 | 10 | 22 |
| RES 48A | 462 KAULANA ST | 38048047 | 46 | 39 | 49 | 3 | 47 | 52 | 49 | 53 | 47 | 52 | 3 | 7 | 8 | 13 | -6 | -2 | 2 | 7 |
| RES 48B | | | 55 | 46 | 58 | 3 | 56 | 56 | 58 | 58 | 56 | 56 | 3 | 3 | 10 | 10 | 3 | 3 | 10 | 10 |
| RES 48C | | | 46 | 39 | 49 | 3 | 41 | 50 | 47 | 51 | 43 | 50 | 1 | 5 | 4 | 11 | -8 | -4 | -2 | 5 |
| RES 48D | | | 50 | 41 | 53 | 3 | 49 | 61 | 52 | 61 | 49 | 61 | 2 | 11 | 8 | 20 | -3 | 6 | 4 | 16 |
| RES 49A EG | 456 KAULANA ST | 38048045 | 45 | 39 | 48 | 3 | 34 | 42 | 46 | 47 | 40 | 44 | 1 | 2 | 1 | 5 | -9 | -8 | -5 | -1 |
| RES 49A 1.OG | | | 51 | 42 | 54 | 3 | 34 | 50 | 51 | 54 | 43 | 50 | 0 | 3 | 1 | 8 | -4 | -1 | -2 | 5 |
| RES 49B EG | | | 55 | 46 | 58 | 3 | 36 | 50 | 55 | 56 | 46 | 52 | 0 | 1 | 0 | 6 | 0 | 1 | 0 | 6 |
| RES 49B 1.OG | | | 57 | 48 | 59 | 3 | 52 | 50 | 58 | 57 | 53 | 52 | 2 | 1 | 6 | 5 | 2 | 1 | 6 | 5 |
| RES 49C EG | | | 47 | 39 | 50 | 3 | 51 | 56 | 53 | 56 | 52 | 56 | 6 | 9 | 13 | 17 | -2 | 1 | 7 | 11 |
| RES 49C 1.OG | | | 50 | 41 | 53 | 3 | 55 | 57 | 56 | 58 | 55 | 57 | 6 | 8 | 14 | 16 | 1 | 3 | 10 | 12 |
| RES 49D EG | | | 49 | 40 | 52 | 3 | 51 | 55 | 53 | 56 | 52 | 55 | 4 | 7 | 12 | 15 | -2 | 1 | 7 | 10 |
| RES 49D 1.OG | | | 51 | 42 | 54 | 3 | 51 | 56 | 54 | 57 | 52 | 56 | 3 | 6 | 10 | 14 | -1 | 2 | 7 | 11 |
| RES 50A | 450 KAULANA ST | 38048043 | 45 | 39 | 47 | 2 | 38 | 46 | 46 | 48 | 42 | 46 | 1 | 3 | 3 | 7 | -9 | -7 | -3 | 1 |
| RES 50B | | | 56 | 47 | 59 | 3 | 48 | 50 | 56 | 57 | 50 | 52 | 0 | 1 | 3 | 5 | 0 | 1 | 3 | 5 |
| RES 50C | | | 45 | 39 | 48 | 3 | 38 | 44 | 46 | 48 | 41 | 46 | 1 | 3 | 2 | 7 | -9 | -7 | -4 | 1 |
| RES 50D | | | 45 | 39 | 48 | 3 | 41 | 55 | 46 | 55 | 43 | 55 | 1 | 10 | 4 | 16 | -9 | 0 | -2 | 10 |

| | | | | | | | CadnaA Construction Results | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Clearing | | | | | | | | | | | | | |
| Receptor | | | Traffic Noise Assessment | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Existing Noise Level | | Future Peak Noise levels | With Project Increment | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Day | Night | dBA Leq | in dBA | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| RES 51A EG | 444 KAULANA ST | 38048041 | 45 | 39 | 45 | 0 | 33 | 43 | 45 | 47 | 40 | 45 | 0 | 2 | 1 | 6 | -10 | -8 | -5 | 0 |
| RES 51A 1.OG | | | 45 | 39 | 48 | 3 | 31 | 41 | 45 | 47 | 40 | 43 | 0 | 2 | 1 | 4 | -10 | -8 | -5 | -2 |
| RES 51B EG | | | 55 | 46 | 58 | 3 | 32 | 48 | 55 | 56 | 46 | 50 | 0 | 1 | 0 | 4 | 0 | 1 | 0 | 4 |
| RES 51B 1.OG | | | 56 | 47 | 59 | 3 | 32 | 51 | 56 | 57 | 47 | 52 | 0 | 1 | 0 | 5 | 0 | 1 | 0 | 5 |
| RES 51C EG | | | 45 | 39 | 48 | 3 | 34 | 41 | 45 | 47 | 40 | 43 | 0 | 2 | 1 | 4 | -10 | -8 | -5 | -2 |
| RES 51C 1.OG | | | 48 | 39 | 51 | 3 | 36 | 53 | 49 | 54 | 41 | 53 | 1 | 6 | 2 | 14 | -6 | -1 | -4 | 8 |
| RES 51D EG | | | 46 | 39 | 49 | 2 | 36 | 49 | 47 | 51 | 41 | 50 | 1 | 5 | 2 | 11 | -8 | -4 | -4 | 5 |
| RES 51D 1.OG | | | 48 | 39 | 51 | 2 | 36 | 51 | 49 | 53 | 41 | 51 | 1 | 5 | 2 | 12 | -6 | -2 | -4 | 6 |
| RES 52A | 436 KAULANA ST | 38048039 | 45 | 39 | 48 | 3 | 34 | 40 | 45 | 46 | 40 | 43 | 0 | 1 | 1 | 4 | -10 | -9 | -5 | -2 |
| RES 52B | | | 55 | 46 | 58 | 3 | 31 | 51 | 55 | 57 | 46 | 52 | 0 | 2 | 0 | 6 | 0 | 2 | 0 | 6 |
| RES 52C | | | 45 | 39 | 48 | 3 | 33 | 39 | 45 | 46 | 40 | 42 | 0 | 1 | 1 | 3 | -10 | -9 | -5 | -3 |
| RES 52D | | | 47 | 39 | 50 | 2 | 33 | 39 | 47 | 48 | 40 | 42 | 0 | 1 | 1 | 3 | -8 | -7 | -5 | -3 |
| RES 53A | 430 KAULANA ST | 38048037 | 46 | 39 | 48 | 3 | 33 | 40 | 46 | 46 | 40 | 42 | 1 | 1 | 1 | 3 | -9 | -9 | -5 | -3 |
| RES 53B | | | 54 | 45 | 57 | 3 | 29 | 49 | 54 | 55 | 45 | 51 | 0 | 1 | 0 | 6 | -1 | 0 | 0 | 6 |
| RES 53C | | | 45 | 39 | 48 | 3 | 31 | 38 | 46 | 46 | 40 | 41 | 1 | 1 | 1 | 2 | -9 | -9 | -5 | -4 |
| RES 53D | | | 48 | 39 | 51 | 2 | 34 | 46 | 48 | 50 | 40 | 47 | 0 | 2 | 1 | 8 | -7 | -5 | -5 | 2 |
| RES 54A | 424 KAULANA ST | 38048035 | 45 | 39 | 46 | 1 | 31 | 38 | 45 | 46 | 40 | 41 | 0 | 1 | 1 | 2 | -10 | -9 | -5 | -4 |
| RES 54B | | | 55 | 46 | 58 | 3 | 28 | 50 | 55 | 56 | 46 | 51 | 0 | 1 | 0 | 5 | 0 | 1 | 0 | 5 |
| RES 54C | | | 45 | 39 | 48 | 3 | 30 | 37 | 45 | 46 | 40 | 41 | 0 | 1 | 1 | 2 | -10 | -9 | -5 | -4 |
| RES 54D | | | 49 | 40 | 51 | 2 | 35 | 48 | 49 | 51 | 41 | 49 | 1 | 3 | 2 | 10 | -6 | -4 | -4 | 4 |
| RES 55A | 246 HINA AVE | 38048033 | 63 | 54 | 65 | 2 | 26 | 32 | 63 | 63 | 54 | 54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 55B | | | 59 | 50 | 61 | 2 | 33 | 46 | 59 | 59 | 50 | 52 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| RES 55C | | | 45 | 39 | 48 | 2 | 29 | 36 | 45 | 46 | 39 | 41 | 0 | 1 | 0 | 2 | -10 | -9 | -6 | -4 |
| RES 55D | | | 56 | 47 | 58 | 2 | 31 | 36 | 56 | 56 | 47 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Maui Evangelical Church A | 256 HINA AVE | 38048032 | 64 | 55 | 66 | 2 | 26 | 34 | 64 | 64 | 55 | 55 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Maui Evangelical Church B EG | | | 59 | 50 | 61 | 2 | 26 | 38 | 59 | 59 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Maui Evangelical Church B 1.OG | | | 61 | 52 | 63 | 2 | 31 | 46 | 61 | 61 | 52 | 53 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Maui Evangelical Church C EG | | | 49 | 40 | 52 | 3 | 38 | 46 | 49 | 51 | 42 | 47 | 0 | 2 | 2 | 7 | -6 | -4 | -3 | 2 |
| Maui Evangelical Church C 1.OG | | | 52 | 43 | 55 | 2 | 35 | 50 | 52 | 54 | 44 | 51 | 0 | 2 | 1 | 8 | -3 | -1 | -1 | 6 |
| Maui Evangelical Church D EG | | | 60 | 51 | 62 | 3 | 29 | 46 | 60 | 60 | 51 | 52 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Maui Evangelical Church D 1.OG | | | 61 | 52 | 63 | 3 | 32 | 49 | 61 | 61 | 52 | 54 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| RES 56A | 421 KAULANA ST | 38048031 | 52 | 43 | 54 | 3 | 33 | 43 | 52 | 52 | 43 | 46 | 1 | 1 | 1 | 4 | -3 | -3 | -2 | 1 |
| RES 56B | | | 50 | 41 | 52 | 2 | 35 | 47 | 50 | 52 | 42 | 48 | 0 | 2 | 1 | 7 | -5 | -3 | -3 | 3 |
| RES 56C | | | 49 | 40 | 52 | 3 | 33 | 42 | 49 | 50 | 41 | 44 | 0 | 1 | 1 | 4 | -6 | -5 | -4 | -1 |
| RES 56D | | | 58 | 49 | 61 | 3 | 37 | 49 | 58 | 59 | 50 | 52 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 |
| RES 57A | 429 KAULANA ST | 38048029 | 49 | 40 | 52 | 3 | 33 | 44 | 49 | 50 | 41 | 46 | 0 | 1 | 1 | 6 | -6 | -5 | -4 | 1 |
| RES 57B | | | 45 | 39 | 47 | 2 | 32 | 46 | 45 | 48 | 40 | 47 | 0 | 3 | 1 | 8 | -10 | -7 | -5 | 2 |
| RES 57C | | | 49 | 40 | 52 | 3 | 31 | 42 | 49 | 50 | 40 | 44 | 0 | 1 | 0 | 4 | -6 | -5 | -5 | -1 |
| RES 57D | | | 56 | 47 | 59 | 3 | 36 | 49 | 56 | 57 | 48 | 51 | 0 | 1 | 1 | 4 | 0 | 1 | 1 | 4 |
| RES 58A | 435 KAULANA ST | 38048027 | 46 | 39 | 49 | 3 | 34 | 44 | 47 | 48 | 40 | 45 | 1 | 2 | 1 | 6 | -8 | -7 | -5 | 0 |
| RES 58B | | | 49 | 40 | 51 | 2 | 29 | 44 | 49 | 50 | 40 | 46 | 0 | 1 | 0 | 6 | -6 | -5 | -5 | 1 |
| RES 58C | | | 47 | 39 | 50 | 3 | 32 | 42 | 47 | 48 | 40 | 44 | 0 | 1 | 1 | 5 | -8 | -7 | -5 | -1 |
| RES 58D | | | 56 | 47 | 59 | 3 | 38 | 48 | 56 | 57 | 48 | 50 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 |
| RES 59A | 443 KAULANA ST | 38048025 | 48 | 39 | 50 | 3 | 35 | 43 | 48 | 49 | 40 | 44 | 0 | 1 | 1 | 5 | -7 | -6 | -5 | -1 |
| RES 59B | | | 48 | 39 | 50 | 2 | 36 | 44 | 48 | 49 | 41 | 45 | 0 | 1 | 2 | 6 | -7 | -6 | -4 | 0 |
| RES 59C | | | 50 | 41 | 52 | 3 | 34 | 42 | 50 | 50 | 41 | 44 | 1 | 1 | 1 | 4 | -5 | -5 | -4 | -1 |
| RES 59D | | | 55 | 46 | 58 | 3 | 41 | 52 | 56 | 57 | 47 | 53 | 1 | 2 | 1 | 7 | 1 | 2 | 1 | 7 |
| RES 60A | 449 KAULANA ST | 38048023 | 47 | 39 | 50 | 3 | 36 | 44 | 48 | 49 | 41 | 45 | 1 | 2 | 2 | 6 | -7 | -6 | -4 | 0 |
| RES 60B | | | 47 | 39 | 49 | 3 | 32 | 40 | 47 | 47 | 40 | 42 | 0 | 0 | 1 | 3 | -8 | -8 | -5 | -3 |
| RES 60C | | | 46 | 39 | 49 | 3 | 36 | 42 | 46 | 47 | 41 | 44 | 0 | 1 | 2 | 5 | -9 | -8 | -4 | -1 |
| RES 60D | | | 57 | 48 | 60 | 3 | 43 | 54 | 57 | 58 | 49 | 55 | 0 | 1 | 1 | 7 | 0 | 1 | 1 | 7 |

| | | | | | | | CadnaA Construction Results | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Clearing | | | | | | | | | | | | | |
| Receptor | | | Traffic Noise Assessment | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Existing Noise Level | | Future Peak Noise levels | With Project Increment | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Day | Night | dBA Leq | in dBA | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| RES 61A EG | 455 KAULANA ST | 38048021 | 46 | 39 | 48 | 3 | 36 | 44 | 46 | 48 | 41 | 45 | 1 | 3 | 2 | 6 | -9 | -7 | -4 | 0 |
| RES 61A 1.OG | | | 50 | 41 | 53 | 3 | 33 | 48 | 50 | 52 | 42 | 49 | 0 | 2 | 1 | 8 | -5 | -3 | -3 | 4 |
| RES 61B EG | | | 48 | 39 | 51 | 2 | 39 | 46 | 49 | 50 | 42 | 46 | 1 | 2 | 3 | 7 | -6 | -5 | -3 | 1 |
| RES 61B 1.OG | | | 54 | 45 | 56 | 2 | 34 | 42 | 54 | 54 | 45 | 47 | 0 | 0 | 0 | 2 | -1 | -1 | 0 | 2 |
| RES 61C EG | | | 47 | 39 | 50 | 3 | 37 | 45 | 48 | 49 | 41 | 46 | 1 | 2 | 2 | 7 | -7 | -6 | -4 | 1 |
| RES 61C 1.OG | | | 52 | 43 | 54 | 3 | 37 | 50 | 52 | 54 | 44 | 51 | 0 | 2 | 1 | 8 | -3 | -1 | -1 | 6 |
| RES 61D EG | | | 57 | 48 | 60 | 3 | 50 | 55 | 58 | 59 | 52 | 55 | 1 | 2 | 4 | 7 | 1 | 2 | 4 | 7 |
| RES 61D 1.OG | | | 58 | 49 | 61 | 3 | 51 | 58 | 59 | 61 | 53 | 59 | 1 | 3 | 4 | 10 | 1 | 3 | 4 | 10 |
| RES 62A | 461 KAULANA ST | 38048019 | 52 | 43 | 54 | 3 | 41 | 50 | 52 | 54 | 45 | 51 | 0 | 2 | 2 | 8 | -3 | -1 | 0 | 6 |
| RES 62B | | | 54 | 45 | 57 | 2 | 36 | 48 | 54 | 55 | 46 | 50 | 0 | 1 | 1 | 5 | -1 | 0 | 1 | 5 |
| RES 62C | | | 51 | 42 | 53 | 3 | 41 | 52 | 51 | 55 | 44 | 53 | 0 | 4 | 2 | 11 | -4 | 0 | -1 | 8 |
| RES 62D | | | 57 | 48 | 60 | 3 | 59 | 64 | 61 | 65 | 60 | 64 | 4 | 8 | 12 | 16 | 4 | 8 | 12 | 16 |
| RES 63A | 241 LAAU ST | 38048017 | 51 | 42 | 54 | 3 | 39 | 53 | 52 | 55 | 44 | 54 | 1 | 4 | 2 | 12 | -3 | 0 | -1 | 9 |
| RES 63B | | | 56 | 47 | 58 | 2 | 38 | 46 | 56 | 56 | 47 | 50 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 |
| RES 63C | | | 57 | 48 | 60 | 3 | 62 | 68 | 63 | 69 | 62 | 68 | 6 | 12 | 14 | 20 | 6 | 12 | 14 | 20 |
| RES 63D | | | 58 | 49 | 61 | 3 | 62 | 70 | 64 | 70 | 62 | 70 | 6 | 12 | 13 | 21 | 6 | 12 | 13 | 21 |
| RES 64A | 262 HINA AVE | 38048001 | 66 | 57 | 68 | 2 | 26 | 34 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 64B | | | 66 | 57 | 68 | 2 | 26 | 34 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 64C | | | 57 | 48 | 60 | 2 | 34 | 46 | 57 | 58 | 49 | 50 | 0 | 1 | 1 | 2 | 0 | 1 | 1 | 2 |
| RES 64D | | | 61 | 52 | 63 | 2 | 35 | 51 | 61 | 61 | 52 | 54 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 3 |
| RES 65A | 422 S KAMEHAMEHA AVE | 38048003 | 56 | 47 | 59 | 2 | 35 | 46 | 56 | 57 | 48 | 50 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 |
| RES 65B | | | 65 | 56 | 68 | 3 | 29 | 38 | 65 | 65 | 56 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 65C | | | 55 | 46 | 57 | 3 | 34 | 48 | 55 | 56 | 46 | 50 | 0 | 1 | 0 | 4 | 0 | 1 | 0 | 4 |
| RES 65D | | | 51 | 42 | 53 | 2 | 33 | 54 | 51 | 56 | 42 | 54 | 0 | 5 | 0 | 12 | -4 | 1 | -3 | 9 |
| RES 66A | 428 S KAMEHAMEHA AVE | 38048005 | 57 | 48 | 60 | 3 | 45 | 48 | 57 | 58 | 50 | 51 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 |
| RES 66B | | | 65 | 56 | 67 | 2 | 30 | 38 | 65 | 65 | 56 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 66C | | | 56 | 47 | 59 | 3 | 40 | 47 | 56 | 57 | 48 | 50 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 |
| RES 66D | | | 51 | 42 | 53 | 2 | 45 | 55 | 52 | 56 | 46 | 55 | 1 | 5 | 4 | 13 | -3 | 1 | 1 | 10 |
| RES 67A | 434 S KAMEHAMEHA AVE | 38048007 | 55 | 46 | 58 | 2 | 48 | 47 | 56 | 56 | 50 | 50 | 1 | 1 | 4 | 4 | 1 | 1 | 4 | 4 |
| RES 67B | | | 66 | 57 | 69 | 3 | 30 | 37 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 67C | | | 59 | 50 | 62 | 3 | 45 | 45 | 59 | 59 | 51 | 51 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| RES 67D | | | 50 | 41 | 53 | 2 | 46 | 51 | 51 | 53 | 47 | 51 | 1 | 3 | 6 | 10 | -4 | -2 | 2 | 6 |
| RES 68A | 440 S KAMEHAMEHA AVE | 38048009 | 57 | 48 | 59 | 3 | 47 | 46 | 57 | 57 | 50 | 50 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 2 |
| RES 68B | | | 64 | 55 | 66 | 3 | 32 | 38 | 64 | 64 | 55 | 55 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 68C | | | 55 | 46 | 58 | 2 | 44 | 46 | 56 | 56 | 48 | 49 | 1 | 1 | 2 | 3 | 1 | 1 | 2 | 3 |
| RES 68D | | | 50 | 41 | 52 | 2 | 44 | 47 | 51 | 51 | 46 | 48 | 1 | 1 | 5 | 7 | -4 | -4 | 1 | 3 |
| RES 69A | 448 S KAMEHAMEHA AVE | 38048011 | 53 | 44 | 55 | 3 | 42 | 46 | 53 | 53 | 46 | 48 | 0 | 0 | 2 | 4 | -2 | -2 | 1 | 3 |
| RES 69B | | | 66 | 57 | 68 | 3 | 32 | 41 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 69C | | | 56 | 47 | 59 | 3 | 38 | 42 | 56 | 56 | 48 | 48 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| RES 69D | | | 50 | 41 | 53 | 2 | 40 | 44 | 51 | 51 | 44 | 46 | 1 | 1 | 3 | 5 | -4 | -4 | -1 | 1 |
| RES 70A | 454 S KAMEHAMEHA AVE | 38048013 | 58 | 49 | 60 | 2 | 33 | 42 | 58 | 58 | 49 | 50 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 70B | | | 66 | 57 | 69 | 3 | 34 | 42 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 70C | | | 57 | 48 | 59 | 2 | 40 | 48 | 57 | 57 | 48 | 51 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 |
| RES 70D | | | 51 | 42 | 53 | 3 | 44 | 52 | 52 | 54 | 46 | 52 | 1 | 3 | 4 | 10 | -3 | -1 | 1 | 7 |
| RES 71A | 253 LAAU ST | 38048016 | 54 | 45 | 57 | 3 | 47 | 52 | 55 | 56 | 49 | 53 | 1 | 2 | 4 | 8 | 0 | 1 | 4 | 8 |
| RES 71B | | | 65 | 56 | 68 | 3 | 37 | 48 | 65 | 65 | 56 | 57 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 71C | | | 60 | 51 | 63 | 3 | 47 | 63 | 60 | 65 | 52 | 64 | 0 | 5 | 1 | 13 | 0 | 5 | 1 | 13 |
| RES 71D | | | 57 | 48 | 60 | 3 | 58 | 56 | 61 | 59 | 58 | 57 | 4 | 2 | 10 | 9 | 4 | 2 | 10 | 9 |
| S_HMHC A | 472 LAAU ST | 38007084 | 46 | 39 | 50 | 4 | 31 | 39 | 46 | 47 | 40 | 42 | 0 | 1 | 1 | 3 | -9 | -8 | -5 | -3 |
| S_HMHC B | | | 49 | 40 | 54 | 5 | 58 | 65 | 59 | 65 | 58 | 65 | 10 | 16 | 18 | 25 | 4 | 10 | 13 | 20 |
| S_HMHC C | | | 46 | 39 | 51 | 4 | 56 | 63 | 56 | 63 | 56 | 63 | 10 | 17 | 17 | 24 | 1 | 8 | 11 | 18 |
| S_HMHC D | | | 45 | 39 | 43 | -2 | 37 | 42 | 46 | 47 | 41 | 44 | 1 | 2 | 2 | 5 | -9 | -8 | -4 | -1 |
| N_HMHC A | | | 46 | 39 | 50 | 4 | 35 | 39 | 46 | 46 | 40 | 42 | 1 | 1 | 1 | 3 | -9 | -9 | -5 | -3 |
| N_HMHC B | | | 45 | 39 | 43 | -2 | 34 | 39 | 45 | 46 | 40 | 42 | 0 | 1 | 1 | 3 | -10 | -9 | -5 | -3 |
| N_HMHC C | | | 45 | 39 | 49 | 4 | 51 | 53 | 52 | 54 | 51 | 54 | 7 | 9 | 12 | 15 | -3 | -1 | 6 | 9 |
| N_HMHC D | | | 49 | 40 | 53 | 4 | 31 | 38 | 49 | 49 | 40 | 42 | 0 | 0 | 0 | 2 | -6 | -6 | -5 | -3 |

| | | | | | | | CadnaA Construction Results | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Clearing | | | | | | | | | | | | | |
| Receptor | | | Traffic Noise Assessment | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Existing Noise Level | | Future Peak Noise levels | With Project Increment | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Day | Night | dBA Leq | in dBA | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| Kahului Comm Center A | 275 UHU ST | 38007097 | 47 | 39 | 51 | 4 | 51 | 58 | 52 | 58 | 51 | 58 | 5 | 11 | 12 | 19 | -3 | 3 | 6 | 13 |
| Kahului Comm Center B | | | 47 | 39 | 51 | 4 | 64 | 71 | 64 | 71 | 64 | 71 | 17 | 24 | 25 | 32 | 9 | 16 | 19 | 26 |
| Kahului Comm Center C | | | 47 | 39 | 51 | 4 | 65 | 71 | 65 | 71 | 65 | 71 | 18 | 24 | 26 | 32 | 10 | 16 | 20 | 26 |
| Kahului Comm Center D | | | 48 | 39 | 52 | 4 | 52 | 57 | 53 | 57 | 52 | 57 | 5 | 9 | 13 | 18 | -2 | 2 | 7 | 12 |
| PALS A | | | 46 | 39 | 50 | 4 | 61 | 64 | 61 | 64 | 61 | 64 | 15 | 18 | 22 | 25 | 6 | 9 | 16 | 19 |
| PALS B | | | 46 | 39 | 51 | 5 | 62 | 67 | 62 | 67 | 62 | 67 | 16 | 21 | 23 | 28 | 7 | 12 | 17 | 22 |
| PALS C | | | 48 | 39 | 52 | 5 | 55 | 55 | 56 | 55 | 55 | 55 | 8 | 7 | 16 | 16 | 1 | 0 | 10 | 10 |
| PALS D | | | 47 | 39 | 51 | 4 | 39 | 44 | 47 | 49 | 42 | 45 | 0 | 2 | 3 | 6 | -8 | -6 | -3 | 0 |
| POOL A | | | 48 | 39 | 52 | 4 | 33 | 41 | 48 | 49 | 40 | 43 | 0 | 1 | 1 | 4 | -7 | -6 | -5 | -2 |
| POOL B | | | 45 | 39 | 49 | 4 | 50 | 56 | 51 | 57 | 50 | 56 | 6 | 12 | 11 | 17 | -4 | 2 | 5 | 11 |
| POOL C | | | 45 | 39 | 48 | 3 | 50 | 54 | 51 | 55 | 50 | 54 | 6 | 10 | 11 | 15 | -4 | 0 | 5 | 9 |
| POOL D | | | 46 | 39 | 51 | 4 | 36 | 42 | 47 | 48 | 41 | 44 | 1 | 2 | 2 | 5 | -8 | -7 | -4 | -1 |
| 1 Comm Housing A | 200 HINA AVE | 38007095 | 45 | 39 | 46 | 1 | 40 | 49 | 46 | 50 | 43 | 49 | 1 | 5 | 4 | 10 | -9 | -5 | -2 | 4 |
| 1 Comm Housing B | | | 46 | 39 | 50 | 4 | 49 | 54 | 51 | 55 | 49 | 54 | 5 | 9 | 10 | 15 | -4 | 0 | 4 | 9 |
| 1 Comm Housing C | | | 45 | 39 | 49 | 4 | 51 | 56 | 52 | 57 | 52 | 56 | 7 | 12 | 13 | 17 | -3 | 2 | 7 | 11 |
| 1 Comm Housing D | | | 53 | 44 | 58 | 5 | 31 | 38 | 53 | 53 | 44 | 45 | 0 | 0 | 0 | 1 | -2 | -2 | -1 | 0 |
| 2 Comm Housing A | | | 45 | 39 | 48 | 3 | 40 | 43 | 46 | 47 | 42 | 45 | 1 | 2 | 3 | 6 | -9 | -8 | -3 | 0 |
| 2 Comm Housing B | | | 48 | 39 | 52 | 4 | 45 | 51 | 50 | 53 | 46 | 51 | 2 | 5 | 7 | 12 | -5 | -2 | 1 | 6 |
| 2 Comm Housing C | | | 48 | 39 | 53 | 5 | 45 | 53 | 50 | 54 | 46 | 53 | 2 | 6 | 7 | 14 | -5 | -1 | 1 | 8 |
| 2 Comm Housing D | | | 57 | 48 | 62 | 5 | 31 | 41 | 57 | 58 | 48 | 49 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| 3 Comm Housing A | | | 57 | 48 | 62 | 4 | 25 | 32 | 57 | 57 | 48 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 Comm Housing B | | | 57 | 48 | 61 | 4 | 29 | 36 | 57 | 57 | 48 | 48 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 3 Comm Housing C | | | 45 | 39 | 49 | 4 | 33 | 38 | 45 | 46 | 40 | 41 | 0 | 1 | 1 | 2 | -10 | -9 | -5 | -4 |
| 3 Comm Housing D | | | 55 | 46 | 59 | 5 | 25 | 34 | 55 | 55 | 46 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Hale Mahaolu Elua A | | | 47 | 39 | 51 | 4 | 27 | 43 | 47 | 48 | 39 | 45 | 0 | 1 | 0 | 6 | -8 | -7 | -6 | 0 |
| Hale Mahaolu Elua B | | | 50 | 41 | 55 | 5 | 32 | 39 | 50 | 50 | 41 | 43 | 0 | 0 | 0 | 2 | -5 | -5 | -4 | -2 |
| Hale Mahaolu Elua C | | | 45 | 39 | 49 | 4 | 33 | 40 | 45 | 46 | 40 | 43 | 0 | 1 | 1 | 4 | -10 | -9 | -5 | -2 |
| Hale Mahaolu Elua D | | | 46 | 39 | 50 | 4 | 27 | 35 | 46 | 46 | 39 | 40 | 1 | 1 | 0 | 1 | -9 | -9 | -6 | -5 |
| 4 Comm Housing A | | | 48 | 39 | 53 | 4 | 27 | 33 | 48 | 48 | 40 | 40 | 0 | 0 | 1 | 1 | -7 | -7 | -5 | -5 |
| 4 Comm Housing B | | | 45 | 39 | 45 | 0 | 27 | 36 | 45 | 46 | 39 | 41 | 0 | 1 | 0 | 2 | -10 | -9 | -6 | -4 |
| 4 Comm Housing C | | | 45 | 39 | 49 | 4 | 33 | 39 | 45 | 46 | 40 | 42 | 0 | 1 | 1 | 3 | -10 | -9 | -5 | -3 |
| 4 Comm Housing D | | | 48 | 39 | 52 | 4 | 33 | 37 | 48 | 48 | 40 | 41 | 0 | 0 | 1 | 2 | -7 | -7 | -5 | -4 |
| 5 Comm Housing A | | | 58 | 49 | 62 | 4 | 24 | 31 | 58 | 58 | 49 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 Comm Housing B | | | 52 | 43 | 56 | 4 | 39 | 50 | 52 | 54 | 45 | 51 | 0 | 2 | 2 | 8 | -3 | -1 | 0 | 6 |
| 5 Comm Housing C | | | 48 | 39 | 52 | 4 | 37 | 42 | 49 | 49 | 41 | 44 | 1 | 1 | 2 | 5 | -6 | -6 | -4 | -1 |
| 5 Comm Housing D | | | 55 | 46 | 59 | 4 | 24 | 31 | 55 | 55 | 46 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 71A | 294 HINA AVE | 38047048 | 66 | 57 | 68 | 2 | 26 | 34 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 71B | | | 59 | 50 | 61 | 2 | 26 | 32 | 59 | 59 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 71C | | | 57 | 48 | 59 | 3 | 34 | 47 | 57 | 57 | 48 | 50 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| RES 71A | | | 68 | 59 | 70 | 2 | 46 | 50 | 68 | 68 | 59 | 59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 72A | 439 S KAMEHAMEHA AVE | 38047042 | 57 | 48 | 59 | 3 | 40 | 44 | 57 | 57 | 48 | 49 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 72B | | | 46 | 39 | 48 | 2 | 42 | 47 | 47 | 49 | 44 | 47 | 1 | 3 | 5 | 8 | -8 | -6 | -1 | 2 |
| RES 72C | | | 59 | 50 | 61 | 2 | 36 | 45 | 59 | 59 | 50 | 51 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 72A | | | 65 | 56 | 68 | 2 | 42 | 45 | 65 | 65 | 56 | 57 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 73A | 461 S KAMEHAMEHA AVE | 38047036 | 54 | 45 | 56 | 2 | 33 | 44 | 54 | 54 | 45 | 47 | 0 | 0 | 0 | 2 | -1 | -1 | 0 | 2 |
| RES 73B | | | 47 | 39 | 49 | 2 | 33 | 41 | 47 | 48 | 40 | 43 | 0 | 1 | 1 | 4 | -8 | -7 | -5 | -2 |
| RES 73C | | | 60 | 51 | 63 | 3 | 41 | 58 | 60 | 62 | 52 | 59 | 0 | 2 | 1 | 8 | 0 | 2 | 1 | 8 |
| RES 73A | | | 66 | 57 | 69 | 2 | 41 | 52 | 66 | 67 | 58 | 58 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 |
| RES 74A | 378 Molokai Hema Street | 38047023 | 66 | 57 | 68 | 2 | 25 | 32 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 74B | | | 61 | 52 | 63 | 2 | 26 | 33 | 61 | 61 | 52 | 52 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 74C | | | 51 | 42 | 53 | 2 | 32 | 36 | 51 | 51 | 42 | 43 | 0 | 0 | 0 | 1 | -4 | -4 | -3 | -2 |
| RES 74A | | | 58 | 49 | 60 | 2 | 32 | 36 | 58 | 58 | 49 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MATIU AKI A | 400 MOLOKAI HEMA ST | 38047029 | 48 | 39 | 50 | 2 | 28 | 36 | 48 | 48 | 39 | 41 | 0 | 0 | 0 | 2 | -7 | -7 | -6 | -4 |
| MATIU AKI B | | | 54 | 45 | 57 | 3 | 40 | 45 | 54 | 54 | 46 | 48 | 0 | 0 | 1 | 3 | -1 | -1 | 1 | 3 |
| MATIU AKI C | | | 46 | 39 | 49 | 3 | 41 | 48 | 47 | 50 | 43 | 48 | 1 | 4 | 4 | 9 | -8 | -5 | -2 | 3 |
| MATIU AKI D | | | 50 | 41 | 52 | 2 | 34 | 42 | 50 | 50 | 41 | 44 | 0 | 0 | 0 | 3 | -5 | -5 | -4 | -1 |

| | | | | | | | CadnaA Construction Results | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Clearing | | | | | | | | | | | | | |
| Receptor | | | Traffic Noise Assessment | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Existing Noise Level | | Future Peak Noise levels | With Project Increment | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Day | Night | dBA Leq | in dBA | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| RES 75A | 289 LAAU ST | 38047035 | 45 | 39 | 46 | 1 | 40 | 50 | 46 | 51 | 43 | 50 | 1 | 6 | 4 | 11 | -9 | -4 | -2 | 5 |
| RES 75B | | | 56 | 47 | 59 | 3 | 44 | 48 | 56 | 57 | 49 | 51 | 0 | 1 | 2 | 4 | 0 | 1 | 2 | 4 |
| RES 75C | | | 53 | 44 | 55 | 2 | 44 | 52 | 53 | 55 | 47 | 53 | 0 | 2 | 3 | 9 | -2 | 0 | 2 | 8 |
| RES 75A | | | 51 | 42 | 53 | 2 | 36 | 48 | 51 | 53 | 43 | 49 | 1 | 3 | 2 | 8 | -4 | -2 | -2 | 4 |
| RES 76A | 503 S KAMEHAMEHA AVE | 38057007 | 60 | 51 | 62 | 2 | 41 | 52 | 60 | 61 | 51 | 55 | 0 | 1 | 0 | 4 | 0 | 1 | 0 | 4 |
| RES 76B | | | 50 | 41 | 53 | 2 | 43 | 56 | 51 | 57 | 45 | 56 | 1 | 7 | 4 | 15 | -4 | 2 | 0 | 11 |
| RES 76C | | | 55 | 46 | 58 | 2 | 44 | 50 | 56 | 56 | 48 | 52 | 1 | 1 | 2 | 6 | 1 | 1 | 2 | 6 |
| RES 76D | | | 68 | 59 | 70 | 2 | 44 | 58 | 68 | 68 | 59 | 62 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 |
| RES 77A | 507 S KAMEHAMEHA AVE | 38057008 | 56 | 47 | 57 | 1 | 37 | 52 | 56 | 57 | 47 | 53 | 0 | 1 | 0 | 6 | 0 | 1 | 0 | 6 |
| RES 77B | | | 47 | 39 | 48 | 1 | 44 | 50 | 49 | 52 | 45 | 51 | 2 | 5 | 6 | 12 | -6 | -3 | 0 | 6 |
| RES 77C | | | 56 | 47 | 58 | 1 | 39 | 49 | 56 | 57 | 48 | 51 | 0 | 1 | 1 | 4 | 0 | 1 | 1 | 4 |
| RES 77D | | | 67 | 58 | 68 | 1 | 47 | 53 | 67 | 67 | 58 | 59 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 78A EG | 541 S KAMEHAMEHA AVE | 38057016 | 56 | 47 | 58 | 1 | 34 | 42 | 56 | 57 | 48 | 49 | 0 | 1 | 1 | 2 | 0 | 1 | 1 | 2 |
| RES 78A 1.OG | | | 59 | 50 | 60 | 1 | 42 | 49 | 59 | 59 | 51 | 53 | 0 | 0 | 1 | 3 | 0 | 0 | 1 | 3 |
| RES 78B EG | | | 47 | 39 | 48 | 1 | 42 | 49 | 48 | 51 | 44 | 49 | 1 | 4 | 5 | 10 | -7 | -4 | -1 | 4 |
| RES 78B 1.OG | | | 50 | 41 | 51 | 1 | 41 | 41 | 50 | 50 | 44 | 44 | 0 | 0 | 3 | 3 | -5 | -5 | -1 | -1 |
| RES 78C EG | | | 57 | 48 | 58 | 1 | 44 | 48 | 57 | 57 | 49 | 51 | 0 | 0 | 1 | 3 | 0 | 0 | 1 | 3 |
| RES 78C 1.OG | | | 60 | 51 | 61 | 1 | 48 | 52 | 60 | 60 | 53 | 55 | 1 | 1 | 3 | 5 | 1 | 1 | 3 | 5 |
| RES 78D | | | 66 | 57 | 67 | 1 | 42 | 52 | 66 | 66 | 57 | 58 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 78D 1.OG | | | 68 | 59 | 69 | 1 | 47 | 54 | 68 | 68 | 59 | 60 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 78A 1.OG | | | 57 | 48 | 58 | 1 | 33 | 59 | 57 | 61 | 48 | 59 | 0 | 4 | 0 | 11 | 0 | 4 | 0 | 11 |
| RES 79 B | 282 LAAU ST | 38057033 | 50 | 41 | 53 | 3 | 32 | 43 | 50 | 51 | 41 | 45 | 0 | 1 | 0 | 4 | -5 | -4 | -4 | 0 |
| RES 79 C | | | 46 | 39 | 49 | 3 | 41 | 47 | 47 | 49 | 43 | 47 | 1 | 3 | 4 | 8 | -8 | -6 | -2 | 2 |
| RES 79 D | | | 53 | 44 | 55 | 2 | 46 | 56 | 53 | 58 | 48 | 56 | 0 | 5 | 4 | 12 | -2 | 3 | 3 | 11 |
| RES 80 A | 490 MOLOKAI HEMA ST | 38057025 | 45 | 39 | 46 | 1 | 44 | 48 | 47 | 50 | 45 | 48 | 2 | 5 | 6 | 9 | -8 | -5 | 0 | 3 |
| RES 80 B | | | 57 | 48 | 60 | 3 | 31 | 39 | 57 | 57 | 48 | 49 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 80 C | | | 45 | 39 | 48 | 3 | 38 | 45 | 46 | 48 | 41 | 46 | 1 | 3 | 2 | 7 | -9 | -7 | -4 | 1 |
| RES 80 D | | | 50 | 41 | 53 | 2 | 41 | 48 | 51 | 52 | 44 | 49 | 1 | 2 | 3 | 8 | -4 | -3 | -1 | 4 |
| RES 81 A | 540 MOLOKAI HEMA ST | 38057018 | 48 | 39 | 50 | 1 | 42 | 48 | 49 | 51 | 44 | 49 | 1 | 3 | 5 | 10 | -6 | -4 | -1 | 4 |
| RES 81 B | | | 55 | 46 | 57 | 2 | 30 | 37 | 55 | 55 | 46 | 47 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 81 C | | | 57 | 48 | 58 | 2 | 36 | 46 | 57 | 57 | 48 | 50 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| RES 81 D | | | 52 | 43 | 53 | 1 | 44 | 49 | 52 | 53 | 46 | 50 | 0 | 1 | 3 | 7 | -3 | -2 | 1 | 5 |
| RES 82 A | 270 UHU ST | 38053001 | 58 | 49 | 59 | 2 | 56 | 63 | 60 | 64 | 57 | 63 | 2 | 6 | 8 | 14 | 2 | 6 | 8 | 14 |
| RES 82 B | | | 57 | 48 | 59 | 2 | 57 | 62 | 60 | 63 | 58 | 62 | 3 | 6 | 10 | 14 | 3 | 6 | 10 | 14 |
| RES 82 B | | | 45 | 39 | 47 | 2 | 44 | 50 | 48 | 51 | 45 | 50 | 3 | 6 | 6 | 11 | -7 | -4 | 0 | 5 |
| RES 82 D | | | 52 | 43 | 54 | 2 | 46 | 60 | 53 | 61 | 48 | 60 | 1 | 9 | 5 | 17 | -2 | 6 | 3 | 15 |
| RES 83 A | 530 POHAI ST | 38053007 | 45 | 39 | 46 | 1 | 37 | 43 | 46 | 47 | 41 | 44 | 1 | 2 | 2 | 5 | -9 | -8 | -4 | -1 |
| RES 83 B | | | 57 | 48 | 59 | 2 | 41 | 48 | 57 | 57 | 49 | 51 | 0 | 0 | 1 | 3 | 0 | 0 | 1 | 3 |
| RES 83 C | | | 47 | 39 | 49 | 2 | 38 | 48 | 48 | 50 | 41 | 48 | 1 | 3 | 2 | 9 | -7 | -5 | -4 | 3 |
| RES 83 D | | | 45 | 39 | 45 | 0 | 47 | 48 | 49 | 50 | 47 | 49 | 4 | 5 | 8 | 10 | -6 | -5 | 2 | 4 |
| RES 84 A | 700 MOLOKAI AKAU ST | 38053013 | 47 | 39 | 48 | 2 | 33 | 43 | 47 | 48 | 40 | 45 | 0 | 1 | 1 | 6 | -8 | -7 | -5 | 0 |
| RES 84 B | | | 56 | 47 | 58 | 2 | 37 | 48 | 56 | 57 | 47 | 50 | 0 | 1 | 0 | 3 | 0 | 1 | 0 | 3 |
| RES 84 C | | | 60 | 51 | 62 | 2 | 41 | 51 | 60 | 60 | 51 | 54 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 |
| RES 84 D | | | 51 | 42 | 53 | 2 | 37 | 46 | 51 | 52 | 43 | 47 | 0 | 1 | 1 | 5 | -4 | -3 | -2 | 2 |
| RES 85 A | 260 UHU ST | 38053026 | 59 | 50 | 61 | 2 | 56 | 62 | 61 | 63 | 57 | 62 | 2 | 4 | 7 | 12 | 2 | 4 | 7 | 12 |
| RES 85 B | | | 50 | 41 | 52 | 2 | 54 | 53 | 56 | 55 | 55 | 53 | 6 | 5 | 14 | 12 | 1 | 0 | 10 | 8 |
| RES 85 C | | | 46 | 39 | 47 | 2 | 41 | 52 | 47 | 53 | 43 | 52 | 2 | 8 | 4 | 13 | -8 | -2 | -2 | 7 |
| RES 85 D | | | 57 | 48 | 59 | 2 | 54 | 54 | 59 | 59 | 55 | 55 | 2 | 2 | 7 | 7 | 2 | 2 | 7 | 7 |
| RES 86 A | 529 POHAKU ST | 38053020 | 46 | 39 | 48 | 2 | 41 | 49 | 47 | 51 | 43 | 49 | 1 | 5 | 4 | 10 | -8 | -4 | -2 | 4 |
| RES 86 B | | | 45 | 39 | 46 | 1 | 45 | 46 | 48 | 48 | 46 | 47 | 3 | 3 | 7 | 8 | -7 | -7 | 1 | 2 |
| RES 86 C | | | 45 | 39 | 46 | 1 | 37 | 43 | 46 | 47 | 41 | 44 | 1 | 2 | 2 | 5 | -9 | -8 | -4 | -1 |
| RES 86 D | | | 55 | 46 | 57 | 2 | 43 | 47 | 55 | 56 | 48 | 50 | 0 | 1 | 2 | 4 | 0 | 1 | 2 | 4 |
| RES 87 A | 710 MOLOKAI AKAU ST | 38053014 | 46 | 39 | 48 | 2 | 31 | 39 | 46 | 47 | 40 | 42 | 0 | 1 | 1 | 3 | -9 | -8 | -5 | -3 |
| RES 87 B | | | 50 | 41 | 52 | 2 | 44 | 48 | 51 | 52 | 46 | 49 | 1 | 2 | 5 | 8 | -4 | -3 | 1 | 4 |
| RES 87 C | | | 58 | 49 | 59 | 2 | 37 | 43 | 58 | 58 | 49 | 50 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 87 D | | | 58 | 49 | 60 | 2 | 39 | 44 | 58 | 58 | 49 | 50 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |

| | | | | | | | CadnaA Construction Results | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Clearing | | | | | | | | | | | | | |
| Receptor | | | Traffic Noise Assessment | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Existing Noise Level | | Future Peak Noise levels | With Project Increment | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Day | Night | dBA Leq | in dBA | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| RES 88 A | 730 MOLOKAI AKAU ST | 38053039 | 47 | 39 | 49 | 2 | 36 | 39 | 47 | 48 | 41 | 42 | 0 | 1 | 2 | 3 | -8 | -7 | -4 | -3 |
| RES 88 B | | | 56 | 47 | 58 | 2 | 40 | 43 | 56 | 56 | 48 | 48 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| RES 88 C | | | 57 | 48 | 58 | 2 | 38 | 43 | 57 | 57 | 48 | 49 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 88 D | | | 47 | 39 | 49 | 2 | 42 | 44 | 48 | 49 | 44 | 45 | 1 | 2 | 5 | 6 | -7 | -6 | -1 | 0 |
| RES 89 A | 503 WAIKALA ST | 38053052 | 58 | 49 | 59 | 2 | 48 | 56 | 58 | 60 | 51 | 57 | 0 | 2 | 2 | 8 | 0 | 2 | 2 | 8 |
| RES 89 B | | | 49 | 40 | 50 | 1 | 41 | 48 | 49 | 51 | 43 | 49 | 1 | 3 | 4 | 10 | -6 | -4 | -2 | 4 |
| RES 89 C | | | 48 | 39 | 50 | 2 | 45 | 49 | 50 | 51 | 46 | 49 | 2 | 3 | 7 | 10 | -5 | -4 | 1 | 4 |
| RES 89 D | | | 57 | 48 | 59 | 2 | 42 | 50 | 57 | 58 | 49 | 52 | 0 | 1 | 1 | 4 | 0 | 1 | 1 | 4 |
| RES 90 A | 525 WAIKALA ST | 38053047 | 45 | 39 | 47 | 2 | 42 | 45 | 47 | 48 | 43 | 46 | 2 | 3 | 4 | 7 | -8 | -7 | -2 | 1 |
| RES 90 B | | | 45 | 39 | 46 | 1 | 37 | 41 | 46 | 47 | 41 | 43 | 1 | 2 | 2 | 4 | -9 | -8 | -4 | -2 |
| RES 90 C | | | 46 | 39 | 47 | 1 | 33 | 39 | 46 | 47 | 40 | 42 | 0 | 1 | 1 | 3 | -9 | -8 | -5 | -3 |
| RES 90 D | | | 56 | 47 | 57 | 2 | 29 | 41 | 56 | 56 | 47 | 47 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| RES 91 A | 740 MOLOKAI AKAU ST | 38053040 | 45 | 39 | 46 | 1 | 30 | 44 | 45 | 47 | 39 | 45 | 0 | 2 | 0 | 6 | -10 | -8 | -6 | 0 |
| RES 91 B | | | 47 | 39 | 49 | 2 | 34 | 42 | 47 | 48 | 40 | 44 | 0 | 1 | 1 | 5 | -8 | -7 | -5 | -1 |
| RES 91 C | | | 56 | 47 | 58 | 2 | 37 | 42 | 56 | 56 | 48 | 48 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| RES 91 D | | | 56 | 47 | 58 | 2 | 25 | 33 | 56 | 56 | 47 | 48 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 92 A | 504 POHAKU ST | 38053027 | 60 | 51 | 61 | 2 | 55 | 59 | 61 | 62 | 56 | 60 | 1 | 2 | 5 | 9 | 1 | 2 | 5 | 9 |
| RES 92 B | | | 57 | 48 | 59 | 2 | 42 | 54 | 57 | 59 | 49 | 55 | 0 | 2 | 1 | 7 | 0 | 2 | 1 | 7 |
| RES 92 C | | | 45 | 39 | 47 | 2 | 42 | 50 | 47 | 51 | 44 | 50 | 2 | 6 | 5 | 11 | -8 | -4 | -1 | 5 |
| RES 92 D | | | 51 | 42 | 53 | 2 | 38 | 44 | 52 | 52 | 44 | 46 | 1 | 1 | 2 | 4 | -3 | -3 | -1 | 1 |
| RES 93 A | 526 POHAKU ST | 38053032 | 45 | 39 | 45 | 0 | 36 | 42 | 46 | 47 | 41 | 44 | 1 | 2 | 2 | 5 | -9 | -8 | -4 | -1 |
| RES 93 B | | | 56 | 47 | 57 | 2 | 45 | 48 | 56 | 56 | 49 | 50 | 1 | 1 | 3 | 4 | 1 | 1 | 3 | 4 |
| RES 93 C | | | 45 | 39 | 45 | 0 | 37 | 42 | 46 | 47 | 41 | 44 | 1 | 2 | 2 | 5 | -9 | -8 | -4 | -1 |
| RES 93 D | | | 45 | 39 | 44 | -1 | 35 | 42 | 45 | 47 | 41 | 44 | 0 | 2 | 2 | 5 | -10 | -8 | -4 | -1 |
| RES 94 A | 310 HINA AVE | 38047022 | 66 | 57 | 68 | 2 | 25 | 33 | 66 | 66 | 57 | 57 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| RES 94 B | | | 59 | 50 | 61 | 2 | 39 | 42 | 59 | 59 | 50 | 51 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 94 C | | | 48 | 39 | 50 | 3 | 38 | 42 | 48 | 49 | 41 | 44 | 0 | 1 | 2 | 5 | -7 | -6 | -4 | -1 |
| RES 94 D | | | 59 | 50 | 61 | 2 | 38 | 44 | 59 | 59 | 50 | 51 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 95 A | 403 MOLOKAI HEMA ST | 38047016 | 46 | 39 | 49 | 3 | 39 | 45 | 47 | 49 | 42 | 46 | 1 | 3 | 3 | 7 | -8 | -6 | -3 | 1 |
| RES 95 B | | | 45 | 39 | 44 | -1 | 37 | 41 | 46 | 46 | 41 | 43 | 1 | 1 | 2 | 4 | -9 | -9 | -4 | -2 |
| RES 95 C | | | 45 | 39 | 46 | 1 | 38 | 46 | 46 | 48 | 42 | 46 | 1 | 3 | 3 | 7 | -9 | -7 | -3 | 1 |
| RES 95 D | | | 54 | 45 | 57 | 3 | 44 | 49 | 55 | 55 | 48 | 50 | 1 | 1 | 3 | 5 | 0 | 0 | 3 | 5 |
| RES 96 A | 320 HINA AVE | 38047001 | 65 | 56 | 67 | 2 | 25 | 31 | 65 | 65 | 56 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 96 B | | | 58 | 49 | 60 | 2 | 24 | 31 | 58 | 58 | 49 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 96 C | | | 45 | 39 | 46 | 1 | 30 | 38 | 45 | 46 | 39 | 41 | 0 | 1 | 0 | 2 | -10 | -9 | -6 | -4 |
| RES 96 D | | | 58 | 49 | 60 | 2 | 36 | 42 | 58 | 58 | 49 | 50 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 97 A | 366 NIIHAU ST | 38047006 | 45 | 39 | 43 | -2 | 40 | 44 | 46 | 47 | 43 | 45 | 1 | 2 | 4 | 6 | -9 | -8 | -2 | 0 |
| RES 97 B | | | 45 | 39 | 45 | 0 | 26 | 33 | 45 | 45 | 39 | 40 | 0 | 0 | 0 | 1 | -10 | -10 | -6 | -5 |
| RES 97 C | | | 45 | 39 | 43 | -2 | 29 | 39 | 45 | 46 | 39 | 42 | 0 | 1 | 0 | 3 | -10 | -9 | -6 | -3 |
| RES 97 D | | | 46 | 39 | 48 | 2 | 33 | 42 | 46 | 47 | 40 | 44 | 0 | 1 | 1 | 5 | -9 | -8 | -5 | -1 |
| Kahului Jodo Mission A | 325 LAAU ST | 38047011 | 45 | 39 | 48 | 3 | 41 | 46 | 47 | 49 | 43 | 47 | 2 | 4 | 4 | 8 | -8 | -6 | -2 | 2 |
| Kahului Jodo Mission B | | | 45 | 39 | 46 | 1 | 39 | 48 | 46 | 50 | 42 | 48 | 1 | 5 | 3 | 9 | -9 | -5 | -3 | 3 |
| Kahului Jodo Mission C | | | 51 | 42 | 53 | 2 | 40 | 50 | 51 | 53 | 44 | 50 | 0 | 2 | 2 | 8 | -4 | -2 | -1 | 5 |
| Kahului Jodo Mission D | | | 54 | 45 | 57 | 3 | 41 | 47 | 54 | 54 | 46 | 49 | 0 | 0 | 1 | 4 | -1 | -1 | 1 | 4 |
| Maui HS GYM | 660 LONO AVE | 38007098 | 48 | 39 | 50 | 2 | 46 | 52 | 50 | 53 | 47 | 52 | 2 | 5 | 8 | 13 | -5 | -2 | 2 | 7 |
| REC Kahalui Elem School | 410 HINA AVE | 38007041 | 47 | 39 | 49 | 2 | 50 | 51 | 52 | 52 | 50 | 51 | 5 | 5 | 11 | 12 | -3 | -3 | 5 | 6 |

| | | | CadnaA Construction Results | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Excavation | | | | | | | | | | | | | | Foundation | | | | | | | | | | | | | |
| Receptor | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| RES 1A | 504 Kaulana Street | 38056037 | 69 | 81 | 69 | 81 | 69 | 81 | 24 | 36 | 33 | 45 | 14 | 26 | 24 | 36 | 57 | 69 | 57 | 69 | 57 | 69 | 12 | 24 | 21 | 33 | 2 | 14 | 12 | 24 |
| RES 1B | | | 65 | 73 | 66 | 73 | 65 | 73 | 10 | 17 | 18 | 26 | 10 | 17 | 18 | 26 | 42 | 57 | 56 | 59 | 48 | 57 | 0 | 3 | 1 | 10 | 0 | 3 | 1 | 10 |
| RES 1C | | | 54 | 63 | 54 | 63 | 54 | 63 | 8 | 17 | 17 | 26 | -1 | 8 | 9 | 18 | 36 | 48 | 46 | 50 | 40 | 48 | 0 | 4 | 3 | 11 | -9 | -5 | -5 | 3 |
| RES 1D | | | 70 | 87 | 70 | 87 | 70 | 87 | 25 | 42 | 34 | 51 | 15 | 32 | 25 | 42 | 58 | 76 | 58 | 76 | 58 | 76 | 13 | 31 | 22 | 40 | 3 | 21 | 13 | 31 |
| RES 2A EG | 508 Kaulana Street | 38056038 | 51 | 61 | 52 | 62 | 51 | 61 | 6 | 16 | 14 | 24 | -3 | 7 | 6 | 16 | 36 | 47 | 47 | 50 | 40 | 48 | 1 | 4 | 3 | 11 | -8 | -5 | -5 | 3 |
| RES 2A 1.OG | | | 59 | 66 | 60 | 66 | 59 | 66 | 10 | 16 | 18 | 25 | 5 | 11 | 14 | 21 | 42 | 50 | 51 | 53 | 45 | 51 | 1 | 3 | 4 | 10 | -4 | -2 | 0 | 6 |
| RES 2B EG | | | 67 | 70 | 67 | 70 | 67 | 70 | 10 | 13 | 19 | 22 | 10 | 13 | 19 | 22 | 35 | 44 | 58 | 58 | 49 | 50 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 |
| RES 2B 1.OG | | | 68 | 71 | 68 | 71 | 68 | 71 | 10 | 13 | 19 | 22 | 10 | 13 | 19 | 22 | 37 | 49 | 58 | 59 | 49 | 52 | 0 | 1 | 0 | 3 | 0 | 1 | 0 | 3 |
| RES 2C EG | | | 53 | 61 | 54 | 61 | 53 | 61 | 6 | 13 | 14 | 22 | -1 | 6 | 8 | 16 | 34 | 42 | 48 | 49 | 40 | 44 | 0 | 1 | 1 | 5 | -7 | -6 | -5 | -1 |
| RES 2C 1.OG | | | 59 | 65 | 60 | 65 | 59 | 65 | 8 | 13 | 16 | 22 | 5 | 10 | 14 | 20 | 35 | 43 | 52 | 52 | 44 | 46 | 0 | 0 | 1 | 3 | -3 | -3 | -1 | 1 |
| RES 2D EG | | | 59 | 79 | 59 | 79 | 59 | 79 | 16 | 36 | 25 | 45 | 4 | 24 | 14 | 34 | 46 | 62 | 48 | 62 | 46 | 62 | 5 | 19 | 12 | 28 | -7 | 7 | 1 | 17 |
| RES 2D 1.OG | | | 63 | 79 | 63 | 79 | 63 | 79 | 15 | 31 | 24 | 40 | 8 | 24 | 18 | 34 | 50 | 63 | 52 | 63 | 50 | 63 | 4 | 15 | 11 | 24 | -3 | 8 | 5 | 18 |
| RES 3A | 516 Kaulana Street | 38056040 | 58 | 69 | 60 | 69 | 58 | 69 | 3 | 12 | 10 | 21 | 3 | 12 | 10 | 21 | 32 | 45 | 57 | 57 | 48 | 50 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| RES 3C | | | 53 | 59 | 53 | 59 | 53 | 59 | 8 | 14 | 17 | 23 | -2 | 4 | 8 | 14 | 30 | 38 | 46 | 46 | 37 | 40 | 1 | 1 | 1 | 4 | -9 | -9 | -8 | -5 |
| RES 3D | | | 54 | 69 | 54 | 69 | 54 | 69 | 10 | 25 | 19 | 34 | -1 | 14 | 9 | 24 | 36 | 43 | 45 | 46 | 39 | 43 | 1 | 2 | 4 | 8 | -10 | -9 | -6 | -2 |
| RES 3A | | | 52 | 59 | 53 | 59 | 52 | 59 | 5 | 11 | 13 | 20 | -2 | 4 | 7 | 14 | 32 | 39 | 48 | 48 | 40 | 42 | 0 | 0 | 1 | 3 | -7 | -7 | -5 | -3 |
| RES 4A | 526 Kaulana Street | 38056042 | 49 | 57 | 50 | 57 | 49 | 57 | 5 | 12 | 13 | 21 | -5 | 2 | 4 | 12 | 29 | 36 | 46 | 46 | 37 | 39 | 1 | 1 | 1 | 3 | -9 | -9 | -8 | -6 |
| RES 4B | | | 47 | 62 | 57 | 63 | 51 | 62 | 0 | 6 | 3 | 14 | 0 | 6 | 3 | 14 | 30 | 44 | 57 | 57 | 48 | 49 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 4C | | | 48 | 55 | 49 | 55 | 48 | 55 | 4 | 10 | 12 | 19 | -6 | 0 | 3 | 10 | 29 | 35 | 45 | 45 | 37 | 39 | 0 | 0 | 1 | 3 | -10 | -10 | -8 | -6 |
| RES 4D | | | 55 | 57 | 55 | 57 | 55 | 57 | 10 | 12 | 19 | 21 | 0 | 2 | 10 | 12 | 31 | 39 | 45 | 46 | 37 | 41 | 0 | 1 | 1 | 5 | -10 | -9 | -8 | -4 |
| RES 5A | 532 Kaulana Street | 38056043 | 48 | 53 | 50 | 54 | 48 | 53 | 4 | 8 | 11 | 16 | -5 | -1 | 3 | 8 | 28 | 34 | 46 | 46 | 37 | 39 | 0 | 0 | 0 | 2 | -9 | -9 | -8 | -6 |
| RES 5B | | | 45 | 63 | 57 | 63 | 49 | 63 | 1 | 7 | 2 | 16 | 1 | 7 | 2 | 16 | 28 | 49 | 57 | 57 | 48 | 51 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 4 |
| RES 5C | | | 47 | 53 | 50 | 54 | 47 | 53 | 4 | 8 | 10 | 16 | -5 | -1 | 2 | 8 | 27 | 34 | 46 | 46 | 38 | 39 | 0 | 0 | 1 | 2 | -9 | -9 | -7 | -6 |
| RES 5D | | | 43 | 55 | 47 | 55 | 44 | 55 | 2 | 10 | 8 | 19 | -8 | 0 | -1 | 10 | 29 | 38 | 45 | 46 | 37 | 40 | 0 | 1 | 1 | 4 | -10 | -9 | -8 | -5 |
| RES 6A | 540 Kaulana Street | 38056045 | 45 | 51 | 49 | 52 | 46 | 51 | 3 | 6 | 7 | 12 | -6 | -3 | 1 | 6 | 26 | 33 | 47 | 47 | 39 | 40 | 1 | 1 | 0 | 1 | -8 | -8 | -6 | -5 |
| RES 6B | | | 46 | 57 | 57 | 60 | 50 | 58 | 0 | 3 | 2 | 10 | 0 | 3 | 2 | 10 | 27 | 40 | 57 | 57 | 48 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 6C | | | 44 | 50 | 49 | 52 | 46 | 50 | 3 | 6 | 7 | 11 | -6 | -3 | 1 | 5 | 26 | 32 | 46 | 47 | 39 | 40 | 0 | 1 | 0 | 1 | -9 | -8 | -6 | -5 |
| RES 6D | | | 43 | 54 | 47 | 54 | 45 | 54 | 2 | 9 | 6 | 15 | -8 | -1 | 0 | 9 | 28 | 38 | 45 | 46 | 39 | 42 | 0 | 1 | 0 | 3 | -10 | -9 | -6 | -3 |
| RES 7A | 548 Kaulana Street | 38056047 | 41 | 46 | 47 | 49 | 43 | 47 | 2 | 4 | 4 | 8 | -8 | -6 | -2 | 2 | 25 | 31 | 45 | 45 | 39 | 40 | 0 | 0 | 0 | 1 | -10 | -10 | -6 | -5 |
| RES 7B | | | 51 | 58 | 58 | 61 | 53 | 59 | 1 | 4 | 5 | 11 | 1 | 4 | 5 | 11 | 32 | 47 | 57 | 57 | 48 | 50 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| RES 7C | | | 41 | 47 | 46 | 49 | 43 | 47 | 1 | 4 | 4 | 8 | -9 | -6 | -2 | 2 | 24 | 30 | 45 | 45 | 39 | 40 | 0 | 0 | 0 | 1 | -10 | -10 | -6 | -5 |
| RES 7D | | | 53 | 55 | 53 | 56 | 53 | 55 | 8 | 11 | 14 | 16 | -2 | 1 | 8 | 10 | 26 | 32 | 45 | 45 | 39 | 40 | 0 | 0 | 0 | 1 | -10 | -10 | -6 | -5 |
| RES 8A | 640 Molokai Akau Street | 38056049 | 39 | 45 | 46 | 48 | 42 | 46 | 1 | 3 | 3 | 7 | -9 | -7 | -3 | 1 | 23 | 30 | 45 | 45 | 39 | 39 | 0 | 0 | 0 | 0 | -10 | -10 | -6 | -6 |
| RES 8B | | | 53 | 59 | 59 | 61 | 54 | 59 | 1 | 3 | 5 | 10 | 1 | 3 | 5 | 10 | 35 | 46 | 58 | 58 | 49 | 51 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| RES 8C | | | 46 | 54 | 58 | 59 | 51 | 55 | 1 | 2 | 3 | 7 | 1 | 2 | 3 | 7 | 23 | 29 | 58 | 58 | 49 | 49 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| RES 8D | | | 36 | 45 | 49 | 50 | 41 | 46 | 0 | 1 | 1 | 6 | -6 | -5 | -4 | 1 | 25 | 34 | 49 | 49 | 40 | 41 | 0 | 0 | 0 | 1 | -6 | -6 | -5 | -4 |
| RES 9A | 503 KAIMANA ST | 38056062 | 71 | 82 | 71 | 82 | 71 | 82 | 17 | 28 | 27 | 38 | 16 | 27 | 26 | 37 | 59 | 70 | 60 | 70 | 59 | 70 | 6 | 16 | 15 | 26 | 5 | 15 | 14 | 25 |
| RES 9B | | | 70 | 85 | 70 | 85 | 70 | 85 | 19 | 34 | 29 | 44 | 15 | 30 | 25 | 40 | 58 | 73 | 59 | 73 | 58 | 73 | 8 | 22 | 17 | 32 | 4 | 18 | 13 | 28 |
| RES 9C | | | 60 | 62 | 60 | 62 | 60 | 62 | 11 | 13 | 21 | 23 | 5 | 7 | 15 | 17 | 36 | 46 | 49 | 51 | 41 | 47 | 0 | 2 | 2 | 8 | -6 | -4 | -4 | 2 |
| RES 9D | | | 53 | 69 | 61 | 70 | 54 | 69 | 1 | 10 | 4 | 19 | 1 | 10 | 4 | 19 | 40 | 53 | 60 | 61 | 50 | 55 | 0 | 1 | 0 | 5 | 0 | 1 | 0 | 5 |
| RES 10A | 511 KAIMANA ST | 38056060 | 51 | 58 | 53 | 59 | 52 | 58 | 4 | 10 | 13 | 19 | -2 | 4 | 7 | 13 | 34 | 41 | 49 | 50 | 40 | 43 | 0 | 1 | 1 | 4 | -6 | -5 | -5 | -2 |
| RES 10B | | | 59 | 72 | 59 | 72 | 59 | 72 | 9 | 22 | 19 | 32 | 4 | 17 | 14 | 27 | 45 | 44 | 51 | 51 | 46 | 45 | 1 | 1 | 6 | 5 | -4 | -4 | 1 | 0 |
| RES 10C | | | 52 | 58 | 54 | 59 | 53 | 58 | 5 | 10 | 14 | 19 | -1 | 4 | 8 | 13 | 32 | 40 | 49 | 50 | 40 | 42 | 0 | 1 | 1 | 3 | -6 | -5 | -5 | -3 |
| RES 10D | | | 63 | 59 | 64 | 61 | 63 | 59 | 6 | 3 | 15 | 11 | 6 | 3 | 15 | 11 | 32 | 42 | 58 | 58 | 48 | 49 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 11A | 523 KAIMANA ST | 38056058 | 49 | 57 | 52 | 57 | 49 | 57 | 2 | 7 | 9 | 17 | -3 | 2 | 4 | 12 | 30 | 37 | 50 | 50 | 40 | 42 | 0 | 0 | 0 | 2 | -5 | -5 | -5 | -3 |
| RES 11B | | | 55 | 57 | 57 | 58 | 56 | 57 | 5 | 6 | 14 | 15 | 2 | 3 | 11 | 12 | 35 | 39 | 52 | 52 | 42 | 44 | 0 | 0 | 0 | 2 | -3 | -3 | -3 | -1 |
| RES 11C | | | 47 | 55 | 52 | 56 | 48 | 55 | 2 | 6 | 8 | 15 | -3 | 1 | 3 | 10 | 29 | 36 | 51 | 51 | 41 | 42 | 1 | 1 | 1 | 2 | -4 | -4 | -4 | -3 |
| RES 11D | | | 52 | 65 | 59 | 66 | 54 | 65 | 1 | 8 | 6 | 17 | 1 | 8 | 6 | 17 | 30 | 39 | 58 | 58 | 48 | 49 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 12A | 531 KAIMANA ST | 38056056 | 51 | 54 | 53 | 55 | 51 | 54 | 4 | 6 | 12 | 15 | -2 | 0 | 6 | 9 | 37 | 41 | 50 | 50 | 41 | 43 | 1 | 1 | 2 | 4 | -5 | -5 | -4 | -2 |
| RES 12B | | | 52 | 57 | 54 | 58 | 52 | 57 | 4 | 8 | 12 | 17 | -1 | 3 | 7 | 12 | 35 | 40 | 50 | 50 | 41 | 43 | 0 | 0 | 1 | 3 | -5 | -5 | -4 | -2 |
| RES 12C | | | 43 | 49 | 50 | 52 | 45 | 50 | 1 | 3 | 6 | 11 | -5 | -3 | 0 | 5 | 27 | 34 | 49 | 49 | 40 | 40 | 0 | 0 | 1 | 1 | -6 | -6 | -5 | -5 |
| RES 12D | | | 39 | 54 | 58 | 60 | 49 | 55 | 0 | 2 | 1 | 7 | 0 | 2 | 1 | 7 | 27 | 39 | 58 | 58 | 48 | 49 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 13A | 541 KAIMANA ST | 38056054 | 41 | 47 | 48 | 50 | 43 | 47 | 1 | 3 | 4 | 8 | -7 | -5 | -2 | 2 | 26 | 32 | 47 | 47 | 39 | 40 | 0 | 0 | 0 | 1 | -8 | -8 | -6 | -5 |
| RES 13B | | | 51 | 52 | 52 | 54 | 51 | 52 | 4 | 6 | 12 | 13 | -3 | -1 | 6 | 7 | 30 | 35 | 48 | 48 | 40 | 40 | 0 | 0 | 1 | 1 | -7 | -7 | -5 | -5 |
| RES 13C | | | 42 | 48 | 49 | 51 | 44 | 48 | 1 | 3 | 5 | 9 | -6 | -4 | -1 | 3 | 25 | 31 | 48 | 48 | 39 | 40 | 0 | 0 | 0 | 1 | -7 | -7 | -6 | -5 |
| RES 13D | | | 38 | 56 | 58 | 60 | 49 | 56 | 0 | 2 | 1 | 8 | 0 | 2 | 1 | 8 | 26 | 36 | 58 | 58 | 48 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | CadnaA Construction Results | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Excavation | | | | | | | | | | | | | | Foundation | | | | | | | | | | | | | |
| Receptor | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| RES 14A | 549 KAIMANA ST | 38056052 | 39 | 45 | 47 | 49 | 42 | 46 | 1 | 3 | 3 | 7 | -8 | -6 | -3 | 1 | 24 | 31 | 46 | 46 | 39 | 40 | 0 | 0 | 0 | 1 | -9 | -9 | -6 | -5 |
| RES 14B | | | 53 | 56 | 54 | 57 | 53 | 56 | 6 | 9 | 14 | 17 | -1 | 2 | 8 | 11 | 24 | 36 | 48 | 48 | 39 | 41 | 0 | 0 | 0 | 2 | -7 | -7 | -6 | -4 |
| RES 14C | | | 41 | 46 | 49 | 50 | 43 | 47 | 1 | 2 | 4 | 8 | -6 | -5 | -2 | 2 | 24 | 30 | 48 | 48 | 39 | 40 | 0 | 0 | 0 | 1 | -7 | -7 | -6 | -5 |
| RES 14D | | | 36 | 52 | 59 | 60 | 49 | 54 | 0 | 1 | 0 | 5 | 0 | 1 | 0 | 5 | 24 | 34 | 59 | 59 | 49 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 15A | 648 MOLOKAI AKAU ST | 38056050 | 38 | 44 | 47 | 48 | 42 | 45 | 0 | 1 | 3 | 6 | -8 | -7 | -3 | 0 | 23 | 29 | 47 | 47 | 39 | 39 | 0 | 0 | 0 | 0 | -8 | -8 | -6 | -6 |
| RES 15B | | | 49 | 50 | 54 | 55 | 50 | 50 | 1 | 2 | 7 | 7 | -1 | 0 | 5 | 5 | 26 | 31 | 53 | 53 | 43 | 43 | 0 | 0 | 0 | 0 | -2 | -2 | -2 | -2 |
| RES 15C | | | 48 | 50 | 60 | 61 | 52 | 53 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 22 | 29 | 60 | 60 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 15D | | | 35 | 42 | 60 | 60 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 31 | 60 | 60 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 16A | 473 KAULANA ST | 38056036 | 65 | 68 | 65 | 68 | 65 | 68 | 9 | 12 | 18 | 21 | 9 | 12 | 18 | 21 | 36 | 55 | 56 | 59 | 48 | 55 | 0 | 3 | 1 | 8 | 0 | 3 | 1 | 8 |
| RES 16B | | | 51 | 57 | 56 | 59 | 52 | 57 | 2 | 5 | 7 | 12 | 1 | 4 | 7 | 12 | 34 | 40 | 54 | 54 | 45 | 46 | 0 | 0 | 0 | 1 | -1 | -1 | 0 | 1 |
| RES 16C | | | 54 | 59 | 54 | 59 | 54 | 59 | 9 | 14 | 15 | 20 | -1 | 4 | 9 | 14 | 40 | 46 | 46 | 49 | 43 | 47 | 1 | 4 | 4 | 8 | -9 | -6 | -2 | 2 |
| RES 16D | | | 70 | 77 | 71 | 77 | 70 | 77 | 17 | 23 | 25 | 32 | 16 | 22 | 25 | 32 | 59 | 66 | 61 | 66 | 60 | 66 | 7 | 12 | 15 | 21 | 6 | 11 | 15 | 21 |
| RES 17A | 483 KAULANA ST | 38056034 | 56 | 66 | 56 | 66 | 56 | 66 | 11 | 21 | 17 | 27 | 1 | 11 | 11 | 21 | 43 | 48 | 47 | 50 | 44 | 49 | 2 | 5 | 5 | 10 | -8 | -5 | -1 | 4 |
| RES 17B | | | 51 | 57 | 53 | 58 | 51 | 57 | 4 | 9 | 11 | 17 | -2 | 3 | 6 | 12 | 36 | 42 | 49 | 50 | 42 | 44 | 0 | 1 | 2 | 4 | -6 | -5 | -3 | -1 |
| RES 17C | | | 72 | 78 | 72 | 78 | 72 | 78 | 27 | 33 | 33 | 39 | 17 | 23 | 27 | 33 | 61 | 59 | 61 | 59 | 61 | 59 | 16 | 14 | 22 | 20 | 6 | 4 | 16 | 14 |
| RES 17D | | | 74 | 81 | 74 | 81 | 74 | 81 | 20 | 27 | 29 | 36 | 19 | 26 | 29 | 36 | 63 | 70 | 63 | 70 | 63 | 70 | 9 | 16 | 18 | 25 | 8 | 15 | 18 | 25 |
| RES 18A | 495 KAULANA ST | 38056032 | 71 | 77 | 71 | 77 | 71 | 77 | 24 | 30 | 32 | 38 | 16 | 22 | 26 | 32 | 60 | 57 | 61 | 57 | 60 | 57 | 14 | 10 | 21 | 18 | 6 | 2 | 15 | 12 |
| RES 18B | | | 54 | 60 | 56 | 60 | 54 | 60 | 5 | 9 | 12 | 18 | 1 | 5 | 9 | 15 | 36 | 42 | 51 | 51 | 43 | 45 | 0 | 0 | 1 | 3 | -4 | -4 | -2 | 0 |
| RES 18C | | | 69 | 76 | 69 | 76 | 69 | 76 | 19 | 26 | 28 | 35 | 14 | 21 | 24 | 31 | 44 | 60 | 51 | 60 | 45 | 60 | 1 | 10 | 4 | 19 | -4 | 5 | 0 | 15 |
| RES 18D | | | 73 | 79 | 73 | 79 | 73 | 79 | 19 | 25 | 28 | 34 | 18 | 24 | 28 | 34 | 62 | 68 | 62 | 68 | 62 | 68 | 8 | 14 | 17 | 23 | 7 | 13 | 17 | 23 |
| RES 19A | 503 KAULANA ST | 38056030 | 52 | 68 | 53 | 68 | 52 | 68 | 5 | 20 | 13 | 29 | -2 | 13 | 7 | 23 | 39 | 56 | 48 | 56 | 42 | 56 | 0 | 8 | 3 | 17 | -7 | 1 | -3 | 11 |
| RES 19B | | | 54 | 60 | 56 | 60 | 54 | 60 | 6 | 10 | 13 | 19 | 1 | 5 | 9 | 15 | 34 | 40 | 50 | 51 | 42 | 44 | 0 | 1 | 1 | 3 | -5 | -4 | -3 | -1 |
| RES 19C | | | 51 | 66 | 52 | 66 | 51 | 66 | 7 | 21 | 12 | 27 | -3 | 11 | 6 | 21 | 36 | 41 | 46 | 47 | 41 | 43 | 1 | 2 | 2 | 4 | -9 | -8 | -4 | -2 |
| RES 19D | | | 69 | 77 | 69 | 77 | 69 | 77 | 13 | 21 | 22 | 30 | 13 | 21 | 22 | 30 | 58 | 65 | 60 | 65 | 58 | 65 | 4 | 9 | 11 | 18 | 4 | 9 | 11 | 18 |
| RES 20A | 511 KAULANA ST | 38056028 | 48 | 56 | 50 | 56 | 49 | 56 | 5 | 11 | 10 | 17 | -5 | 1 | 4 | 11 | 34 | 39 | 46 | 46 | 40 | 42 | 1 | 1 | 1 | 3 | -9 | -9 | -5 | -3 |
| RES 20B | | | 51 | 57 | 53 | 57 | 51 | 57 | 5 | 9 | 12 | 18 | -2 | 2 | 6 | 12 | 31 | 38 | 49 | 49 | 40 | 42 | 1 | 1 | 1 | 3 | -6 | -6 | -5 | -3 |
| RES 20C | | | 50 | 57 | 52 | 57 | 50 | 57 | 5 | 10 | 11 | 18 | -3 | 2 | 5 | 12 | 33 | 38 | 47 | 48 | 40 | 42 | 0 | 1 | 1 | 3 | -8 | -7 | -5 | -3 |
| RES 20D | | | 64 | 64 | 65 | 64 | 64 | 64 | 11 | 10 | 19 | 19 | 10 | 9 | 19 | 19 | 53 | 48 | 57 | 55 | 54 | 50 | 3 | 1 | 9 | 5 | 2 | 0 | 9 | 5 |
| RES 21A | 521 KAULANA ST | 38056026 | 48 | 55 | 51 | 56 | 49 | 55 | 2 | 7 | 9 | 15 | -4 | 1 | 4 | 10 | 29 | 37 | 49 | 49 | 40 | 42 | 0 | 0 | 0 | 2 | -6 | -6 | -5 | -3 |
| RES 21B | | | 53 | 57 | 55 | 58 | 53 | 57 | 3 | 6 | 10 | 14 | 0 | 3 | 8 | 12 | 29 | 35 | 52 | 52 | 43 | 43 | 0 | 0 | 0 | 0 | -3 | -3 | -2 | -2 |
| RES 21C | | | 49 | 54 | 51 | 55 | 49 | 54 | 4 | 8 | 10 | 15 | -4 | 0 | 4 | 9 | 28 | 36 | 47 | 47 | 39 | 41 | 0 | 0 | 0 | 2 | -8 | -8 | -6 | -4 |
| RES 21D | | | 64 | 66 | 64 | 67 | 64 | 66 | 9 | 12 | 18 | 20 | 9 | 12 | 18 | 20 | 42 | 54 | 55 | 57 | 47 | 54 | 0 | 2 | 1 | 8 | 0 | 2 | 1 | 8 |
| RES 22A | 533 KAULANA ST | 38056024 | 46 | 53 | 50 | 54 | 47 | 53 | 3 | 7 | 8 | 14 | -5 | -1 | 2 | 8 | 27 | 34 | 47 | 48 | 39 | 40 | 0 | 1 | 0 | 1 | -8 | -7 | -6 | -5 |
| RES 22B | | | 43 | 56 | 53 | 57 | 46 | 56 | 1 | 5 | 3 | 13 | -2 | 2 | 1 | 11 | 26 | 33 | 52 | 52 | 43 | 44 | 0 | 0 | 0 | 1 | -3 | -3 | -2 | -1 |
| RES 22C | | | 46 | 53 | 50 | 54 | 47 | 53 | 3 | 7 | 8 | 14 | -5 | -1 | 2 | 8 | 26 | 33 | 47 | 47 | 39 | 40 | 0 | 0 | 0 | 1 | -8 | -8 | -6 | -5 |
| RES 22D | | | 56 | 63 | 59 | 64 | 57 | 63 | 4 | 9 | 11 | 17 | 4 | 9 | 11 | 17 | 41 | 51 | 55 | 57 | 47 | 52 | 0 | 2 | 1 | 6 | 0 | 2 | 1 | 6 |
| RES 23A | 543 KAULANA ST | 38056022 | 44 | 53 | 48 | 53 | 45 | 53 | 2 | 7 | 6 | 14 | -7 | -2 | 0 | 8 | 25 | 32 | 46 | 46 | 39 | 40 | 0 | 0 | 0 | 1 | -9 | -9 | -6 | -5 |
| RES 23B | | | 38 | 55 | 50 | 56 | 42 | 55 | 1 | 7 | 2 | 15 | -5 | 1 | -3 | 10 | 25 | 31 | 49 | 49 | 41 | 41 | 0 | 0 | 1 | 1 | -6 | -6 | -4 | -4 |
| RES 23C | | | 43 | 51 | 50 | 53 | 45 | 52 | 1 | 4 | 5 | 12 | -5 | -2 | 0 | 7 | 25 | 31 | 49 | 49 | 40 | 41 | 0 | 0 | 0 | 1 | -6 | -6 | -5 | -4 |
| RES 23D | | | 41 | 56 | 55 | 58 | 47 | 56 | 0 | 3 | 1 | 10 | 0 | 3 | 1 | 10 | 25 | 40 | 55 | 55 | 46 | 47 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 24A | 557 KAULANA ST | 38056019 | 42 | 51 | 49 | 53 | 44 | 52 | 1 | 5 | 5 | 13 | -6 | -2 | -1 | 7 | 23 | 30 | 48 | 48 | 39 | 40 | 0 | 0 | 0 | 1 | -7 | -7 | -6 | -5 |
| RES 24B | | | 53 | 52 | 54 | 54 | 53 | 52 | 5 | 5 | 13 | 12 | -1 | -1 | 8 | 7 | 23 | 29 | 49 | 49 | 40 | 41 | 0 | 0 | 0 | 1 | -6 | -6 | -5 | -4 |
| RES 24C | | | 47 | 54 | 58 | 59 | 51 | 55 | 0 | 1 | 2 | 6 | 0 | 1 | 2 | 6 | 22 | 29 | 58 | 58 | 49 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 24D | | | 53 | 60 | 58 | 61 | 54 | 60 | 2 | 5 | 7 | 13 | 2 | 5 | 7 | 13 | 40 | 47 | 56 | 57 | 48 | 50 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 |
| RES 25A | 252 LAAU ST | 38056001 | 61 | 67 | 63 | 68 | 61 | 67 | 4 | 9 | 11 | 17 | 4 | 9 | 11 | 17 | 32 | 47 | 59 | 60 | 50 | 52 | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 2 |
| RES 25B | | | 46 | 62 | 66 | 67 | 57 | 63 | 0 | 1 | 0 | 6 | 0 | 1 | 0 | 6 | 31 | 37 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 25C | | | 53 | 56 | 56 | 58 | 54 | 56 | 2 | 4 | 9 | 11 | 1 | 3 | 9 | 11 | 34 | 39 | 54 | 54 | 45 | 46 | 0 | 0 | 0 | 1 | -1 | -1 | 0 | 1 |
| RES 25D | | | 51 | 58 | 53 | 58 | 51 | 58 | 3 | 8 | 10 | 17 | -2 | 3 | 6 | 13 | 35 | 41 | 50 | 50 | 42 | 44 | 0 | 0 | 1 | 3 | -5 | -5 | -3 | -1 |
| RES 26A | 482 S KAMEHAMEHA AVE | 38056003 | 51 | 56 | 53 | 57 | 51 | 56 | 5 | 9 | 12 | 17 | -2 | 2 | 6 | 11 | 35 | 41 | 49 | 49 | 41 | 43 | 1 | 1 | 2 | 4 | -6 | -6 | -4 | -2 |
| RES 26B | | | 54 | 57 | 66 | 66 | 59 | 60 | 0 | 0 | 2 | 3 | 0 | 0 | 2 | 3 | 33 | 38 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 26C | | | 48 | 57 | 55 | 59 | 50 | 57 | 1 | 5 | 5 | 12 | 0 | 4 | 5 | 12 | 35 | 41 | 54 | 54 | 46 | 47 | 0 | 0 | 1 | 2 | -1 | -1 | 1 | 2 |
| RES 26D | | | 50 | 56 | 51 | 56 | 50 | 56 | 4 | 9 | 11 | 17 | -4 | 1 | 5 | 11 | 36 | 42 | 47 | 48 | 41 | 44 | 0 | 1 | 2 | 5 | -8 | -7 | -4 | -1 |
| RES 27A | 492 S KAMEHAMEHA AVE | 38056005 | 56 | 61 | 58 | 62 | 57 | 61 | 5 | 9 | 13 | 17 | 3 | 7 | 12 | 16 | 45 | 49 | 53 | 54 | 47 | 50 | 0 | 1 | 3 | 6 | -2 | -1 | 2 | 5 |
| RES 27B | | | 51 | 57 | 67 | 68 | 59 | 61 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 | 32 | 38 | 67 | 67 | 58 | 58 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 27C | | | 52 | 59 | 55 | 59 | 52 | 59 | 3 | 7 | 9 | 16 | 0 | 4 | 7 | 14 | 34 | 43 | 52 | 53 | 44 | 46 | 0 | 1 | 1 | 3 | -3 | -2 | -1 | 1 |
| RES 27D | | | 50 | 57 | 52 | 57 | 51 | 57 | 6 | 11 | 12 | 18 | -3 | 2 | 6 | 12 | 36 | 42 | 47 | 48 | 41 | 44 | 1 | 2 | 2 | 5 | -8 | -7 | -4 | -1 |

| | | | CadnaA Construction Results | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Excavation | | | | | | | | | | | | | | Foundation | | | | | | | | | | | | | |
| Receptor | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| RES 28A | 500 S KAMEHAMEHA AVE | 38056007 | 51 | 60 | 56 | 61 | 52 | 60 | 2 | 7 | 7 | 15 | 1 | 6 | 7 | 15 | 34 | 46 | 54 | 54 | 45 | 48 | 0 | 0 | 0 | 3 | -1 | -1 | 0 | 3 |
| RES 28B | | | 52 | 57 | 67 | 68 | 59 | 61 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 | 31 | 37 | 67 | 67 | 58 | 58 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 28C | | | 54 | 59 | 58 | 60 | 55 | 59 | 3 | 5 | 9 | 13 | 3 | 5 | 9 | 13 | 31 | 37 | 55 | 55 | 46 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 28D | | | 56 | 62 | 56 | 62 | 56 | 62 | 11 | 17 | 17 | 23 | 1 | 7 | 11 | 17 | 37 | 42 | 46 | 47 | 41 | 44 | 1 | 2 | 2 | 5 | -9 | -8 | -4 | -1 |
| RES 29A EG | 508 S KAMEHAMEHA AVE | 38056009 | 49 | 58 | 57 | 60 | 51 | 59 | 1 | 4 | 4 | 12 | 1 | 4 | 4 | 12 | 31 | 38 | 56 | 56 | 47 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 29A 1.OG | | | 55 | 61 | 60 | 63 | 56 | 61 | 2 | 5 | 7 | 12 | 2 | 5 | 7 | 12 | 39 | 44 | 59 | 59 | 50 | 51 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 |
| RES 29B EG | | | 52 | 59 | 68 | 68 | 59 | 62 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 29 | 36 | 68 | 68 | 59 | 59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 29B 1.OG | | | 43 | 51 | 69 | 69 | 60 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 35 | 69 | 69 | 60 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 29C EG | | | 53 | 57 | 60 | 61 | 54 | 58 | 2 | 3 | 5 | 9 | 2 | 3 | 5 | 9 | 29 | 36 | 59 | 59 | 50 | 50 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| RES 29C 1.OG | | | 54 | 60 | 62 | 64 | 56 | 61 | 1 | 3 | 4 | 9 | 1 | 3 | 4 | 9 | 29 | 36 | 61 | 61 | 52 | 52 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 29D EG | | | 55 | 59 | 55 | 59 | 55 | 59 | 9 | 13 | 16 | 20 | 0 | 4 | 10 | 14 | 35 | 40 | 47 | 47 | 40 | 43 | 1 | 1 | 1 | 4 | -8 | -8 | -5 | -2 |
| RES 29D 1.OG | | | 60 | 63 | 60 | 63 | 60 | 63 | 10 | 13 | 19 | 22 | 5 | 8 | 15 | 18 | 41 | 45 | 51 | 52 | 44 | 47 | 1 | 2 | 3 | 6 | -4 | -3 | -1 | 2 |
| RES 30A | 516 S KAMEHAMEHA AVE | 38056011 | 45 | 53 | 56 | 58 | 49 | 54 | 1 | 3 | 3 | 8 | 1 | 3 | 3 | 8 | 28 | 35 | 56 | 56 | 47 | 47 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| RES 30B | | | 43 | 59 | 67 | 68 | 58 | 62 | 0 | 1 | 0 | 4 | 0 | 1 | 0 | 4 | 28 | 34 | 67 | 67 | 58 | 58 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 30C | | | 49 | 56 | 59 | 60 | 52 | 57 | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 8 | 28 | 34 | 58 | 58 | 49 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 30D | | | 54 | 58 | 55 | 58 | 54 | 58 | 6 | 9 | 14 | 18 | 0 | 3 | 9 | 13 | 33 | 39 | 49 | 50 | 41 | 43 | 0 | 1 | 1 | 3 | -6 | -5 | -4 | -2 |
| RES 31A | 526 S KAMEHAMEHA AVE | 38056013 | 45 | 55 | 58 | 59 | 50 | 56 | 1 | 2 | 2 | 8 | 1 | 2 | 2 | 8 | 27 | 33 | 57 | 57 | 48 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 31B | | | 53 | 54 | 69 | 69 | 60 | 61 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 26 | 32 | 69 | 69 | 60 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 31C | | | 46 | 53 | 58 | 59 | 51 | 54 | 0 | 1 | 2 | 5 | 0 | 1 | 2 | 5 | 26 | 32 | 58 | 58 | 49 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 31D | | | 49 | 57 | 51 | 57 | 49 | 57 | 3 | 9 | 10 | 18 | -4 | 2 | 4 | 12 | 38 | 40 | 48 | 49 | 41 | 43 | 0 | 1 | 2 | 4 | -7 | -6 | -4 | -2 |
| RES 32A | 534 S KAMEHAMEHA AVE | 38056015 | 43 | 51 | 56 | 57 | 48 | 52 | 0 | 1 | 1 | 5 | 0 | 1 | 1 | 5 | 25 | 32 | 56 | 56 | 47 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 32B | | | 54 | 54 | 69 | 69 | 60 | 61 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 25 | 31 | 69 | 69 | 60 | 60 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| RES 32C | | | 43 | 50 | 57 | 58 | 49 | 52 | 0 | 1 | 1 | 4 | 0 | 1 | 1 | 4 | 24 | 31 | 57 | 57 | 48 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 32D | | | 54 | 57 | 55 | 58 | 54 | 57 | 8 | 11 | 15 | 18 | 0 | 3 | 9 | 12 | 37 | 41 | 48 | 48 | 41 | 43 | 1 | 1 | 2 | 4 | -7 | -7 | -4 | -2 |
| RES 33A | 548 S KAMEHAMEHA AVE | 38056018 | 41 | 49 | 59 | 59 | 50 | 52 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 23 | 29 | 59 | 59 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 33B | | | 41 | 53 | 69 | 69 | 60 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 29 | 69 | 69 | 60 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 33C | | | 44 | 51 | 63 | 64 | 55 | 56 | 0 | 1 | 1 | 2 | 0 | 1 | 1 | 2 | 22 | 28 | 63 | 63 | 54 | 54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 33D | | | 51 | 50 | 55 | 54 | 51 | 51 | 3 | 2 | 8 | 8 | 0 | -1 | 6 | 6 | 40 | 35 | 52 | 52 | 45 | 44 | 0 | 0 | 2 | 1 | -3 | -3 | 0 | -1 |
| RES 34A | 504 KAIMANA ST | 38056063 | 66 | 73 | 67 | 73 | 66 | 73 | 7 | 13 | 16 | 23 | 7 | 13 | 16 | 23 | 55 | 62 | 62 | 64 | 56 | 62 | 2 | 4 | 6 | 12 | 2 | 4 | 6 | 12 |
| RES 34B | | | 68 | 73 | 68 | 73 | 68 | 73 | 10 | 15 | 20 | 25 | 10 | 15 | 20 | 25 | 56 | 59 | 60 | 62 | 56 | 60 | 2 | 4 | 8 | 12 | 2 | 4 | 8 | 12 |
| RES 34C | | | 50 | 57 | 52 | 57 | 50 | 57 | 4 | 9 | 11 | 18 | -3 | 2 | 5 | 12 | 34 | 40 | 48 | 49 | 40 | 43 | 0 | 1 | 1 | 4 | -7 | -6 | -5 | -2 |
| RES 34D | | | 64 | 58 | 64 | 59 | 64 | 58 | 12 | 7 | 22 | 16 | 9 | 4 | 19 | 13 | 34 | 41 | 53 | 53 | 43 | 45 | 1 | 1 | 1 | 3 | -2 | -2 | -2 | 0 |
| RES 35A EG | 516 KAIMANA ST | 38056066 | 49 | 54 | 51 | 55 | 49 | 55 | 3 | 7 | 10 | 16 | -4 | 0 | 4 | 10 | 29 | 37 | 48 | 48 | 39 | 41 | 0 | 0 | 0 | 2 | -7 | -7 | -6 | -4 |
| RES 35A 1.OG | | | 57 | 61 | 58 | 61 | 57 | 61 | 7 | 10 | 16 | 20 | 3 | 6 | 12 | 16 | 36 | 42 | 52 | 52 | 43 | 45 | 1 | 1 | 2 | 4 | -3 | -3 | -2 | 0 |
| RES 35B EG | | | 56 | 67 | 61 | 67 | 57 | 67 | 2 | 8 | 8 | 18 | 2 | 8 | 8 | 18 | 40 | 54 | 59 | 60 | 49 | 55 | 0 | 1 | 0 | 6 | 0 | 1 | 0 | 6 |
| RES 35B 1.OG | | | 60 | 68 | 63 | 68 | 61 | 68 | 3 | 8 | 11 | 18 | 3 | 8 | 11 | 18 | 43 | 55 | 60 | 61 | 51 | 56 | 0 | 1 | 1 | 6 | 0 | 1 | 1 | 6 |
| RES 35C EG | | | 48 | 55 | 52 | 56 | 49 | 55 | 3 | 7 | 10 | 16 | -3 | 1 | 4 | 10 | 29 | 36 | 49 | 50 | 40 | 41 | 0 | 1 | 1 | 2 | -6 | -5 | -5 | -4 |
| RES 35C 1.OG | | | 54 | 60 | 56 | 61 | 54 | 60 | 3 | 8 | 11 | 17 | 1 | 6 | 9 | 15 | 29 | 36 | 53 | 53 | 43 | 44 | 0 | 0 | 0 | 1 | -2 | -2 | -2 | -1 |
| RES 35D EG | | | 52 | 56 | 54 | 56 | 53 | 56 | 7 | 9 | 14 | 17 | -1 | 1 | 8 | 11 | 29 | 36 | 47 | 47 | 39 | 41 | 0 | 0 | 0 | 2 | -8 | -8 | -6 | -4 |
| RES 35D 1.OG | | | 58 | 60 | 59 | 61 | 58 | 60 | 7 | 9 | 16 | 18 | 4 | 6 | 13 | 15 | 30 | 36 | 52 | 52 | 42 | 43 | 0 | 0 | 0 | 1 | -3 | -3 | -3 | -2 |
| RES 36A | 524 KAIMANA ST | 38056068 | 49 | 53 | 52 | 54 | 50 | 53 | 3 | 5 | 11 | 14 | -3 | -1 | 5 | 8 | 28 | 35 | 49 | 49 | 39 | 41 | 0 | 0 | 0 | 2 | -6 | -6 | -6 | -4 |
| RES 36B | | | 54 | 61 | 59 | 63 | 55 | 61 | 1 | 5 | 7 | 13 | 1 | 5 | 7 | 13 | 38 | 47 | 58 | 58 | 48 | 51 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 |
| RES 36C | | | 44 | 52 | 51 | 54 | 45 | 52 | 1 | 4 | 5 | 12 | -4 | -1 | 0 | 7 | 27 | 34 | 50 | 50 | 40 | 41 | 0 | 0 | 0 | 1 | -5 | -5 | -5 | -4 |
| RES 36D | | | 54 | 58 | 55 | 58 | 54 | 58 | 10 | 13 | 15 | 19 | 0 | 3 | 9 | 13 | 27 | 34 | 45 | 46 | 39 | 40 | 0 | 1 | 0 | 1 | -10 | -9 | -6 | -5 |
| RES 37A | 532 KAIMANA ST | 38056070 | 41 | 53 | 48 | 54 | 43 | 54 | 1 | 7 | 4 | 15 | -7 | -1 | -2 | 9 | 26 | 32 | 47 | 47 | 39 | 40 | 0 | 0 | 0 | 1 | -8 | -8 | -6 | -5 |
| RES 37B | | | 52 | 61 | 60 | 63 | 54 | 61 | 1 | 4 | 5 | 12 | 1 | 4 | 5 | 12 | 36 | 49 | 59 | 59 | 49 | 52 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 |
| RES 37C | | | 47 | 53 | 51 | 55 | 48 | 54 | 2 | 6 | 9 | 15 | -4 | 0 | 3 | 9 | 25 | 32 | 49 | 49 | 39 | 40 | 0 | 0 | 0 | 1 | -6 | -6 | -6 | -5 |
| RES 37D | | | 36 | 53 | 48 | 54 | 41 | 53 | 0 | 6 | 2 | 14 | -7 | -1 | -4 | 8 | 25 | 32 | 48 | 48 | 39 | 40 | 0 | 0 | 0 | 1 | -7 | -7 | -6 | -5 |
| RES 38A | 544 KAIMANA ST | 38056072 | 41 | 47 | 49 | 51 | 43 | 48 | 1 | 3 | 4 | 9 | -6 | -4 | -2 | 3 | 24 | 31 | 48 | 48 | 39 | 40 | 0 | 0 | 0 | 1 | -7 | -7 | -6 | -5 |
| RES 38B | | | 51 | 57 | 59 | 61 | 53 | 57 | 1 | 3 | 5 | 9 | 1 | 3 | 5 | 9 | 36 | 44 | 59 | 59 | 49 | 50 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 |
| RES 38C | | | 42 | 49 | 51 | 52 | 44 | 49 | 1 | 2 | 4 | 9 | -4 | -3 | -1 | 4 | 24 | 30 | 50 | 50 | 40 | 40 | 0 | 0 | 0 | 0 | -5 | -5 | -5 | -5 |
| RES 38D | | | 48 | 54 | 50 | 55 | 48 | 54 | 4 | 9 | 9 | 15 | -5 | 0 | 3 | 9 | 24 | 30 | 46 | 46 | 39 | 40 | 0 | 0 | 0 | 1 | -9 | -9 | -6 | -5 |
| RES 39A | 670 MOLOKAI AKAU ST | 38056075 | 39 | 49 | 49 | 52 | 42 | 50 | 0 | 3 | 3 | 11 | -6 | -3 | -3 | 5 | 22 | 29 | 49 | 49 | 39 | 39 | 0 | 0 | 0 | 0 | -6 | -6 | -6 | -6 |
| RES 39B | | | 51 | 56 | 59 | 60 | 53 | 57 | 0 | 1 | 4 | 8 | 0 | 1 | 4 | 8 | 26 | 37 | 59 | 59 | 49 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 39C | | | 46 | 52 | 61 | 61 | 52 | 54 | 0 | 0 | 1 | 3 | 0 | 0 | 1 | 3 | 22 | 28 | 61 | 61 | 51 | 51 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 39D | | | 34 | 47 | 53 | 54 | 44 | 48 | 0 | 1 | 1 | 5 | -2 | -1 | -1 | 3 | 22 | 28 | 53 | 53 | 43 | 44 | 0 | 0 | 0 | 1 | -2 | -2 | -2 | -1 |

| | | | CadnaA Construction Results | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Excavation | | | | | | | | | | | | | | Foundation | | | | | | | | | | | | | |
| Receptor | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| RES 40A | 290 UHU ST | 38056088 | 64 | 71 | 65 | 72 | 64 | 71 | 5 | 12 | 14 | 21 | 5 | 12 | 14 | 21 | 53 | 59 | 61 | 63 | 55 | 60 | 1 | 3 | 5 | 10 | 1 | 3 | 5 | 10 |
| RES 40B | | | 54 | 69 | 56 | 69 | 54 | 69 | 3 | 16 | 11 | 26 | 1 | 14 | 9 | 24 | 42 | 57 | 53 | 58 | 45 | 57 | 0 | 5 | 2 | 14 | -2 | 3 | 0 | 12 |
| RES 40C | | | 60 | 63 | 60 | 64 | 60 | 63 | 11 | 15 | 21 | 24 | 5 | 9 | 15 | 18 | 30 | 37 | 49 | 50 | 40 | 41 | 0 | 1 | 1 | 2 | -6 | -5 | -5 | -4 |
| RES 40D | | | 43 | 61 | 59 | 63 | 50 | 61 | 0 | 4 | 1 | 12 | 0 | 4 | 1 | 12 | 32 | 39 | 59 | 59 | 49 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 41A | 511 POHAI ST | 38056086 | 49 | 54 | 53 | 55 | 50 | 54 | 3 | 5 | 10 | 14 | -2 | 0 | 5 | 9 | 29 | 36 | 50 | 50 | 40 | 41 | 0 | 0 | 0 | 1 | -5 | -5 | -5 | -4 |
| RES 41B | | | 49 | 52 | 51 | 53 | 49 | 53 | 6 | 8 | 10 | 14 | -4 | -2 | 4 | 8 | 29 | 36 | 46 | 46 | 39 | 41 | 1 | 1 | 0 | 2 | -9 | -9 | -6 | -4 |
| RES 41C | | | 52 | 54 | 54 | 55 | 52 | 54 | 4 | 5 | 12 | 14 | -1 | 0 | 7 | 9 | 28 | 35 | 50 | 50 | 40 | 41 | 0 | 0 | 0 | 1 | -5 | -5 | -5 | -4 |
| RES 41D | | | 52 | 61 | 60 | 64 | 54 | 62 | 1 | 5 | 5 | 13 | 1 | 5 | 5 | 13 | 28 | 35 | 60 | 60 | 50 | 50 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| RES 42A | 521 POHAI ST | 38056084 | 44 | 50 | 50 | 52 | 45 | 51 | 2 | 4 | 6 | 12 | -5 | -3 | 0 | 6 | 27 | 34 | 48 | 48 | 39 | 40 | 0 | 0 | 0 | 1 | -7 | -7 | -6 | -5 |
| RES 42B | | | 53 | 56 | 54 | 57 | 53 | 56 | 7 | 10 | 14 | 17 | -1 | 2 | 8 | 11 | 36 | 40 | 48 | 48 | 41 | 42 | 1 | 1 | 2 | 3 | -7 | -7 | -4 | -3 |
| RES 42C | | | 48 | 54 | 51 | 55 | 48 | 54 | 2 | 6 | 9 | 15 | -4 | 0 | 3 | 9 | 27 | 34 | 49 | 49 | 39 | 40 | 0 | 0 | 0 | 1 | -6 | -6 | -6 | -5 |
| RES 42D | | | 49 | 55 | 59 | 60 | 52 | 56 | 1 | 2 | 4 | 8 | 1 | 2 | 4 | 8 | 27 | 34 | 59 | 59 | 49 | 49 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| RES 43A | 529 POHAI ST | 38056082 | 51 | 52 | 52 | 53 | 51 | 52 | 5 | 6 | 12 | 13 | -3 | -2 | 6 | 7 | 26 | 33 | 47 | 47 | 39 | 40 | 0 | 0 | 0 | 1 | -8 | -8 | -6 | -5 |
| RES 43B | | | 45 | 57 | 49 | 57 | 46 | 57 | 2 | 10 | 7 | 18 | -6 | 2 | 1 | 12 | 29 | 38 | 47 | 47 | 39 | 41 | 0 | 0 | 0 | 2 | -8 | -8 | -6 | -4 |
| RES 43C | | | 46 | 50 | 51 | 53 | 47 | 51 | 2 | 4 | 8 | 12 | -4 | -2 | 2 | 6 | 25 | 32 | 49 | 49 | 39 | 40 | 0 | 0 | 0 | 1 | -6 | -6 | -6 | -5 |
| RES 43D | | | 49 | 54 | 59 | 60 | 52 | 55 | 0 | 1 | 3 | 6 | 0 | 1 | 3 | 6 | 25 | 32 | 59 | 59 | 49 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 44A | 539 POHAI ST | 38056080 | 40 | 52 | 51 | 54 | 43 | 52 | 1 | 4 | 3 | 12 | -4 | -1 | -2 | 7 | 24 | 31 | 51 | 51 | 41 | 41 | 1 | 1 | 1 | 1 | -4 | -4 | -4 | -4 |
| RES 44B | | | 50 | 56 | 52 | 57 | 50 | 56 | 4 | 9 | 11 | 17 | -3 | 2 | 5 | 11 | 33 | 38 | 48 | 48 | 40 | 41 | 0 | 0 | 1 | 2 | -7 | -7 | -5 | -4 |
| RES 44C | | | 41 | 51 | 52 | 55 | 44 | 52 | 0 | 3 | 2 | 10 | -3 | 0 | -1 | 7 | 24 | 30 | 52 | 52 | 42 | 42 | 0 | 0 | 0 | 0 | -3 | -3 | -3 | -3 |
| RES 44D | | | 35 | 48 | 58 | 59 | 49 | 51 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 | 24 | 30 | 58 | 58 | 48 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 45A | 549 POHAI ST | 38056078 | 38 | 47 | 50 | 52 | 42 | 48 | 0 | 2 | 2 | 8 | -5 | -3 | -3 | 3 | 23 | 29 | 50 | 50 | 40 | 41 | 0 | 0 | 0 | 1 | -5 | -5 | -5 | -4 |
| RES 45B | | | 44 | 53 | 50 | 54 | 45 | 53 | 2 | 6 | 6 | 14 | -5 | -1 | 0 | 8 | 28 | 34 | 49 | 49 | 39 | 40 | 1 | 1 | 0 | 1 | -6 | -6 | -6 | -5 |
| RES 45C | | | 40 | 47 | 51 | 52 | 43 | 48 | 0 | 1 | 2 | 7 | -4 | -3 | -2 | 3 | 23 | 29 | 51 | 51 | 41 | 41 | 0 | 0 | 0 | 0 | -4 | -4 | -4 | -4 |
| RES 45D | | | 34 | 53 | 59 | 60 | 49 | 54 | 0 | 1 | 0 | 5 | 0 | 1 | 0 | 5 | 23 | 29 | 59 | 59 | 49 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 46A | 680 MOLOKAI AKAU ST | 38056076 | 37 | 45 | 49 | 50 | 41 | 46 | 0 | 1 | 2 | 7 | -6 | -5 | -4 | 1 | 22 | 28 | 49 | 49 | 39 | 39 | 0 | 0 | 0 | 0 | -6 | -6 | -6 | -6 |
| RES 46B | | | 45 | 51 | 51 | 53 | 46 | 51 | 1 | 3 | 6 | 11 | -4 | -2 | 1 | 6 | 25 | 33 | 50 | 50 | 40 | 41 | 0 | 0 | 0 | 1 | -5 | -5 | -5 | -4 |
| RES 46C | | | 41 | 51 | 60 | 60 | 50 | 53 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 22 | 28 | 60 | 60 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 46D | | | 44 | 53 | 59 | 60 | 50 | 54 | 0 | 1 | 1 | 5 | 0 | 1 | 1 | 5 | 22 | 28 | 59 | 59 | 49 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 47A EG | 470 KAULANA ST | 38048049 | 44 | 54 | 48 | 54 | 45 | 54 | 3 | 9 | 6 | 15 | -7 | -1 | 0 | 9 | 33 | 42 | 45 | 47 | 40 | 44 | 0 | 2 | 1 | 5 | -10 | -8 | -5 | -1 |
| RES 47A 1.OG | | | 44 | 54 | 51 | 55 | 46 | 54 | 1 | 5 | 5 | 13 | -4 | 0 | 1 | 9 | 33 | 42 | 50 | 51 | 42 | 45 | 0 | 1 | 1 | 4 | -5 | -4 | -3 | 0 |
| RES 47B EG | | | 54 | 70 | 59 | 70 | 55 | 70 | 2 | 13 | 7 | 22 | 2 | 13 | 7 | 22 | 41 | 52 | 57 | 58 | 49 | 53 | 0 | 1 | 1 | 5 | 0 | 1 | 1 | 5 |
| RES 47B 1.OG | | | 52 | 70 | 59 | 70 | 54 | 70 | 1 | 12 | 5 | 21 | 1 | 12 | 5 | 21 | 41 | 53 | 58 | 59 | 50 | 54 | 0 | 1 | 1 | 5 | 0 | 1 | 1 | 5 |
| RES 47C EG | | | 70 | 81 | 70 | 81 | 70 | 81 | 15 | 26 | 24 | 35 | 15 | 26 | 24 | 35 | 58 | 70 | 60 | 70 | 58 | 70 | 5 | 15 | 12 | 24 | 5 | 15 | 12 | 24 |
| RES 47C 1.OG | | | 71 | 82 | 71 | 82 | 71 | 82 | 16 | 27 | 25 | 36 | 16 | 27 | 25 | 36 | 58 | 71 | 60 | 71 | 59 | 71 | 5 | 16 | 13 | 25 | 5 | 16 | 13 | 25 |
| RES 47D EG | | | 59 | 70 | 60 | 70 | 59 | 70 | 9 | 19 | 17 | 28 | 5 | 15 | 14 | 25 | 48 | 59 | 53 | 59 | 49 | 59 | 2 | 8 | 7 | 17 | -2 | 4 | 4 | 14 |
| RES 47D 1.OG | | | 60 | 72 | 60 | 72 | 60 | 72 | 7 | 19 | 16 | 28 | 5 | 17 | 15 | 27 | 49 | 60 | 54 | 61 | 50 | 60 | 1 | 8 | 6 | 16 | -1 | 6 | 5 | 15 |
| RES 48A | 462 KAULANA ST | 38048047 | 52 | 57 | 53 | 57 | 52 | 57 | 7 | 11 | 13 | 18 | -2 | 2 | 7 | 12 | 31 | 38 | 46 | 46 | 40 | 42 | 0 | 0 | 1 | 3 | -9 | -9 | -5 | -3 |
| RES 48B | | | 61 | 61 | 62 | 62 | 61 | 61 | 7 | 7 | 15 | 15 | 7 | 7 | 15 | 15 | 32 | 39 | 55 | 55 | 46 | 47 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 48C | | | 46 | 55 | 49 | 56 | 47 | 55 | 3 | 10 | 8 | 16 | -6 | 1 | 2 | 10 | 32 | 40 | 46 | 47 | 40 | 42 | 0 | 1 | 1 | 3 | -9 | -8 | -5 | -3 |
| RES 48D | | | 54 | 66 | 55 | 66 | 54 | 66 | 5 | 16 | 13 | 25 | 0 | 11 | 9 | 21 | 34 | 50 | 50 | 53 | 42 | 51 | 0 | 3 | 1 | 10 | -5 | -2 | -3 | 6 |
| RES 49A EG | 456 KAULANA ST | 38048045 | 39 | 47 | 46 | 49 | 42 | 48 | 1 | 4 | 3 | 9 | -9 | -6 | -3 | 3 | 28 | 35 | 45 | 46 | 39 | 40 | 0 | 1 | 0 | 1 | -10 | -9 | -6 | -5 |
| RES 49A 1.OG | | | 39 | 55 | 52 | 56 | 44 | 55 | 1 | 5 | 2 | 13 | -3 | 1 | -1 | 10 | 28 | 35 | 51 | 52 | 43 | 43 | 0 | 1 | 1 | 1 | -4 | -3 | -2 | -2 |
| RES 49B EG | | | 41 | 55 | 55 | 58 | 47 | 56 | 0 | 3 | 1 | 10 | 0 | 3 | 1 | 10 | 30 | 44 | 55 | 55 | 46 | 48 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| RES 49B 1.OG | | | 57 | 55 | 60 | 59 | 57 | 56 | 4 | 3 | 10 | 9 | 4 | 3 | 10 | 9 | 30 | 44 | 57 | 57 | 48 | 49 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 |
| RES 49C EG | | | 56 | 61 | 57 | 61 | 56 | 61 | 10 | 14 | 17 | 22 | 2 | 6 | 11 | 16 | 29 | 36 | 47 | 47 | 39 | 41 | 0 | 0 | 0 | 2 | -8 | -8 | -6 | -4 |
| RES 49C 1.OG | | | 60 | 62 | 60 | 63 | 60 | 62 | 10 | 13 | 19 | 21 | 5 | 8 | 15 | 17 | 31 | 39 | 50 | 50 | 41 | 43 | 0 | 0 | 0 | 2 | -5 | -5 | -4 | -2 |
| RES 49D EG | | | 56 | 60 | 57 | 60 | 57 | 60 | 8 | 11 | 17 | 20 | 2 | 5 | 12 | 15 | 31 | 44 | 49 | 50 | 41 | 46 | 0 | 1 | 1 | 6 | -6 | -5 | -4 | 1 |
| RES 49D 1.OG | | | 56 | 61 | 57 | 61 | 56 | 61 | 6 | 10 | 14 | 19 | 2 | 6 | 11 | 16 | 32 | 46 | 51 | 52 | 42 | 47 | 0 | 1 | 0 | 5 | -4 | -3 | -3 | 2 |
| RES 50A | 450 KAULANA ST | 38048043 | 43 | 51 | 47 | 52 | 44 | 51 | 2 | 7 | 5 | 12 | -8 | -3 | -1 | 6 | 27 | 33 | 45 | 45 | 39 | 40 | 0 | 0 | 0 | 1 | -10 | -10 | -6 | -5 |
| RES 50B | | | 53 | 55 | 58 | 59 | 54 | 56 | 2 | 3 | 7 | 9 | 2 | 3 | 7 | 9 | 28 | 38 | 56 | 56 | 47 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 50C | | | 43 | 49 | 47 | 51 | 44 | 50 | 2 | 6 | 5 | 11 | -8 | -4 | -1 | 5 | 27 | 34 | 45 | 45 | 39 | 40 | 0 | 0 | 0 | 1 | -10 | -10 | -6 | -5 |
| RES 50D | | | 46 | 60 | 48 | 60 | 46 | 60 | 3 | 15 | 7 | 21 | -7 | 5 | 1 | 15 | 29 | 46 | 45 | 48 | 39 | 46 | 0 | 3 | 0 | 7 | -10 | -7 | -6 | 1 |

| | | | CadnaA Construction Results | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Excavation | | | | | | | | | | | | | | Foundation | | | | | | | | | | | | | |
| Receptor | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| RES 51A EG | 444 KAULANA ST | 38048041 | 38 | 48 | 46 | 50 | 42 | 49 | 1 | 5 | 3 | 10 | -9 | -5 | -3 | 4 | 25 | 33 | 45 | 45 | 39 | 40 | 0 | 0 | 0 | 1 | -10 | -10 | -6 | -5 |
| RES 51A 1.OG | | | 36 | 46 | 46 | 49 | 41 | 47 | 1 | 4 | 2 | 8 | -9 | -6 | -4 | 2 | 25 | 33 | 45 | 46 | 39 | 40 | 0 | 1 | 0 | 1 | -10 | -9 | -6 | -5 |
| RES 51B EG | | | 37 | 53 | 55 | 57 | 46 | 54 | 0 | 2 | 0 | 8 | 0 | 2 | 0 | 8 | 26 | 41 | 55 | 55 | 46 | 47 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 51B 1.OG | | | 37 | 56 | 56 | 59 | 48 | 56 | 0 | 3 | 1 | 9 | 0 | 3 | 1 | 9 | 26 | 45 | 56 | 56 | 47 | 49 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| RES 51C EG | | | 39 | 46 | 46 | 49 | 42 | 47 | 1 | 4 | 3 | 8 | -9 | -6 | -3 | 2 | 26 | 32 | 45 | 45 | 39 | 40 | 0 | 0 | 0 | 1 | -10 | -10 | -6 | -5 |
| RES 51C 1.OG | | | 41 | 58 | 49 | 58 | 43 | 58 | 1 | 10 | 4 | 19 | -6 | 3 | -2 | 13 | 27 | 35 | 48 | 49 | 40 | 41 | 0 | 1 | 1 | 2 | -7 | -6 | -5 | -4 |
| RES 51D EG | | | 41 | 54 | 47 | 55 | 43 | 54 | 1 | 9 | 4 | 15 | -8 | 0 | -2 | 9 | 30 | 43 | 46 | 48 | 40 | 45 | 0 | 2 | 1 | 6 | -9 | -7 | -5 | 0 |
| RES 51D 1.OG | | | 41 | 56 | 49 | 56 | 44 | 56 | 1 | 8 | 5 | 17 | -6 | 1 | -1 | 11 | 30 | 45 | 48 | 50 | 40 | 46 | 0 | 2 | 1 | 7 | -7 | -5 | -5 | 1 |
| RES 52A | 436 KAULANA ST | 38048039 | 39 | 45 | 46 | 48 | 42 | 46 | 1 | 3 | 3 | 7 | -9 | -7 | -3 | 1 | 23 | 30 | 45 | 45 | 39 | 39 | 0 | 0 | 0 | 0 | -10 | -10 | -6 | -6 |
| RES 52B | | | 36 | 56 | 55 | 58 | 47 | 56 | 0 | 3 | 1 | 10 | 0 | 3 | 1 | 10 | 25 | 41 | 55 | 55 | 46 | 47 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 52C | | | 38 | 44 | 46 | 48 | 41 | 45 | 1 | 3 | 2 | 6 | -9 | -7 | -4 | 0 | 24 | 31 | 45 | 45 | 39 | 40 | 0 | 0 | 0 | 1 | -10 | -10 | -6 | -5 |
| RES 52D | | | 38 | 44 | 48 | 49 | 42 | 45 | 1 | 2 | 3 | 6 | -7 | -6 | -3 | 0 | 27 | 33 | 47 | 47 | 39 | 40 | 0 | 0 | 0 | 1 | -8 | -8 | -6 | -5 |
| RES 53A | 430 KAULANA ST | 38048037 | 38 | 45 | 46 | 48 | 42 | 46 | 1 | 3 | 3 | 7 | -9 | -7 | -3 | 1 | 23 | 29 | 46 | 46 | 39 | 39 | 1 | 1 | 0 | 0 | -9 | -9 | -6 | -6 |
| RES 53B | | | 34 | 54 | 54 | 57 | 46 | 55 | 0 | 3 | 1 | 10 | -1 | 2 | 1 | 10 | 23 | 33 | 54 | 54 | 45 | 46 | 0 | 0 | 0 | 1 | -1 | -1 | 0 | 1 |
| RES 53C | | | 36 | 43 | 46 | 47 | 41 | 44 | 1 | 2 | 2 | 5 | -9 | -8 | -4 | -1 | 23 | 29 | 45 | 46 | 39 | 39 | 0 | 1 | 0 | 0 | -10 | -9 | -6 | -6 |
| RES 53D | | | 39 | 51 | 49 | 53 | 42 | 51 | 1 | 5 | 3 | 12 | -6 | -2 | -3 | 6 | 25 | 33 | 48 | 48 | 39 | 40 | 0 | 0 | 0 | 1 | -7 | -7 | -6 | -5 |
| RES 54A | 424 KAULANA ST | 38048035 | 36 | 43 | 46 | 47 | 41 | 44 | 1 | 2 | 2 | 5 | -9 | -8 | -4 | -1 | 21 | 27 | 45 | 45 | 39 | 39 | 0 | 0 | 0 | 0 | -10 | -10 | -6 | -6 |
| RES 54B | | | 33 | 55 | 55 | 58 | 46 | 55 | 0 | 3 | 0 | 9 | 0 | 3 | 0 | 9 | 22 | 37 | 55 | 55 | 46 | 47 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 54C | | | 35 | 42 | 45 | 47 | 41 | 43 | 0 | 2 | 2 | 4 | -10 | -8 | -4 | -2 | 22 | 28 | 45 | 45 | 39 | 39 | 0 | 0 | 0 | 0 | -10 | -10 | -6 | -6 |
| RES 54D | | | 40 | 53 | 49 | 55 | 43 | 53 | 1 | 7 | 4 | 14 | -6 | 0 | -2 | 8 | 29 | 41 | 49 | 49 | 40 | 43 | 1 | 1 | 1 | 4 | -6 | -6 | -5 | -2 |
| RES 55A | 246 HINA AVE | 38048033 | 31 | 37 | 63 | 63 | 54 | 54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 26 | 63 | 63 | 54 | 54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 55B | | | 38 | 51 | 59 | 60 | 50 | 54 | 0 | 1 | 0 | 4 | 0 | 1 | 0 | 4 | 27 | 40 | 59 | 59 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 55C | | | 34 | 41 | 46 | 47 | 40 | 43 | 1 | 2 | 1 | 4 | -9 | -8 | -5 | -2 | 21 | 27 | 45 | 45 | 39 | 39 | 0 | 0 | 0 | 0 | -10 | -10 | -6 | -6 |
| RES 55D | | | 36 | 41 | 56 | 56 | 47 | 48 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 25 | 30 | 56 | 56 | 47 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Maui Evangelical Church A | 256 HINA AVE | 38048032 | 31 | 39 | 64 | 64 | 55 | 55 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 28 | 64 | 64 | 55 | 55 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Maui Evangelical Church B EG | | | 31 | 43 | 59 | 59 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 26 | 59 | 59 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Maui Evangelical Church B 1.OG | | | 36 | 51 | 61 | 61 | 52 | 54 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 25 | 26 | 61 | 61 | 52 | 52 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Maui Evangelical Church C EG | | | 43 | 51 | 50 | 53 | 45 | 51 | 1 | 4 | 5 | 11 | -5 | -2 | 0 | 6 | 23 | 35 | 49 | 49 | 40 | 41 | 0 | 0 | 0 | 1 | -6 | -6 | -5 | -4 |
| Maui Evangelical Church C 1.OG | | | 40 | 55 | 53 | 57 | 45 | 55 | 1 | 5 | 2 | 12 | -2 | 2 | 0 | 10 | 26 | 41 | 52 | 53 | 43 | 45 | 0 | 1 | 0 | 2 | -3 | -2 | -2 | 0 |
| Maui Evangelical Church D EG | | | 34 | 51 | 60 | 60 | 51 | 54 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 23 | 40 | 60 | 60 | 51 | 51 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Maui Evangelical Church D 1.OG | | | 37 | 54 | 61 | 62 | 52 | 56 | 0 | 1 | 0 | 4 | 0 | 1 | 0 | 4 | 26 | 43 | 61 | 61 | 52 | 52 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 56A | 421 KAULANA ST | 38048031 | 38 | 48 | 52 | 53 | 44 | 49 | 1 | 2 | 2 | 7 | -3 | -2 | -1 | 4 | 20 | 29 | 52 | 52 | 43 | 43 | 1 | 1 | 1 | 1 | -3 | -3 | -2 | -2 |
| RES 56B | | | 40 | 52 | 50 | 54 | 43 | 52 | 0 | 4 | 2 | 11 | -5 | -1 | -2 | 7 | 21 | 32 | 50 | 50 | 41 | 42 | 0 | 0 | 0 | 1 | -5 | -5 | -4 | -3 |
| RES 56C | | | 38 | 47 | 49 | 51 | 42 | 47 | 0 | 2 | 2 | 7 | -6 | -4 | -3 | 2 | 21 | 29 | 49 | 49 | 40 | 40 | 0 | 0 | 0 | 0 | -6 | -6 | -5 | -5 |
| RES 56D | | | 42 | 54 | 58 | 60 | 50 | 55 | 0 | 2 | 1 | 6 | 0 | 2 | 1 | 6 | 31 | 43 | 58 | 59 | 49 | 50 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| RES 57A | 429 KAULANA ST | 38048029 | 38 | 49 | 49 | 52 | 42 | 50 | 0 | 3 | 2 | 10 | -6 | -3 | -3 | 5 | 22 | 30 | 49 | 49 | 40 | 40 | 0 | 0 | 0 | 0 | -6 | -6 | -5 | -5 |
| RES 57B | | | 37 | 51 | 46 | 52 | 41 | 51 | 1 | 7 | 2 | 12 | -9 | -3 | -4 | 6 | 22 | 28 | 45 | 45 | 39 | 39 | 0 | 0 | 0 | 0 | -10 | -10 | -6 | -6 |
| RES 57C | | | 36 | 47 | 49 | 51 | 41 | 48 | 0 | 2 | 1 | 8 | -6 | -4 | -4 | 3 | 22 | 30 | 49 | 49 | 40 | 40 | 0 | 0 | 0 | 0 | -6 | -6 | -5 | -5 |
| RES 57D | | | 41 | 54 | 57 | 58 | 48 | 55 | 1 | 2 | 1 | 8 | 1 | 2 | 1 | 8 | 30 | 41 | 56 | 57 | 47 | 48 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| RES 58A | 435 KAULANA ST | 38048027 | 39 | 49 | 47 | 51 | 42 | 49 | 1 | 5 | 3 | 10 | -8 | -4 | -3 | 4 | 23 | 31 | 46 | 46 | 39 | 40 | 0 | 0 | 0 | 1 | -9 | -9 | -6 | -5 |
| RES 58B | | | 34 | 49 | 49 | 52 | 41 | 50 | 0 | 3 | 1 | 10 | -6 | -3 | -4 | 5 | 23 | 29 | 49 | 49 | 40 | 40 | 0 | 0 | 0 | 0 | -6 | -6 | -5 | -5 |
| RES 58C | | | 37 | 47 | 48 | 50 | 41 | 48 | 1 | 3 | 2 | 9 | -7 | -5 | -4 | 3 | 23 | 30 | 47 | 47 | 39 | 39 | 0 | 0 | 0 | 0 | -8 | -8 | -6 | -6 |
| RES 58D | | | 43 | 53 | 56 | 58 | 49 | 54 | 0 | 2 | 2 | 7 | 0 | 2 | 2 | 7 | 29 | 40 | 56 | 56 | 47 | 48 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 59A | 443 KAULANA ST | 38048025 | 40 | 48 | 48 | 51 | 43 | 48 | 0 | 3 | 4 | 9 | -7 | -4 | -2 | 3 | 24 | 31 | 48 | 48 | 39 | 40 | 0 | 0 | 0 | 1 | -7 | -7 | -6 | -5 |
| RES 59B | | | 41 | 49 | 49 | 52 | 43 | 50 | 1 | 4 | 4 | 11 | -6 | -3 | -2 | 5 | 24 | 31 | 48 | 48 | 39 | 40 | 0 | 0 | 0 | 1 | -7 | -7 | -6 | -5 |
| RES 59C | | | 39 | 47 | 50 | 51 | 43 | 48 | 1 | 2 | 3 | 8 | -5 | -4 | -2 | 3 | 25 | 32 | 50 | 50 | 41 | 41 | 1 | 1 | 1 | 1 | -5 | -5 | -4 | -4 |
| RES 59D | | | 46 | 57 | 56 | 59 | 49 | 57 | 1 | 4 | 3 | 11 | 1 | 4 | 3 | 11 | 34 | 46 | 55 | 56 | 47 | 49 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 |
| RES 60A | 449 KAULANA ST | 38048023 | 41 | 49 | 48 | 51 | 43 | 49 | 1 | 4 | 4 | 10 | -7 | -4 | -2 | 4 | 26 | 33 | 47 | 47 | 39 | 40 | 0 | 0 | 0 | 1 | -8 | -8 | -6 | -5 |
| RES 60B | | | 37 | 45 | 47 | 49 | 41 | 46 | 0 | 2 | 2 | 7 | -8 | -6 | -4 | 1 | 26 | 32 | 47 | 47 | 39 | 40 | 0 | 0 | 0 | 1 | -8 | -8 | -6 | -5 |
| RES 60C | | | 41 | 47 | 47 | 49 | 43 | 48 | 1 | 3 | 4 | 9 | -8 | -6 | -2 | 3 | 26 | 33 | 46 | 46 | 39 | 40 | 0 | 0 | 0 | 1 | -9 | -9 | -6 | -5 |
| RES 60D | | | 48 | 59 | 57 | 61 | 51 | 59 | 0 | 4 | 3 | 11 | 0 | 4 | 3 | 11 | 37 | 48 | 57 | 57 | 48 | 51 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 |

| | | | CadnaA Construction Results | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Excavation | | | | | | | | | | | | | | Foundation | | | | | | | | | | | | | |
| Receptor | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| RES 61A EG | 455 KAULANA ST | 38048021 | 41 | 49 | 47 | 50 | 43 | 49 | 2 | 5 | 4 | 10 | -8 | -5 | -2 | 4 | 27 | 34 | 46 | 46 | 39 | 40 | 1 | 1 | 0 | 1 | -9 | -9 | -6 | -5 |
| RES 61A 1.OG | | | 38 | 53 | 50 | 55 | 43 | 53 | 0 | 5 | 2 | 12 | -5 | 0 | -2 | 8 | 27 | 34 | 50 | 50 | 41 | 42 | 0 | 0 | 0 | 1 | -5 | -5 | -4 | -3 |
| RES 61B EG | | | 44 | 51 | 50 | 53 | 46 | 51 | 2 | 5 | 7 | 12 | -5 | -2 | 1 | 6 | 27 | 34 | 48 | 48 | 39 | 40 | 0 | 0 | 0 | 1 | -7 | -7 | -6 | -5 |
| RES 61B 1.OG | | | 39 | 47 | 54 | 55 | 46 | 49 | 0 | 1 | 1 | 4 | -1 | 0 | 1 | 4 | 28 | 34 | 54 | 54 | 45 | 45 | 0 | 0 | 0 | 0 | -1 | -1 | 0 | 0 |
| RES 61C EG | | | 42 | 50 | 49 | 52 | 44 | 51 | 2 | 5 | 5 | 12 | -6 | -3 | -1 | 6 | 28 | 35 | 47 | 48 | 39 | 40 | 0 | 1 | 0 | 1 | -8 | -7 | -6 | -5 |
| RES 61C 1.OG | | | 42 | 55 | 52 | 57 | 45 | 55 | 0 | 5 | 2 | 12 | -3 | 2 | 0 | 10 | 31 | 36 | 52 | 52 | 43 | 44 | 0 | 0 | 0 | 1 | -3 | -3 | -2 | -1 |
| RES 61D EG | | | 55 | 60 | 59 | 61 | 56 | 60 | 2 | 4 | 8 | 12 | 2 | 4 | 8 | 12 | 44 | 45 | 57 | 57 | 49 | 50 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 2 |
| RES 61D 1.OG | | | 56 | 63 | 60 | 64 | 57 | 63 | 2 | 6 | 8 | 14 | 2 | 6 | 8 | 14 | 45 | 49 | 58 | 58 | 50 | 52 | 0 | 0 | 1 | 3 | 0 | 0 | 1 | 3 |
| RES 62A | 461 KAULANA ST | 38048019 | 46 | 55 | 53 | 57 | 48 | 56 | 1 | 5 | 5 | 13 | -2 | 2 | 3 | 11 | 31 | 37 | 52 | 52 | 43 | 44 | 0 | 0 | 0 | 1 | -3 | -3 | -2 | -1 |
| RES 62B | | | 41 | 53 | 55 | 57 | 47 | 53 | 1 | 3 | 2 | 8 | 0 | 2 | 2 | 8 | 30 | 36 | 54 | 54 | 45 | 46 | 0 | 0 | 0 | 1 | -1 | -1 | 0 | 1 |
| RES 62C | | | 46 | 57 | 52 | 58 | 47 | 57 | 1 | 7 | 5 | 15 | -3 | 3 | 2 | 12 | 35 | 39 | 51 | 51 | 42 | 44 | 0 | 0 | 0 | 2 | -4 | -4 | -3 | -1 |
| RES 62D | | | 64 | 69 | 65 | 69 | 64 | 69 | 8 | 12 | 16 | 21 | 8 | 12 | 16 | 21 | 53 | 55 | 59 | 59 | 54 | 56 | 2 | 2 | 6 | 8 | 2 | 2 | 6 | 8 |
| RES 63A | 241 LAAU ST | 38048017 | 44 | 58 | 52 | 59 | 46 | 58 | 1 | 8 | 4 | 16 | -3 | 4 | 1 | 13 | 33 | 39 | 51 | 52 | 43 | 44 | 0 | 1 | 1 | 2 | -4 | -3 | -2 | -1 |
| RES 63B | | | 43 | 51 | 56 | 57 | 48 | 53 | 0 | 1 | 1 | 6 | 0 | 1 | 1 | 6 | 32 | 40 | 56 | 56 | 47 | 48 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 63C | | | 67 | 73 | 68 | 73 | 67 | 73 | 11 | 16 | 19 | 25 | 11 | 16 | 19 | 25 | 56 | 62 | 60 | 63 | 57 | 62 | 3 | 6 | 9 | 14 | 3 | 6 | 9 | 14 |
| RES 63D | | | 67 | 75 | 68 | 75 | 67 | 75 | 10 | 17 | 18 | 26 | 10 | 17 | 18 | 26 | 56 | 64 | 60 | 65 | 57 | 64 | 2 | 7 | 8 | 15 | 2 | 7 | 8 | 15 |
| RES 64A | 262 HINA AVE | 38048001 | 31 | 39 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 27 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 64B | | | 31 | 39 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 27 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 64C | | | 39 | 51 | 57 | 58 | 49 | 53 | 0 | 1 | 1 | 5 | 0 | 1 | 1 | 5 | 24 | 32 | 57 | 57 | 48 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 64D | | | 40 | 56 | 61 | 62 | 52 | 57 | 1 | 2 | 1 | 6 | 1 | 2 | 1 | 6 | 26 | 42 | 61 | 61 | 52 | 52 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| RES 65A | 422 S KAMEHAMEHA AVE | 38048003 | 40 | 51 | 56 | 57 | 48 | 52 | 0 | 1 | 1 | 5 | 0 | 1 | 1 | 5 | 21 | 28 | 56 | 56 | 47 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 65B | | | 34 | 43 | 65 | 65 | 56 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 28 | 65 | 65 | 56 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 65C | | | 39 | 53 | 55 | 57 | 47 | 54 | 0 | 2 | 1 | 8 | 0 | 2 | 1 | 8 | 24 | 32 | 55 | 55 | 46 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 65D | | | 38 | 59 | 51 | 60 | 43 | 59 | 0 | 9 | 1 | 17 | -4 | 5 | -2 | 14 | 27 | 40 | 51 | 51 | 42 | 44 | 0 | 0 | 0 | 2 | -4 | -4 | -3 | -1 |
| RES 66A | 428 S KAMEHAMEHA AVE | 38048005 | 50 | 53 | 58 | 59 | 52 | 55 | 1 | 2 | 4 | 7 | 1 | 2 | 4 | 7 | 23 | 29 | 57 | 57 | 48 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 66B | | | 35 | 43 | 65 | 65 | 56 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 29 | 65 | 65 | 56 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 66C | | | 45 | 52 | 56 | 57 | 49 | 53 | 0 | 1 | 2 | 6 | 0 | 1 | 2 | 6 | 28 | 31 | 56 | 56 | 47 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 66D | | | 50 | 60 | 53 | 60 | 50 | 60 | 2 | 9 | 8 | 18 | -2 | 5 | 5 | 15 | 37 | 38 | 51 | 51 | 43 | 43 | 0 | 0 | 1 | 1 | -4 | -4 | -2 | -2 |
| RES 67A | 434 S KAMEHAMEHA AVE | 38048007 | 53 | 52 | 57 | 57 | 54 | 53 | 2 | 2 | 8 | 7 | 2 | 2 | 8 | 7 | 24 | 30 | 55 | 55 | 46 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 67B | | | 35 | 42 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 30 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 67C | | | 50 | 50 | 60 | 60 | 53 | 53 | 1 | 1 | 3 | 3 | 1 | 1 | 3 | 3 | 32 | 34 | 59 | 59 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 67D | | | 51 | 56 | 54 | 57 | 51 | 56 | 4 | 7 | 10 | 15 | -1 | 2 | 6 | 11 | 40 | 39 | 50 | 50 | 44 | 43 | 0 | 0 | 3 | 2 | -5 | -5 | -1 | -2 |
| RES 68A | 440 S KAMEHAMEHA AVE | 38048009 | 52 | 51 | 58 | 58 | 53 | 53 | 1 | 1 | 5 | 5 | 1 | 1 | 5 | 5 | 26 | 31 | 57 | 57 | 48 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 68B | | | 37 | 43 | 64 | 64 | 55 | 55 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 31 | 64 | 64 | 55 | 55 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 68C | | | 49 | 51 | 56 | 57 | 51 | 52 | 1 | 2 | 5 | 6 | 1 | 2 | 5 | 6 | 33 | 35 | 55 | 55 | 46 | 47 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 68D | | | 49 | 52 | 52 | 54 | 50 | 52 | 2 | 4 | 9 | 11 | -3 | -1 | 5 | 7 | 38 | 38 | 50 | 50 | 43 | 43 | 0 | 0 | 2 | 2 | -5 | -5 | -2 | -2 |
| RES 69A | 448 S KAMEHAMEHA AVE | 38048011 | 47 | 51 | 54 | 55 | 48 | 51 | 1 | 2 | 4 | 7 | -1 | 0 | 3 | 6 | 26 | 32 | 53 | 53 | 44 | 44 | 0 | 0 | 0 | 0 | -2 | -2 | -1 | -1 |
| RES 69B | | | 37 | 46 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 32 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 69C | | | 43 | 47 | 56 | 57 | 48 | 50 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 | 32 | 35 | 56 | 56 | 47 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 69D | | | 45 | 49 | 51 | 53 | 47 | 49 | 1 | 3 | 6 | 8 | -4 | -2 | 2 | 4 | 34 | 37 | 50 | 50 | 42 | 43 | 0 | 0 | 1 | 2 | -5 | -5 | -3 | -2 |
| RES 70A | 454 S KAMEHAMEHA AVE | 38048013 | 38 | 47 | 58 | 58 | 49 | 51 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 27 | 34 | 58 | 58 | 49 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 70B | | | 39 | 47 | 66 | 66 | 57 | 58 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 28 | 34 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 70C | | | 45 | 53 | 57 | 58 | 49 | 54 | 0 | 1 | 1 | 6 | 0 | 1 | 1 | 6 | 34 | 39 | 57 | 57 | 48 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 70D | | | 49 | 57 | 53 | 58 | 50 | 57 | 2 | 7 | 8 | 15 | -2 | 3 | 5 | 12 | 38 | 41 | 51 | 51 | 43 | 44 | 0 | 0 | 1 | 2 | -4 | -4 | -2 | -1 |
| RES 71A | 253 LAAU ST | 38048016 | 52 | 57 | 56 | 59 | 53 | 57 | 2 | 5 | 8 | 12 | 1 | 4 | 8 | 12 | 33 | 39 | 54 | 54 | 45 | 46 | 0 | 0 | 0 | 1 | -1 | -1 | 0 | 1 |
| RES 71B | | | 42 | 53 | 65 | 65 | 56 | 58 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 31 | 40 | 65 | 65 | 56 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 71C | | | 52 | 68 | 61 | 69 | 54 | 68 | 1 | 9 | 3 | 17 | 1 | 9 | 3 | 17 | 41 | 57 | 60 | 62 | 51 | 58 | 0 | 2 | 0 | 7 | 0 | 2 | 0 | 7 |
| RES 71D | | | 63 | 61 | 64 | 62 | 63 | 61 | 7 | 5 | 15 | 13 | 7 | 5 | 15 | 13 | 39 | 47 | 57 | 57 | 48 | 50 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| S_HMHC A | 472 LAAU ST | 38007084 | 36 | 44 | 47 | 48 | 41 | 45 | 1 | 2 | 2 | 6 | -8 | -7 | -4 | 0 | 25 | 32 | 46 | 46 | 39 | 40 | 0 | 0 | 0 | 1 | -9 | -9 | -6 | -5 |
| S_HMHC B | | | 63 | 70 | 63 | 70 | 63 | 70 | 14 | 21 | 23 | 30 | 8 | 15 | 18 | 25 | 49 | 55 | 52 | 56 | 50 | 55 | 3 | 7 | 10 | 15 | -3 | 1 | 5 | 10 |
| S_HMHC C | | | 61 | 68 | 61 | 68 | 61 | 68 | 15 | 22 | 22 | 29 | 6 | 13 | 16 | 23 | 46 | 57 | 49 | 57 | 46 | 57 | 3 | 11 | 7 | 18 | -6 | 2 | 1 | 12 |
| S_HMHC D | | | 42 | 47 | 47 | 49 | 44 | 48 | 2 | 4 | 5 | 9 | -8 | -6 | -1 | 3 | 27 | 33 | 45 | 45 | 39 | 40 | 0 | 0 | 0 | 1 | -10 | -10 | -6 | -5 |
| N_HMHC A | | | 40 | 44 | 46 | 48 | 42 | 45 | 1 | 3 | 3 | 6 | -9 | -7 | -3 | 0 | 26 | 32 | 46 | 46 | 39 | 40 | 1 | 1 | 0 | 1 | -9 | -9 | -6 | -5 |
| N_HMHC B | | | 39 | 44 | 46 | 48 | 42 | 45 | 1 | 3 | 3 | 6 | -9 | -7 | -3 | 0 | 26 | 33 | 45 | 45 | 39 | 40 | 0 | 0 | 0 | 1 | -10 | -10 | -6 | -5 |
| N_HMHC C | | | 56 | 58 | 56 | 59 | 56 | 58 | 11 | 14 | 17 | 19 | 1 | 4 | 11 | 13 | 40 | 45 | 46 | 48 | 43 | 46 | 1 | 3 | 4 | 7 | -9 | -7 | -2 | 1 |
| N_HMHC D | | | 36 | 43 | 49 | 50 | 41 | 45 | 0 | 1 | 1 | 5 | -6 | -5 | -4 | 0 | 25 | 31 | 49 | 49 | 40 | 40 | 0 | 0 | 0 | 0 | -6 | -6 | -5 | -5 |

| | | | CadnaA Construction Results | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Excavation | | | | | | | | | | | | | | Foundation | | | | | | | | | | | | | |
| Receptor | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| Kahului Comm Center A | 275 UHU ST | 38007097 | 56 | 63 | 56 | 63 | 56 | 63 | 9 | 16 | 17 | 24 | 1 | 8 | 11 | 18 | 33 | 44 | 47 | 49 | 40 | 45 | 0 | 2 | 1 | 6 | -8 | -6 | -5 | 0 |
| Kahului Comm Center B | | | 69 | 76 | 69 | 76 | 69 | 76 | 22 | 29 | 30 | 37 | 14 | 21 | 24 | 31 | 57 | 65 | 58 | 65 | 57 | 65 | 11 | 18 | 18 | 26 | 3 | 10 | 12 | 20 |
| Kahului Comm Center C | | | 70 | 76 | 70 | 76 | 70 | 76 | 23 | 29 | 31 | 37 | 15 | 21 | 25 | 31 | 57 | 64 | 58 | 64 | 57 | 64 | 11 | 17 | 18 | 25 | 3 | 9 | 12 | 19 |
| Kahului Comm Center D | | | 57 | 62 | 57 | 62 | 57 | 62 | 9 | 14 | 18 | 23 | 2 | 7 | 12 | 17 | 38 | 45 | 48 | 50 | 42 | 46 | 0 | 2 | 3 | 7 | -7 | -5 | -3 | 1 |
| PALS A | | | 66 | 69 | 66 | 69 | 66 | 69 | 20 | 23 | 27 | 30 | 11 | 14 | 21 | 24 | 53 | 57 | 53 | 57 | 53 | 57 | 7 | 11 | 14 | 18 | -2 | 2 | 8 | 12 |
| PALS B | | | 67 | 72 | 67 | 72 | 67 | 72 | 21 | 26 | 28 | 33 | 12 | 17 | 22 | 27 | 53 | 59 | 54 | 59 | 53 | 59 | 8 | 13 | 14 | 20 | -1 | 4 | 8 | 14 |
| PALS C | | | 60 | 60 | 61 | 60 | 60 | 60 | 13 | 12 | 21 | 21 | 6 | 5 | 15 | 15 | 35 | 45 | 48 | 50 | 40 | 46 | 0 | 2 | 1 | 7 | -7 | -5 | -5 | 1 |
| PALS D | | | 44 | 49 | 48 | 51 | 45 | 50 | 1 | 4 | 6 | 11 | -7 | -4 | 0 | 5 | 31 | 37 | 47 | 47 | 40 | 41 | 0 | 0 | 1 | 2 | -8 | -8 | -5 | -4 |
| POOL A | | | 38 | 46 | 48 | 50 | 42 | 46 | 0 | 2 | 3 | 7 | -7 | -5 | -3 | 1 | 26 | 33 | 48 | 48 | 39 | 40 | 0 | 0 | 0 | 1 | -7 | -7 | -6 | -5 |
| POOL B | | | 55 | 61 | 55 | 62 | 55 | 61 | 10 | 17 | 16 | 22 | 0 | 7 | 10 | 16 | 42 | 49 | 47 | 51 | 44 | 50 | 2 | 6 | 5 | 11 | -8 | -4 | -1 | 5 |
| POOL C | | | 55 | 59 | 55 | 59 | 55 | 59 | 10 | 14 | 16 | 20 | 0 | 4 | 10 | 14 | 43 | 47 | 47 | 49 | 45 | 47 | 2 | 4 | 6 | 8 | -8 | -6 | 0 | 2 |
| POOL D | | | 41 | 47 | 48 | 50 | 43 | 48 | 2 | 4 | 4 | 9 | -7 | -5 | -2 | 3 | 29 | 34 | 46 | 47 | 39 | 40 | 0 | 1 | 0 | 1 | -9 | -8 | -6 | -5 |
| 1 Comm Housing A | 200 HINA AVE | 38007095 | 45 | 54 | 48 | 54 | 46 | 54 | 3 | 9 | 7 | 15 | -7 | -1 | 1 | 9 | 25 | 34 | 45 | 45 | 39 | 40 | 0 | 0 | 0 | 1 | -10 | -10 | -6 | -5 |
| 1 Comm Housing B | | | 54 | 59 | 55 | 59 | 54 | 59 | 9 | 13 | 15 | 20 | 0 | 4 | 9 | 14 | 43 | 47 | 48 | 49 | 44 | 47 | 2 | 3 | 5 | 8 | -7 | -6 | -1 | 2 |
| 1 Comm Housing C | | | 56 | 61 | 57 | 61 | 56 | 61 | 12 | 16 | 17 | 22 | 2 | 6 | 11 | 16 | 45 | 50 | 48 | 51 | 46 | 50 | 3 | 6 | 7 | 11 | -7 | -4 | 1 | 5 |
| 1 Comm Housing D | | | 36 | 43 | 53 | 54 | 45 | 47 | 0 | 1 | 1 | 3 | -2 | -1 | 0 | 2 | 25 | 31 | 53 | 53 | 44 | 44 | 0 | 0 | 0 | 0 | -2 | -2 | -1 | -1 |
| 2 Comm Housing A | | | 45 | 48 | 48 | 50 | 46 | 49 | 3 | 5 | 7 | 10 | -7 | -5 | 1 | 4 | 22 | 28 | 45 | 45 | 39 | 39 | 0 | 0 | 0 | 0 | -10 | -10 | -6 | -6 |
| 2 Comm Housing B | | | 50 | 56 | 52 | 56 | 50 | 56 | 4 | 8 | 11 | 17 | -3 | 1 | 5 | 11 | 39 | 43 | 48 | 49 | 42 | 45 | 0 | 1 | 3 | 6 | -7 | -6 | -3 | 0 |
| 2 Comm Housing C | | | 50 | 58 | 52 | 59 | 50 | 58 | 4 | 11 | 11 | 19 | -3 | 4 | 5 | 13 | 36 | 44 | 48 | 49 | 41 | 45 | 0 | 1 | 2 | 6 | -7 | -6 | -4 | 0 |
| 2 Comm Housing D | | | 36 | 46 | 57 | 58 | 49 | 50 | 0 | 1 | 1 | 2 | 0 | 1 | 1 | 2 | 25 | 34 | 57 | 57 | 48 | 49 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 3 Comm Housing A | | | 30 | 37 | 57 | 57 | 48 | 49 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 19 | 26 | 57 | 57 | 48 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 Comm Housing B | | | 34 | 41 | 57 | 57 | 48 | 48 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 23 | 29 | 57 | 57 | 48 | 48 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 3 Comm Housing C | | | 38 | 43 | 46 | 47 | 41 | 44 | 1 | 2 | 2 | 5 | -9 | -8 | -4 | -1 | 21 | 26 | 45 | 45 | 39 | 39 | 0 | 0 | 0 | 0 | -10 | -10 | -6 | -6 |
| 3 Comm Housing D | | | 30 | 39 | 55 | 55 | 46 | 47 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 19 | 28 | 55 | 55 | 46 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Hale Mahaolu Elua A | | | 32 | 48 | 47 | 51 | 40 | 49 | 0 | 4 | 1 | 10 | -8 | -4 | -5 | 4 | 21 | 27 | 47 | 47 | 39 | 39 | 0 | 0 | 0 | 0 | -8 | -8 | -6 | -6 |
| Hale Mahaolu Elua B | | | 37 | 44 | 50 | 51 | 42 | 45 | 0 | 1 | 1 | 4 | -5 | -4 | -3 | 0 | 26 | 31 | 50 | 50 | 41 | 41 | 0 | 0 | 0 | 0 | -5 | -5 | -4 | -4 |
| Hale Mahaolu Elua C | | | 38 | 45 | 46 | 48 | 41 | 46 | 1 | 3 | 2 | 7 | -9 | -7 | -4 | 1 | 27 | 33 | 45 | 45 | 39 | 40 | 0 | 0 | 0 | 1 | -10 | -10 | -6 | -5 |
| Hale Mahaolu Elua D | | | 32 | 40 | 46 | 47 | 40 | 42 | 1 | 2 | 1 | 3 | -9 | -8 | -5 | -3 | 21 | 28 | 46 | 46 | 39 | 39 | 1 | 1 | 0 | 0 | -9 | -9 | -6 | -6 |
| 4 Comm Housing A | | | 32 | 38 | 48 | 49 | 40 | 42 | 0 | 1 | 1 | 3 | -7 | -6 | -5 | -3 | 21 | 27 | 48 | 48 | 39 | 40 | 0 | 0 | 0 | 1 | -7 | -7 | -6 | -5 |
| 4 Comm Housing B | | | 32 | 41 | 45 | 46 | 40 | 43 | 0 | 1 | 1 | 4 | -10 | -9 | -5 | -2 | 21 | 30 | 45 | 45 | 39 | 39 | 0 | 0 | 0 | 0 | -10 | -10 | -6 | -6 |
| 4 Comm Housing C | | | 38 | 44 | 46 | 48 | 41 | 45 | 1 | 3 | 2 | 6 | -9 | -7 | -4 | 0 | 22 | 29 | 45 | 45 | 39 | 39 | 0 | 0 | 0 | 0 | -10 | -10 | -6 | -6 |
| 4 Comm Housing D | | | 38 | 42 | 48 | 49 | 41 | 44 | 0 | 1 | 2 | 5 | -7 | -6 | -4 | -1 | 27 | 31 | 48 | 48 | 39 | 40 | 0 | 0 | 0 | 1 | -7 | -7 | -6 | -5 |
| 5 Comm Housing A | | | 29 | 36 | 58 | 58 | 49 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 24 | 58 | 58 | 49 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 Comm Housing B | | | 44 | 55 | 53 | 57 | 47 | 55 | 1 | 5 | 4 | 12 | -2 | 2 | 2 | 10 | 30 | 38 | 52 | 52 | 43 | 44 | 0 | 0 | 0 | 1 | -3 | -3 | -2 | -1 |
| 5 Comm Housing C | | | 42 | 47 | 49 | 51 | 44 | 48 | 1 | 3 | 5 | 9 | -6 | -4 | -1 | 3 | 27 | 32 | 48 | 48 | 39 | 40 | 0 | 0 | 0 | 1 | -7 | -7 | -6 | -5 |
| 5 Comm Housing D | | | 29 | 36 | 55 | 55 | 46 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 24 | 55 | 55 | 46 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 71A | 294 HINA AVE | 38047048 | 31 | 39 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 26 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 71B | | | 31 | 37 | 59 | 59 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 26 | 59 | 59 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 71C | | | 39 | 52 | 57 | 58 | 48 | 53 | 0 | 1 | 0 | 5 | 0 | 1 | 0 | 5 | 22 | 27 | 57 | 57 | 48 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 71A | | | 51 | 55 | 68 | 68 | 59 | 60 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 40 | 41 | 68 | 68 | 59 | 59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 72A | 439 S KAMEHAMEHA AVE | 38047042 | 45 | 49 | 57 | 57 | 49 | 52 | 0 | 0 | 1 | 4 | 0 | 0 | 1 | 4 | 23 | 29 | 57 | 57 | 48 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 72B | | | 47 | 52 | 49 | 53 | 47 | 52 | 3 | 7 | 8 | 13 | -6 | -2 | 2 | 7 | 23 | 29 | 46 | 46 | 39 | 39 | 0 | 0 | 0 | 0 | -9 | -9 | -6 | -6 |
| RES 72C | | | 41 | 50 | 59 | 59 | 50 | 53 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 25 | 30 | 59 | 59 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 72A | | | 47 | 50 | 65 | 65 | 57 | 57 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 36 | 39 | 65 | 65 | 56 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 73A | 461 S KAMEHAMEHA AVE | 38047036 | 38 | 49 | 54 | 55 | 46 | 50 | 0 | 1 | 1 | 5 | -1 | 0 | 1 | 5 | 27 | 33 | 54 | 54 | 45 | 45 | 0 | 0 | 0 | 0 | -1 | -1 | 0 | 0 |
| RES 73B | | | 38 | 46 | 47 | 49 | 42 | 47 | 0 | 2 | 3 | 8 | -8 | -6 | -3 | 2 | 27 | 33 | 47 | 47 | 39 | 40 | 0 | 0 | 0 | 1 | -8 | -8 | -6 | -5 |
| RES 73C | | | 46 | 63 | 60 | 65 | 52 | 63 | 0 | 5 | 1 | 12 | 0 | 5 | 1 | 12 | 35 | 52 | 60 | 61 | 51 | 54 | 0 | 1 | 0 | 3 | 0 | 1 | 0 | 3 |
| RES 73A | | | 46 | 57 | 66 | 67 | 58 | 60 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 | 35 | 45 | 66 | 66 | 57 | 58 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 74A | 378 Molokai Hema Street | 38047023 | 30 | 37 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 26 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 74B | | | 31 | 38 | 61 | 61 | 52 | 52 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 26 | 61 | 61 | 52 | 52 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 74C | | | 37 | 41 | 51 | 51 | 43 | 45 | 0 | 0 | 1 | 3 | -4 | -4 | -2 | 0 | 20 | 26 | 51 | 51 | 42 | 42 | 0 | 0 | 0 | 0 | -4 | -4 | -3 | -3 |
| RES 74A | | | 37 | 41 | 58 | 58 | 49 | 50 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 26 | 30 | 58 | 58 | 49 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MATIU AKI A | 400 MOLOKAI HEMA ST | 38047029 | 33 | 41 | 48 | 49 | 40 | 43 | 0 | 1 | 1 | 4 | -7 | -6 | -5 | -2 | 22 | 28 | 48 | 48 | 39 | 39 | 0 | 0 | 0 | 0 | -7 | -7 | -6 | -6 |
| MATIU AKI B | | | 45 | 50 | 54 | 55 | 48 | 51 | 0 | 1 | 3 | 6 | -1 | 0 | 3 | 6 | 22 | 28 | 54 | 54 | 45 | 45 | 0 | 0 | 0 | 0 | -1 | -1 | 0 | 0 |
| MATIU AKI C | | | 46 | 53 | 49 | 53 | 47 | 53 | 3 | 7 | 8 | 14 | -6 | -2 | 2 | 8 | 32 | 36 | 46 | 46 | 40 | 41 | 0 | 0 | 1 | 2 | -9 | -9 | -5 | -4 |
| MATIU AKI D | | | 39 | 47 | 50 | 51 | 43 | 48 | 0 | 1 | 2 | 7 | -5 | -4 | -2 | 3 | 28 | 33 | 50 | 50 | 41 | 41 | 0 | 0 | 0 | 0 | -5 | -5 | -4 | -4 |

| | | | CadnaA Construction Results | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Excavation | | | | | | | | | | | | | | Foundation | | | | | | | | | | | | | |
| Receptor | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| RES 75A | 289 LAAU ST | 38047035 | 45 | 55 | 48 | 55 | 46 | 55 | 3 | 10 | 7 | 16 | -7 | 0 | 1 | 10 | 25 | 31 | 45 | 45 | 39 | 40 | 0 | 0 | 0 | 1 | -10 | -10 | -6 | -5 |
| RES 75B | | | 49 | 53 | 57 | 58 | 51 | 54 | 1 | 2 | 4 | 7 | 1 | 2 | 4 | 7 | 25 | 31 | 56 | 56 | 47 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 75C | | | 49 | 57 | 54 | 58 | 50 | 57 | 1 | 5 | 6 | 13 | -1 | 3 | 5 | 12 | 35 | 45 | 53 | 53 | 44 | 47 | 0 | 0 | 0 | 3 | -2 | -2 | -1 | 2 |
| RES 75A | | | 41 | 53 | 51 | 55 | 44 | 54 | 1 | 5 | 3 | 13 | -4 | 0 | -1 | 9 | 30 | 38 | 51 | 51 | 42 | 43 | 1 | 1 | 1 | 2 | -4 | -4 | -3 | -2 |
| RES 76A | 503 S KAMEHAMEHA AVE | 38057007 | 46 | 57 | 60 | 62 | 52 | 58 | 0 | 2 | 1 | 7 | 0 | 2 | 1 | 7 | 29 | 45 | 60 | 60 | 51 | 52 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 76B | | | 48 | 61 | 52 | 61 | 49 | 61 | 2 | 11 | 8 | 20 | -3 | 6 | 4 | 16 | 28 | 34 | 50 | 50 | 41 | 42 | 0 | 0 | 0 | 1 | -5 | -5 | -4 | -3 |
| RES 76C | | | 49 | 55 | 56 | 58 | 51 | 55 | 1 | 3 | 5 | 9 | 1 | 3 | 5 | 9 | 35 | 38 | 55 | 55 | 47 | 47 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| RES 76D | | | 49 | 63 | 68 | 69 | 59 | 65 | 0 | 1 | 0 | 6 | 0 | 1 | 0 | 6 | 35 | 41 | 68 | 68 | 59 | 59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 77A | 507 S KAMEHAMEHA AVE | 38057008 | 42 | 57 | 56 | 59 | 48 | 57 | 0 | 3 | 1 | 10 | 0 | 3 | 1 | 10 | 29 | 38 | 56 | 56 | 47 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 77B | | | 49 | 55 | 51 | 56 | 49 | 55 | 4 | 9 | 10 | 16 | -4 | 1 | 4 | 10 | 27 | 33 | 47 | 47 | 39 | 40 | 0 | 0 | 0 | 1 | -8 | -8 | -6 | -5 |
| RES 77C | | | 44 | 54 | 57 | 58 | 49 | 54 | 1 | 2 | 2 | 7 | 1 | 2 | 2 | 7 | 27 | 33 | 56 | 56 | 47 | 48 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 77D | | | 52 | 58 | 67 | 68 | 59 | 61 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 | 36 | 42 | 67 | 67 | 58 | 58 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 78A EG | 541 S KAMEHAMEHA AVE | 38057016 | 39 | 47 | 56 | 57 | 48 | 50 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 | 23 | 29 | 56 | 56 | 47 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 78A 1.OG | | | 47 | 54 | 59 | 60 | 52 | 55 | 0 | 1 | 2 | 5 | 0 | 1 | 2 | 5 | 31 | 35 | 59 | 59 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 78B EG | | | 47 | 54 | 50 | 54 | 47 | 54 | 3 | 7 | 8 | 15 | -5 | -1 | 2 | 9 | 22 | 29 | 47 | 47 | 39 | 39 | 0 | 0 | 0 | 0 | -8 | -8 | -6 | -6 |
| RES 78B 1.OG | | | 46 | 46 | 51 | 51 | 47 | 47 | 1 | 1 | 6 | 6 | -4 | -4 | 2 | 2 | 22 | 29 | 50 | 50 | 41 | 41 | 0 | 0 | 0 | 0 | -5 | -5 | -4 | -4 |
| RES 78C EG | | | 49 | 53 | 57 | 58 | 51 | 54 | 0 | 1 | 3 | 6 | 0 | 1 | 3 | 6 | 22 | 29 | 57 | 57 | 48 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 78C 1.OG | | | 53 | 57 | 60 | 62 | 55 | 58 | 1 | 3 | 5 | 8 | 1 | 3 | 5 | 8 | 23 | 29 | 60 | 60 | 51 | 51 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| RES 78D | | | 47 | 57 | 66 | 67 | 58 | 60 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 | 36 | 41 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 78D 1.OG | | | 52 | 59 | 68 | 68 | 60 | 62 | 0 | 0 | 1 | 3 | 0 | 0 | 1 | 3 | 41 | 43 | 68 | 68 | 59 | 59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 78A 1.OG | | | 38 | 64 | 57 | 65 | 48 | 64 | 0 | 8 | 0 | 16 | 0 | 8 | 0 | 16 | 27 | 50 | 57 | 58 | 48 | 52 | 0 | 1 | 0 | 4 | 0 | 1 | 0 | 4 |
| RES 79 B | 282 LAAU ST | 38057033 | 37 | 48 | 50 | 52 | 42 | 49 | 0 | 2 | 1 | 8 | -5 | -3 | -3 | 4 | 26 | 34 | 50 | 50 | 41 | 42 | 0 | 0 | 0 | 1 | -5 | -5 | -4 | -3 |
| RES 79 C | | | 46 | 52 | 49 | 53 | 47 | 52 | 3 | 7 | 8 | 13 | -6 | -2 | 2 | 7 | 31 | 36 | 46 | 46 | 40 | 41 | 0 | 0 | 1 | 2 | -9 | -9 | -5 | -4 |
| RES 79 D | | | 51 | 61 | 55 | 61 | 52 | 61 | 2 | 8 | 8 | 17 | 0 | 6 | 7 | 16 | 27 | 37 | 53 | 53 | 44 | 44 | 0 | 0 | 0 | 0 | -2 | -2 | -1 | -1 |
| RES 80 A | 490 MOLOKAI HEMA ST | 38057025 | 49 | 53 | 50 | 53 | 49 | 53 | 5 | 8 | 10 | 14 | -5 | -2 | 4 | 8 | 28 | 36 | 45 | 45 | 39 | 41 | 0 | 0 | 0 | 2 | -10 | -10 | -6 | -4 |
| RES 80 B | | | 36 | 44 | 57 | 57 | 48 | 49 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 25 | 31 | 57 | 57 | 48 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 80 C | | | 43 | 50 | 47 | 51 | 44 | 51 | 2 | 6 | 5 | 12 | -8 | -4 | -1 | 6 | 25 | 31 | 45 | 45 | 39 | 40 | 0 | 0 | 0 | 1 | -10 | -10 | -6 | -5 |
| RES 80 D | | | 46 | 53 | 52 | 55 | 48 | 53 | 2 | 5 | 7 | 12 | -3 | 0 | 3 | 8 | 31 | 36 | 50 | 50 | 41 | 42 | 0 | 0 | 0 | 1 | -5 | -5 | -4 | -3 |
| RES 81 A | 540 MOLOKAI HEMA ST | 38057018 | 47 | 53 | 51 | 54 | 48 | 53 | 3 | 6 | 9 | 14 | -4 | -1 | 3 | 8 | 24 | 30 | 48 | 48 | 40 | 40 | 0 | 0 | 1 | 1 | -7 | -7 | -5 | -5 |
| RES 81 B | | | 35 | 42 | 55 | 55 | 46 | 48 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 21 | 27 | 55 | 55 | 46 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 81 C | | | 41 | 51 | 57 | 58 | 48 | 52 | 0 | 1 | 0 | 4 | 0 | 1 | 0 | 4 | 21 | 27 | 57 | 57 | 48 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 81 D | | | 49 | 54 | 54 | 56 | 50 | 54 | 2 | 4 | 7 | 11 | -1 | 1 | 5 | 9 | 32 | 36 | 52 | 52 | 43 | 44 | 0 | 0 | 0 | 1 | -3 | -3 | -2 | -1 |
| RES 82 A | 270 UHU ST | 38053001 | 61 | 68 | 63 | 69 | 62 | 68 | 5 | 11 | 13 | 19 | 5 | 11 | 13 | 19 | 50 | 57 | 58 | 60 | 53 | 57 | 0 | 2 | 4 | 8 | 0 | 2 | 4 | 8 |
| RES 82 B | | | 62 | 67 | 63 | 68 | 62 | 67 | 6 | 11 | 14 | 19 | 6 | 11 | 14 | 19 | 51 | 55 | 58 | 59 | 53 | 56 | 1 | 2 | 5 | 8 | 1 | 2 | 5 | 8 |
| RES 82 B | | | 49 | 55 | 51 | 55 | 50 | 55 | 6 | 10 | 11 | 16 | -4 | 0 | 5 | 10 | 28 | 35 | 45 | 45 | 39 | 41 | 0 | 0 | 0 | 2 | -10 | -10 | -6 | -4 |
| RES 82 D | | | 51 | 65 | 55 | 65 | 51 | 65 | 3 | 13 | 8 | 22 | 0 | 10 | 6 | 20 | 29 | 36 | 52 | 52 | 44 | 44 | 0 | 0 | 1 | 1 | -3 | -3 | -1 | -1 |
| RES 83 A | 530 POHAI ST | 38053007 | 42 | 48 | 47 | 49 | 44 | 48 | 2 | 4 | 5 | 9 | -8 | -6 | -1 | 3 | 25 | 31 | 45 | 45 | 39 | 40 | 0 | 0 | 0 | 1 | -10 | -10 | -6 | -5 |
| RES 83 B | | | 46 | 53 | 57 | 58 | 50 | 54 | 0 | 1 | 2 | 6 | 0 | 1 | 2 | 6 | 33 | 39 | 57 | 57 | 48 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 83 C | | | 43 | 53 | 48 | 54 | 44 | 53 | 1 | 7 | 5 | 14 | -7 | -1 | -1 | 8 | 24 | 31 | 47 | 47 | 39 | 40 | 0 | 0 | 0 | 1 | -8 | -8 | -6 | -5 |
| RES 83 D | | | 52 | 53 | 52 | 54 | 52 | 53 | 7 | 9 | 13 | 14 | -3 | -1 | 7 | 8 | 24 | 31 | 45 | 45 | 39 | 40 | 0 | 0 | 0 | 1 | -10 | -10 | -6 | -5 |
| RES 84 A | 700 MOLOKAI AKAU ST | 38053013 | 38 | 48 | 47 | 51 | 41 | 49 | 0 | 4 | 2 | 10 | -8 | -4 | -4 | 4 | 22 | 28 | 47 | 47 | 39 | 39 | 0 | 0 | 0 | 0 | -8 | -8 | -6 | -6 |
| RES 84 B | | | 42 | 53 | 56 | 58 | 48 | 54 | 0 | 2 | 1 | 7 | 0 | 2 | 1 | 7 | 31 | 38 | 56 | 56 | 47 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 84 C | | | 46 | 56 | 60 | 61 | 52 | 57 | 0 | 1 | 1 | 6 | 0 | 1 | 1 | 6 | 21 | 27 | 60 | 60 | 51 | 51 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 84 D | | | 42 | 51 | 52 | 54 | 45 | 51 | 1 | 3 | 3 | 9 | -3 | -1 | 0 | 6 | 21 | 27 | 51 | 51 | 42 | 42 | 0 | 0 | 0 | 0 | -4 | -4 | -3 | -3 |
| RES 85 A | 260 UHU ST | 38053026 | 61 | 67 | 63 | 67 | 62 | 67 | 4 | 8 | 12 | 17 | 4 | 8 | 12 | 17 | 49 | 55 | 59 | 60 | 52 | 56 | 0 | 1 | 2 | 6 | 0 | 1 | 2 | 6 |
| RES 85 B | | | 59 | 58 | 60 | 59 | 59 | 58 | 10 | 9 | 18 | 17 | 5 | 4 | 14 | 13 | 32 | 39 | 50 | 50 | 41 | 43 | 0 | 0 | 0 | 2 | -5 | -5 | -4 | -2 |
| RES 85 C | | | 46 | 57 | 49 | 58 | 47 | 57 | 4 | 13 | 8 | 18 | -6 | 3 | 2 | 12 | 26 | 33 | 46 | 46 | 39 | 40 | 1 | 1 | 0 | 1 | -9 | -9 | -6 | -5 |
| RES 85 D | | | 59 | 59 | 61 | 61 | 60 | 59 | 4 | 4 | 12 | 11 | 4 | 4 | 12 | 11 | 27 | 34 | 57 | 57 | 48 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 86 A | 529 POHAKU ST | 38053020 | 46 | 54 | 49 | 55 | 47 | 54 | 3 | 9 | 8 | 15 | -6 | 0 | 2 | 9 | 24 | 30 | 46 | 46 | 39 | 40 | 0 | 0 | 0 | 1 | -9 | -9 | -6 | -5 |
| RES 86 B | | | 50 | 51 | 51 | 52 | 50 | 51 | 6 | 7 | 11 | 12 | -4 | -3 | 5 | 6 | 29 | 34 | 45 | 45 | 39 | 40 | 0 | 0 | 0 | 1 | -10 | -10 | -6 | -5 |
| RES 86 C | | | 42 | 48 | 47 | 50 | 44 | 48 | 2 | 5 | 5 | 9 | -8 | -5 | -1 | 3 | 23 | 30 | 45 | 45 | 39 | 39 | 0 | 0 | 0 | 0 | -10 | -10 | -6 | -6 |
| RES 86 D | | | 48 | 52 | 56 | 57 | 50 | 53 | 1 | 2 | 4 | 7 | 1 | 2 | 4 | 7 | 23 | 30 | 55 | 55 | 46 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 87 A | 710 MOLOKAI AKAU ST | 38053014 | 36 | 44 | 46 | 48 | 41 | 45 | 0 | 2 | 2 | 6 | -9 | -7 | -4 | 0 | 21 | 27 | 46 | 46 | 39 | 39 | 0 | 0 | 0 | 0 | -9 | -9 | -6 | -6 |
| RES 87 B | | | 49 | 53 | 53 | 55 | 50 | 53 | 3 | 5 | 9 | 12 | -2 | 0 | 5 | 8 | 28 | 33 | 50 | 50 | 42 | 42 | 0 | 0 | 1 | 1 | -5 | -5 | -3 | -3 |
| RES 87 C | | | 42 | 48 | 58 | 58 | 49 | 51 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 20 | 27 | 58 | 58 | 49 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 87 D | | | 44 | 49 | 58 | 58 | 50 | 52 | 0 | 0 | 1 | 3 | 0 | 0 | 1 | 3 | 21 | 27 | 58 | 58 | 49 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | CadnaA Construction Results | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Excavation | | | | | | | | | | | | | | Foundation | | | | | | | | | | | | | |
| Receptor | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| RES 88 A | 730 MOLOKAI AKAU ST | 38053039 | 41 | 44 | 48 | 49 | 43 | 45 | 1 | 2 | 4 | 6 | -7 | -6 | -2 | 0 | 20 | 26 | 47 | 47 | 39 | 39 | 0 | 0 | 0 | 0 | -8 | -8 | -6 | -6 |
| RES 88 B | | | 45 | 48 | 56 | 57 | 49 | 50 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 30 | 35 | 56 | 56 | 47 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 88 C | | | 43 | 48 | 57 | 57 | 49 | 51 | 0 | 0 | 1 | 3 | 0 | 0 | 1 | 3 | 20 | 26 | 57 | 57 | 48 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 88 D | | | 47 | 49 | 50 | 51 | 47 | 49 | 3 | 4 | 8 | 10 | -5 | -4 | 2 | 4 | 20 | 26 | 47 | 47 | 39 | 39 | 0 | 0 | 0 | 0 | -8 | -8 | -6 | -6 |
| RES 89 A | 503 WAIKALA ST | 38053052 | 53 | 61 | 59 | 63 | 54 | 61 | 1 | 5 | 5 | 12 | 1 | 5 | 5 | 12 | 42 | 48 | 58 | 58 | 50 | 52 | 0 | 0 | 1 | 3 | 0 | 0 | 1 | 3 |
| RES 89 B | | | 46 | 53 | 50 | 55 | 47 | 54 | 2 | 7 | 8 | 15 | -5 | 0 | 2 | 9 | 26 | 32 | 49 | 49 | 40 | 40 | 1 | 1 | 1 | 1 | -6 | -6 | -5 | -5 |
| RES 89 C | | | 50 | 54 | 52 | 55 | 50 | 54 | 4 | 7 | 11 | 15 | -3 | 0 | 5 | 9 | 23 | 29 | 48 | 48 | 39 | 39 | 0 | 0 | 0 | 0 | -7 | -7 | -6 | -6 |
| RES 89 D | | | 47 | 55 | 57 | 59 | 50 | 56 | 0 | 2 | 2 | 8 | 0 | 2 | 2 | 8 | 23 | 29 | 57 | 57 | 48 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 90 A | 525 WAIKALA ST | 38053047 | 47 | 50 | 49 | 51 | 47 | 50 | 4 | 6 | 8 | 11 | -6 | -4 | 2 | 5 | 23 | 29 | 45 | 45 | 39 | 39 | 0 | 0 | 0 | 0 | -10 | -10 | -6 | -6 |
| RES 90 B | | | 42 | 46 | 47 | 49 | 44 | 47 | 2 | 4 | 5 | 8 | -8 | -6 | -1 | 2 | 23 | 29 | 45 | 45 | 39 | 39 | 0 | 0 | 0 | 0 | -10 | -10 | -6 | -6 |
| RES 90 C | | | 38 | 44 | 46 | 48 | 41 | 45 | 0 | 2 | 2 | 6 | -9 | -7 | -4 | 0 | 21 | 28 | 46 | 46 | 39 | 39 | 0 | 0 | 0 | 0 | -9 | -9 | -6 | -6 |
| RES 90 D | | | 34 | 46 | 56 | 56 | 47 | 49 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 3 | 21 | 28 | 56 | 56 | 47 | 47 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| RES 91 A | 740 MOLOKAI AKAU ST | 38053040 | 35 | 49 | 45 | 50 | 40 | 49 | 0 | 5 | 1 | 10 | -10 | -5 | -5 | 4 | 20 | 26 | 45 | 45 | 39 | 39 | 0 | 0 | 0 | 0 | -10 | -10 | -6 | -6 |
| RES 91 B | | | 39 | 47 | 48 | 50 | 42 | 47 | 1 | 3 | 3 | 8 | -7 | -5 | -3 | 2 | 21 | 27 | 47 | 47 | 39 | 39 | 0 | 0 | 0 | 0 | -8 | -8 | -6 | -6 |
| RES 91 C | | | 42 | 47 | 56 | 57 | 48 | 50 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 | 19 | 26 | 56 | 56 | 47 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 91 D | | | 30 | 38 | 56 | 56 | 47 | 48 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 19 | 26 | 56 | 56 | 47 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 92 A | 504 POHAKU ST | 38053027 | 60 | 64 | 63 | 65 | 60 | 64 | 3 | 5 | 9 | 13 | 3 | 5 | 9 | 13 | 47 | 52 | 60 | 60 | 52 | 54 | 0 | 0 | 1 | 3 | 0 | 0 | 1 | 3 |
| RES 92 B | | | 47 | 59 | 57 | 61 | 51 | 59 | 0 | 4 | 3 | 11 | 0 | 4 | 3 | 11 | 35 | 47 | 57 | 57 | 48 | 51 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 |
| RES 92 C | | | 47 | 55 | 50 | 56 | 48 | 55 | 5 | 11 | 9 | 16 | -5 | 1 | 3 | 10 | 24 | 31 | 45 | 46 | 39 | 40 | 0 | 1 | 0 | 1 | -10 | -9 | -6 | -5 |
| RES 92 D | | | 43 | 49 | 52 | 53 | 46 | 50 | 1 | 2 | 4 | 8 | -3 | -2 | 1 | 5 | 25 | 31 | 51 | 51 | 42 | 43 | 0 | 0 | 0 | 1 | -4 | -4 | -3 | -2 |
| RES 93 A | 526 POHAKU ST | 38053032 | 41 | 47 | 47 | 49 | 43 | 48 | 2 | 4 | 4 | 9 | -8 | -6 | -2 | 3 | 24 | 30 | 45 | 45 | 39 | 39 | 0 | 0 | 0 | 0 | -10 | -10 | -6 | -6 |
| RES 93 B | | | 50 | 53 | 56 | 57 | 51 | 53 | 1 | 2 | 5 | 7 | 1 | 2 | 5 | 7 | 31 | 37 | 56 | 56 | 47 | 47 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| RES 93 C | | | 42 | 47 | 47 | 49 | 44 | 48 | 2 | 4 | 5 | 9 | -8 | -6 | -1 | 3 | 23 | 29 | 45 | 45 | 39 | 39 | 0 | 0 | 0 | 0 | -10 | -10 | -6 | -6 |
| RES 93 D | | | 40 | 47 | 46 | 49 | 43 | 48 | 1 | 4 | 4 | 9 | -9 | -6 | -2 | 3 | 22 | 29 | 45 | 45 | 39 | 39 | 0 | 0 | 0 | 0 | -10 | -10 | -6 | -6 |
| RES 94 A | 310 HINA AVE | 38047022 | 30 | 38 | 66 | 66 | 57 | 57 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 19 | 25 | 66 | 66 | 57 | 57 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| RES 94 B | | | 44 | 47 | 59 | 59 | 51 | 52 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 2 | 19 | 25 | 59 | 59 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 94 C | | | 43 | 47 | 49 | 50 | 44 | 48 | 1 | 2 | 5 | 9 | -6 | -5 | -1 | 3 | 20 | 26 | 48 | 48 | 39 | 39 | 0 | 0 | 0 | 0 | -7 | -7 | -6 | -6 |
| RES 94 D | | | 43 | 49 | 59 | 59 | 51 | 52 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 2 | 32 | 36 | 59 | 59 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 95 A | 403 MOLOKAI HEMA ST | 38047016 | 44 | 50 | 48 | 51 | 45 | 50 | 2 | 5 | 6 | 11 | -7 | -4 | 0 | 5 | 22 | 28 | 46 | 46 | 39 | 39 | 0 | 0 | 0 | 0 | -9 | -9 | -6 | -6 |
| RES 95 B | | | 42 | 46 | 47 | 48 | 44 | 46 | 2 | 3 | 5 | 7 | -8 | -7 | -1 | 1 | 22 | 28 | 45 | 45 | 39 | 39 | 0 | 0 | 0 | 0 | -10 | -10 | -6 | -6 |
| RES 95 C | | | 43 | 51 | 47 | 52 | 45 | 51 | 2 | 7 | 6 | 12 | -8 | -3 | 0 | 6 | 22 | 28 | 45 | 45 | 39 | 39 | 0 | 0 | 0 | 0 | -10 | -10 | -6 | -6 |
| RES 95 D | | | 49 | 54 | 56 | 57 | 51 | 54 | 2 | 3 | 6 | 9 | 1 | 2 | 6 | 9 | 32 | 38 | 54 | 54 | 46 | 46 | 0 | 0 | 1 | 1 | -1 | -1 | 1 | 1 |
| RES 96 A | 320 HINA AVE | 38047001 | 30 | 36 | 65 | 65 | 56 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 25 | 65 | 65 | 56 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 96 B | | | 29 | 36 | 58 | 58 | 49 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 24 | 58 | 58 | 49 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 96 C | | | 35 | 43 | 45 | 47 | 40 | 44 | 0 | 2 | 1 | 5 | -10 | -8 | -5 | -1 | 19 | 25 | 45 | 45 | 39 | 39 | 0 | 0 | 0 | 0 | -10 | -10 | -6 | -6 |
| RES 96 D | | | 41 | 47 | 58 | 58 | 49 | 51 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 25 | 30 | 58 | 58 | 49 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 97 A | 366 NIIHAU ST | 38047006 | 45 | 49 | 48 | 50 | 46 | 49 | 3 | 5 | 7 | 10 | -7 | -5 | 1 | 4 | 20 | 26 | 45 | 45 | 39 | 39 | 0 | 0 | 0 | 0 | -10 | -10 | -6 | -6 |
| RES 97 B | | | 31 | 38 | 45 | 46 | 40 | 41 | 0 | 1 | 1 | 2 | -10 | -9 | -5 | -4 | 20 | 26 | 45 | 45 | 39 | 39 | 0 | 0 | 0 | 0 | -10 | -10 | -6 | -6 |
| RES 97 C | | | 34 | 44 | 45 | 47 | 40 | 45 | 0 | 2 | 1 | 6 | -10 | -8 | -5 | 0 | 23 | 30 | 45 | 45 | 39 | 39 | 0 | 0 | 0 | 0 | -10 | -10 | -6 | -6 |
| RES 97 D | | | 38 | 47 | 46 | 49 | 41 | 48 | 0 | 3 | 2 | 9 | -9 | -6 | -4 | 3 | 27 | 33 | 46 | 46 | 39 | 40 | 0 | 0 | 0 | 1 | -9 | -9 | -6 | -5 |
| Kahului Jodo Mission A | 325 LAAU ST | 38047011 | 46 | 51 | 49 | 52 | 47 | 51 | 4 | 7 | 8 | 12 | -6 | -3 | 2 | 6 | 23 | 29 | 45 | 45 | 39 | 39 | 0 | 0 | 0 | 0 | -10 | -10 | -6 | -6 |
| Kahului Jodo Mission B | | | 44 | 53 | 47 | 53 | 45 | 53 | 2 | 8 | 6 | 14 | -8 | -2 | 0 | 8 | 22 | 28 | 45 | 45 | 39 | 39 | 0 | 0 | 0 | 0 | -10 | -10 | -6 | -6 |
| Kahului Jodo Mission C | | | 45 | 55 | 52 | 56 | 47 | 55 | 1 | 5 | 5 | 13 | -3 | 1 | 2 | 10 | 34 | 41 | 51 | 51 | 43 | 45 | 0 | 0 | 1 | 3 | -4 | -4 | -2 | 0 |
| Kahului Jodo Mission D | | | 46 | 52 | 54 | 56 | 48 | 52 | 0 | 2 | 3 | 7 | -1 | 1 | 3 | 7 | 29 | 36 | 54 | 54 | 45 | 45 | 0 | 0 | 0 | 0 | -1 | -1 | 0 | 0 |
| Maui HS GYM | 660 LONO AVE | 38007098 | 51 | 57 | 52 | 57 | 51 | 57 | 4 | 9 | 12 | 18 | -3 | 2 | 6 | 12 | 37 | 42 | 48 | 49 | 41 | 44 | 0 | 1 | 2 | 5 | -7 | -6 | -4 | -1 |
| REC Kahalui Elem School | 410 HINA AVE | 38007041 | 55 | 56 | 56 | 56 | 55 | 56 | 9 | 9 | 16 | 17 | 1 | 1 | 10 | 11 | 35 | 41 | 47 | 48 | 41 | 43 | 0 | 1 | 2 | 4 | -8 | -7 | -4 | -2 |

| | | | CadnaA Construction Results | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Erection | | | | | | | | | | | | | | Finishing | | | | | | | | | | | | | |
| Receptor | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| RES 1A | 504 Kaulana Street | 38056037 | 67 | 79 | 67 | 79 | 67 | 79 | 22 | 34 | 31 | 43 | 12 | 24 | 22 | 34 | 69 | 81 | 69 | 81 | 69 | 81 | 24 | 36 | 33 | 45 | 14 | 26 | 24 | 36 |
| RES 1B | | | 63 | 71 | 64 | 71 | 63 | 71 | 8 | 15 | 16 | 24 | 8 | 15 | 16 | 24 | 65 | 73 | 66 | 73 | 65 | 73 | 10 | 17 | 18 | 26 | 10 | 17 | 18 | 26 |
| RES 1C | | | 52 | 61 | 53 | 61 | 52 | 61 | 7 | 15 | 15 | 24 | -2 | 6 | 7 | 16 | 54 | 63 | 54 | 63 | 54 | 63 | 8 | 17 | 17 | 26 | -1 | 8 | 9 | 18 |
| RES 1D | | | 68 | 85 | 68 | 85 | 68 | 85 | 23 | 40 | 32 | 49 | 13 | 30 | 23 | 40 | 70 | 87 | 70 | 87 | 70 | 87 | 25 | 42 | 34 | 51 | 15 | 32 | 25 | 42 |
| RES 2A EG | 508 Kaulana Street | 38056038 | 49 | 59 | 51 | 60 | 49 | 59 | 5 | 14 | 12 | 22 | -4 | 5 | 4 | 14 | 51 | 61 | 52 | 62 | 51 | 61 | 6 | 16 | 14 | 24 | -3 | 7 | 6 | 16 |
| RES 2A 1.OG | | | 57 | 64 | 58 | 64 | 57 | 64 | 8 | 14 | 16 | 23 | 3 | 9 | 12 | 19 | 59 | 66 | 60 | 66 | 59 | 66 | 10 | 16 | 18 | 25 | 5 | 11 | 14 | 21 |
| RES 2B EG | | | 65 | 68 | 65 | 68 | 65 | 68 | 8 | 11 | 17 | 20 | 8 | 11 | 17 | 20 | 67 | 70 | 67 | 70 | 67 | 70 | 10 | 13 | 19 | 22 | 10 | 13 | 19 | 22 |
| RES 2B 1.OG | | | 66 | 69 | 67 | 70 | 66 | 69 | 9 | 12 | 17 | 20 | 9 | 12 | 17 | 20 | 68 | 71 | 68 | 71 | 68 | 71 | 10 | 13 | 19 | 22 | 10 | 13 | 19 | 22 |
| RES 2C EG | | | 51 | 59 | 53 | 60 | 51 | 59 | 5 | 12 | 12 | 20 | -2 | 5 | 6 | 14 | 53 | 61 | 54 | 61 | 53 | 61 | 6 | 13 | 14 | 22 | -1 | 6 | 8 | 16 |
| RES 2C 1.OG | | | 57 | 63 | 58 | 63 | 57 | 63 | 6 | 11 | 14 | 20 | 3 | 8 | 12 | 18 | 59 | 65 | 60 | 65 | 59 | 65 | 8 | 13 | 16 | 22 | 5 | 10 | 14 | 20 |
| RES 2D EG | | | 57 | 77 | 57 | 77 | 57 | 77 | 14 | 34 | 23 | 43 | 2 | 22 | 12 | 32 | 59 | 79 | 59 | 79 | 59 | 79 | 16 | 36 | 25 | 45 | 4 | 24 | 14 | 34 |
| RES 2D 1.OG | | | 61 | 77 | 61 | 77 | 61 | 77 | 13 | 29 | 22 | 38 | 6 | 22 | 16 | 32 | 63 | 79 | 63 | 79 | 63 | 79 | 15 | 31 | 24 | 40 | 8 | 24 | 18 | 34 |
| RES 3A | 516 Kaulana Street | 38056040 | 56 | 67 | 59 | 67 | 56 | 67 | 2 | 10 | 8 | 19 | 2 | 10 | 8 | 19 | 58 | 69 | 60 | 69 | 58 | 69 | 3 | 12 | 10 | 21 | 3 | 12 | 10 | 21 |
| RES 3C | | | 51 | 57 | 52 | 57 | 51 | 57 | 7 | 12 | 15 | 21 | -3 | 2 | 6 | 12 | 53 | 59 | 53 | 59 | 53 | 59 | 8 | 14 | 17 | 23 | -2 | 4 | 8 | 14 |
| RES 3D | | | 52 | 67 | 52 | 67 | 52 | 67 | 8 | 23 | 17 | 32 | -3 | 12 | 7 | 22 | 54 | 69 | 54 | 69 | 54 | 69 | 10 | 25 | 19 | 34 | -1 | 14 | 9 | 24 |
| RES 3A | | | 50 | 57 | 52 | 58 | 50 | 57 | 4 | 10 | 11 | 18 | -3 | 3 | 5 | 12 | 52 | 59 | 53 | 59 | 52 | 59 | 5 | 11 | 13 | 20 | -2 | 4 | 7 | 14 |
| RES 4A | 526 Kaulana Street | 38056042 | 47 | 55 | 49 | 55 | 47 | 55 | 4 | 10 | 11 | 19 | -6 | 0 | 2 | 10 | 49 | 57 | 50 | 57 | 49 | 57 | 5 | 12 | 13 | 21 | -5 | 2 | 4 | 12 |
| RES 4B | | | 45 | 60 | 57 | 62 | 50 | 60 | 0 | 5 | 2 | 12 | 0 | 5 | 2 | 12 | 47 | 62 | 57 | 63 | 51 | 62 | 0 | 6 | 3 | 14 | 0 | 6 | 3 | 14 |
| RES 4C | | | 46 | 53 | 48 | 54 | 46 | 53 | 3 | 9 | 10 | 17 | -7 | -1 | 1 | 8 | 48 | 55 | 49 | 55 | 48 | 55 | 4 | 10 | 12 | 19 | -6 | 0 | 3 | 10 |
| RES 4D | | | 53 | 55 | 53 | 56 | 53 | 55 | 8 | 11 | 17 | 19 | -2 | 1 | 8 | 10 | 55 | 57 | 55 | 57 | 55 | 57 | 10 | 12 | 19 | 21 | 0 | 2 | 10 | 12 |
| RES 5A | 532 Kaulana Street | 38056043 | 46 | 51 | 49 | 52 | 46 | 51 | 3 | 6 | 9 | 14 | -6 | -3 | 1 | 6 | 48 | 53 | 50 | 54 | 48 | 53 | 4 | 8 | 11 | 16 | -5 | -1 | 3 | 8 |
| RES 5B | | | 43 | 61 | 57 | 62 | 49 | 61 | 1 | 6 | 2 | 14 | 1 | 6 | 2 | 14 | 45 | 63 | 57 | 63 | 49 | 63 | 1 | 7 | 2 | 16 | 1 | 7 | 2 | 16 |
| RES 5C | | | 45 | 51 | 49 | 52 | 46 | 51 | 3 | 6 | 9 | 14 | -6 | -3 | 1 | 6 | 47 | 53 | 50 | 54 | 47 | 53 | 4 | 8 | 10 | 16 | -5 | -1 | 2 | 8 |
| RES 5D | | | 41 | 53 | 47 | 54 | 42 | 53 | 2 | 9 | 6 | 17 | -8 | -1 | -3 | 8 | 43 | 55 | 47 | 55 | 44 | 55 | 2 | 10 | 8 | 19 | -8 | 0 | -1 | 10 |
| RES 6A | 540 Kaulana Street | 38056045 | 43 | 49 | 48 | 51 | 45 | 49 | 2 | 5 | 6 | 10 | -7 | -4 | 0 | 4 | 45 | 51 | 49 | 52 | 46 | 51 | 3 | 6 | 7 | 12 | -6 | -3 | 1 | 6 |
| RES 6B | | | 44 | 55 | 57 | 59 | 49 | 56 | 0 | 2 | 1 | 8 | 0 | 2 | 1 | 8 | 46 | 57 | 57 | 60 | 50 | 58 | 0 | 3 | 2 | 10 | 0 | 3 | 2 | 10 |
| RES 6C | | | 42 | 48 | 48 | 50 | 44 | 49 | 2 | 4 | 5 | 10 | -7 | -5 | -1 | 4 | 44 | 50 | 49 | 52 | 46 | 50 | 3 | 6 | 7 | 11 | -6 | -3 | 1 | 5 |
| RES 6D | | | 41 | 52 | 47 | 52 | 43 | 52 | 2 | 7 | 4 | 13 | -8 | -3 | -2 | 7 | 43 | 54 | 47 | 54 | 45 | 54 | 2 | 9 | 6 | 15 | -8 | -1 | 0 | 9 |
| RES 7A | 548 Kaulana Street | 38056047 | 39 | 44 | 46 | 48 | 42 | 45 | 1 | 3 | 3 | 6 | -9 | -7 | -3 | 0 | 41 | 46 | 47 | 49 | 43 | 47 | 2 | 4 | 4 | 8 | -8 | -6 | -2 | 2 |
| RES 7B | | | 49 | 56 | 57 | 60 | 51 | 57 | 0 | 3 | 3 | 9 | 0 | 3 | 3 | 9 | 51 | 58 | 58 | 61 | 53 | 59 | 1 | 4 | 5 | 11 | 1 | 4 | 5 | 11 |
| RES 7C | | | 39 | 45 | 46 | 48 | 42 | 46 | 1 | 3 | 3 | 7 | -9 | -7 | -3 | 1 | 41 | 47 | 46 | 49 | 43 | 47 | 1 | 4 | 4 | 8 | -9 | -6 | -2 | 2 |
| RES 7D | | | 51 | 53 | 52 | 54 | 51 | 53 | 7 | 9 | 12 | 14 | -3 | -1 | 6 | 8 | 53 | 55 | 53 | 56 | 53 | 55 | 8 | 11 | 14 | 16 | -2 | 1 | 8 | 10 |
| RES 8A | 640 Molokai Akau Street | 38056049 | 37 | 43 | 46 | 47 | 41 | 44 | 1 | 2 | 2 | 5 | -9 | -8 | -4 | -1 | 39 | 45 | 46 | 48 | 42 | 46 | 1 | 3 | 3 | 7 | -9 | -7 | -3 | 1 |
| RES 8B | | | 51 | 57 | 59 | 60 | 53 | 57 | 1 | 2 | 4 | 8 | 1 | 2 | 4 | 8 | 53 | 59 | 59 | 61 | 54 | 59 | 1 | 3 | 5 | 10 | 1 | 3 | 5 | 10 |
| RES 8C | | | 44 | 52 | 58 | 59 | 50 | 54 | 1 | 2 | 2 | 6 | 1 | 2 | 2 | 6 | 46 | 54 | 58 | 59 | 51 | 55 | 1 | 2 | 3 | 7 | 1 | 2 | 3 | 7 |
| RES 8D | | | 34 | 43 | 49 | 50 | 41 | 45 | 0 | 1 | 1 | 5 | -6 | -5 | -4 | 0 | 36 | 45 | 49 | 50 | 41 | 46 | 0 | 1 | 1 | 6 | -6 | -5 | -4 | 1 |
| RES 9A | 503 KAIMANA ST | 38056062 | 69 | 80 | 69 | 80 | 69 | 80 | 15 | 26 | 25 | 36 | 14 | 25 | 24 | 35 | 71 | 82 | 71 | 82 | 71 | 82 | 17 | 28 | 27 | 38 | 16 | 27 | 26 | 37 |
| RES 9B | | | 68 | 83 | 68 | 83 | 68 | 83 | 17 | 32 | 27 | 42 | 13 | 28 | 23 | 38 | 70 | 85 | 70 | 85 | 70 | 85 | 19 | 34 | 29 | 44 | 15 | 30 | 25 | 40 |
| RES 9C | | | 58 | 60 | 58 | 60 | 58 | 60 | 9 | 11 | 19 | 21 | 3 | 5 | 13 | 15 | 60 | 62 | 60 | 62 | 60 | 62 | 11 | 13 | 21 | 23 | 5 | 7 | 15 | 17 |
| RES 9D | | | 51 | 67 | 60 | 68 | 53 | 67 | 0 | 8 | 3 | 17 | 0 | 8 | 3 | 17 | 53 | 69 | 61 | 70 | 54 | 69 | 1 | 10 | 4 | 19 | 1 | 10 | 4 | 19 |
| RES 10A | 511 KAIMANA ST | 38056060 | 49 | 56 | 52 | 57 | 50 | 56 | 3 | 8 | 11 | 17 | -3 | 2 | 5 | 11 | 51 | 58 | 53 | 59 | 52 | 58 | 4 | 10 | 13 | 19 | -2 | 4 | 7 | 13 |
| RES 10B | | | 57 | 70 | 58 | 70 | 57 | 70 | 8 | 20 | 17 | 30 | 3 | 15 | 12 | 25 | 59 | 72 | 59 | 72 | 59 | 72 | 9 | 22 | 19 | 32 | 4 | 17 | 14 | 27 |
| RES 10C | | | 50 | 56 | 53 | 57 | 51 | 56 | 4 | 8 | 12 | 17 | -2 | 2 | 6 | 11 | 52 | 58 | 54 | 59 | 53 | 58 | 5 | 10 | 14 | 19 | -1 | 4 | 8 | 13 |
| RES 10D | | | 61 | 57 | 63 | 61 | 61 | 57 | 5 | 3 | 13 | 9 | 5 | 3 | 13 | 9 | 63 | 59 | 64 | 61 | 63 | 59 | 6 | 3 | 15 | 11 | 6 | 3 | 15 | 11 |
| RES 11A | 523 KAIMANA ST | 38056058 | 47 | 55 | 52 | 56 | 48 | 55 | 2 | 6 | 8 | 15 | -3 | 1 | 3 | 10 | 49 | 57 | 52 | 57 | 49 | 57 | 2 | 7 | 9 | 17 | -3 | 2 | 4 | 12 |
| RES 11B | | | 53 | 55 | 56 | 57 | 54 | 55 | 4 | 5 | 12 | 13 | 1 | 2 | 9 | 10 | 55 | 57 | 57 | 58 | 56 | 57 | 5 | 6 | 14 | 15 | 2 | 3 | 11 | 12 |
| RES 11C | | | 45 | 53 | 52 | 55 | 47 | 53 | 2 | 5 | 7 | 13 | -3 | 0 | 2 | 8 | 47 | 55 | 52 | 56 | 48 | 55 | 2 | 6 | 8 | 15 | -3 | 1 | 3 | 10 |
| RES 11D | | | 50 | 63 | 59 | 64 | 52 | 63 | 1 | 6 | 4 | 15 | 1 | 6 | 4 | 15 | 52 | 65 | 59 | 66 | 54 | 65 | 1 | 8 | 6 | 17 | 1 | 8 | 6 | 17 |
| RES 12A | 531 KAIMANA ST | 38056056 | 49 | 52 | 52 | 54 | 49 | 53 | 3 | 5 | 10 | 14 | -3 | -1 | 4 | 8 | 51 | 54 | 53 | 55 | 51 | 54 | 4 | 6 | 12 | 15 | -2 | 0 | 6 | 9 |
| RES 12B | | | 50 | 55 | 53 | 56 | 51 | 55 | 3 | 6 | 11 | 15 | -2 | 1 | 6 | 10 | 52 | 57 | 54 | 58 | 52 | 57 | 4 | 8 | 12 | 17 | -1 | 3 | 7 | 12 |
| RES 12C | | | 41 | 47 | 50 | 51 | 43 | 48 | 1 | 2 | 4 | 9 | -5 | -4 | -2 | 3 | 43 | 49 | 50 | 52 | 45 | 50 | 1 | 3 | 6 | 11 | -5 | -3 | 0 | 5 |
| RES 12D | | | 37 | 52 | 58 | 59 | 48 | 54 | 0 | 1 | 0 | 6 | 0 | 1 | 0 | 6 | 39 | 54 | 58 | 60 | 49 | 55 | 0 | 2 | 1 | 7 | 0 | 2 | 1 | 7 |
| RES 13A | 541 KAIMANA ST | 38056054 | 39 | 45 | 47 | 49 | 42 | 46 | 0 | 2 | 3 | 7 | -8 | -6 | -3 | 1 | 41 | 47 | 48 | 50 | 43 | 47 | 1 | 3 | 4 | 8 | -7 | -5 | -2 | 2 |
| RES 13B | | | 49 | 50 | 51 | 52 | 49 | 51 | 3 | 4 | 10 | 12 | -4 | -3 | 4 | 6 | 51 | 52 | 52 | 54 | 51 | 52 | 4 | 6 | 12 | 13 | -3 | -1 | 6 | 7 |
| RES 13C | | | 40 | 46 | 49 | 50 | 42 | 47 | 1 | 2 | 3 | 8 | -6 | -5 | -3 | 2 | 42 | 48 | 49 | 51 | 44 | 48 | 1 | 3 | 5 | 9 | -6 | -4 | -1 | 3 |
| RES 13D | | | 36 | 54 | 58 | 59 | 48 | 55 | 0 | 1 | 0 | 7 | 0 | 1 | 0 | 7 | 38 | 56 | 58 | 60 | 49 | 56 | 0 | 2 | 1 | 8 | 0 | 2 | 1 | 8 |

| | | | CadnaA Construction Results | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Erection | | | | | | | | | | | | | | Finishing | | | | | | | | | | | | | |
| Receptor | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| RES 14A | 549 KAIMANA ST | 38056052 | 37 | 43 | 47 | 48 | 41 | 44 | 1 | 2 | 2 | 5 | -8 | -7 | -4 | -1 | 39 | 45 | 47 | 49 | 42 | 46 | 1 | 3 | 3 | 7 | -8 | -6 | -3 | 1 |
| RES 14B | | | 51 | 54 | 53 | 55 | 51 | 54 | 5 | 7 | 12 | 15 | -2 | 0 | 6 | 9 | 53 | 56 | 54 | 57 | 53 | 56 | 6 | 9 | 14 | 17 | -1 | 2 | 8 | 11 |
| RES 14C | | | 39 | 44 | 49 | 50 | 42 | 45 | 1 | 2 | 3 | 6 | -6 | -5 | -3 | 0 | 41 | 46 | 49 | 50 | 43 | 47 | 1 | 2 | 4 | 8 | -6 | -5 | -2 | 2 |
| RES 14D | | | 34 | 50 | 59 | 59 | 49 | 52 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 36 | 52 | 59 | 60 | 49 | 54 | 0 | 1 | 0 | 5 | 0 | 1 | 0 | 5 |
| RES 15A | 648 MOLOKAI AKAU ST | 38056050 | 36 | 42 | 47 | 48 | 41 | 43 | 0 | 1 | 2 | 4 | -8 | -7 | -4 | -2 | 38 | 44 | 47 | 48 | 42 | 45 | 0 | 1 | 3 | 6 | -8 | -7 | -3 | 0 |
| RES 15B | | | 47 | 48 | 54 | 54 | 48 | 49 | 1 | 1 | 5 | 6 | -1 | -1 | 3 | 4 | 49 | 50 | 54 | 55 | 50 | 50 | 1 | 2 | 7 | 7 | -1 | 0 | 5 | 5 |
| RES 15C | | | 46 | 48 | 60 | 60 | 51 | 52 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 2 | 48 | 50 | 60 | 61 | 52 | 53 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 |
| RES 15D | | | 33 | 40 | 60 | 60 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 42 | 60 | 60 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 16A | 473 KAULANA ST | 38056036 | 63 | 66 | 64 | 67 | 63 | 66 | 8 | 11 | 16 | 19 | 8 | 11 | 16 | 19 | 65 | 68 | 65 | 68 | 65 | 68 | 9 | 12 | 18 | 21 | 9 | 12 | 18 | 21 |
| RES 16B | | | 49 | 55 | 55 | 57 | 50 | 55 | 1 | 3 | 5 | 10 | 0 | 2 | 5 | 10 | 51 | 57 | 56 | 59 | 52 | 57 | 2 | 5 | 7 | 12 | 1 | 4 | 7 | 12 |
| RES 16C | | | 52 | 57 | 52 | 58 | 52 | 57 | 7 | 13 | 13 | 18 | -3 | 3 | 7 | 12 | 54 | 59 | 54 | 59 | 54 | 59 | 9 | 14 | 15 | 20 | -1 | 4 | 9 | 14 |
| RES 16D | | | 68 | 75 | 69 | 75 | 68 | 75 | 15 | 21 | 23 | 30 | 14 | 20 | 23 | 30 | 70 | 77 | 71 | 77 | 70 | 77 | 17 | 23 | 25 | 32 | 16 | 22 | 25 | 32 |
| RES 17A | 483 KAULANA ST | 38056034 | 54 | 64 | 54 | 64 | 54 | 64 | 9 | 19 | 15 | 25 | -1 | 9 | 9 | 19 | 56 | 66 | 56 | 66 | 56 | 66 | 11 | 21 | 17 | 27 | 1 | 11 | 11 | 21 |
| RES 17B | | | 49 | 55 | 52 | 56 | 50 | 55 | 3 | 7 | 10 | 15 | -3 | 1 | 5 | 10 | 51 | 57 | 53 | 58 | 51 | 57 | 4 | 9 | 11 | 17 | -2 | 3 | 6 | 12 |
| RES 17C | | | 70 | 76 | 70 | 76 | 70 | 76 | 25 | 31 | 31 | 37 | 15 | 21 | 25 | 31 | 72 | 78 | 72 | 78 | 72 | 78 | 27 | 33 | 33 | 39 | 17 | 23 | 27 | 33 |
| RES 17D | | | 72 | 79 | 72 | 79 | 72 | 79 | 18 | 25 | 27 | 34 | 17 | 24 | 27 | 34 | 74 | 81 | 74 | 81 | 74 | 81 | 20 | 27 | 29 | 36 | 19 | 26 | 29 | 36 |
| RES 18A | 495 KAULANA ST | 38056032 | 69 | 75 | 69 | 75 | 69 | 75 | 22 | 28 | 30 | 36 | 14 | 20 | 24 | 30 | 71 | 77 | 71 | 77 | 71 | 77 | 24 | 30 | 32 | 38 | 16 | 22 | 26 | 32 |
| RES 18B | | | 52 | 58 | 54 | 58 | 52 | 58 | 3 | 7 | 10 | 16 | -1 | 3 | 7 | 13 | 54 | 60 | 56 | 60 | 54 | 60 | 5 | 9 | 12 | 18 | 1 | 5 | 9 | 15 |
| RES 18C | | | 67 | 74 | 67 | 74 | 67 | 74 | 17 | 24 | 26 | 33 | 12 | 19 | 22 | 29 | 69 | 76 | 69 | 76 | 69 | 76 | 19 | 26 | 28 | 35 | 14 | 21 | 24 | 31 |
| RES 18D | | | 71 | 77 | 71 | 77 | 71 | 77 | 17 | 23 | 26 | 32 | 16 | 22 | 26 | 32 | 73 | 79 | 73 | 79 | 73 | 79 | 19 | 25 | 28 | 34 | 18 | 24 | 28 | 34 |
| RES 19A | 503 KAULANA ST | 38056030 | 50 | 66 | 52 | 66 | 50 | 66 | 4 | 18 | 11 | 27 | -3 | 11 | 5 | 21 | 52 | 68 | 53 | 68 | 52 | 68 | 5 | 20 | 13 | 29 | -2 | 13 | 7 | 23 |
| RES 19B | | | 52 | 58 | 54 | 58 | 52 | 58 | 4 | 8 | 11 | 17 | -1 | 3 | 7 | 13 | 54 | 60 | 56 | 60 | 54 | 60 | 6 | 10 | 13 | 19 | 1 | 5 | 9 | 15 |
| RES 19C | | | 49 | 64 | 50 | 64 | 49 | 64 | 5 | 19 | 10 | 25 | -5 | 9 | 4 | 19 | 51 | 66 | 52 | 66 | 51 | 66 | 7 | 21 | 12 | 27 | -3 | 11 | 6 | 21 |
| RES 19D | | | 67 | 75 | 67 | 75 | 67 | 75 | 11 | 19 | 20 | 28 | 11 | 19 | 20 | 28 | 69 | 77 | 69 | 77 | 69 | 77 | 13 | 21 | 22 | 30 | 13 | 21 | 22 | 30 |
| RES 20A | 511 KAULANA ST | 38056028 | 46 | 54 | 49 | 54 | 47 | 54 | 4 | 9 | 8 | 15 | -6 | -1 | 2 | 9 | 48 | 56 | 50 | 56 | 49 | 56 | 5 | 11 | 10 | 17 | -5 | 1 | 4 | 11 |
| RES 20B | | | 49 | 55 | 52 | 55 | 49 | 55 | 4 | 7 | 10 | 16 | -3 | 0 | 4 | 10 | 51 | 57 | 53 | 57 | 51 | 57 | 5 | 9 | 12 | 18 | -2 | 2 | 6 | 12 |
| RES 20C | | | 48 | 55 | 51 | 55 | 48 | 55 | 4 | 8 | 9 | 16 | -4 | 0 | 3 | 10 | 50 | 57 | 52 | 57 | 50 | 57 | 5 | 10 | 11 | 18 | -3 | 2 | 5 | 12 |
| RES 20D | | | 62 | 62 | 63 | 63 | 62 | 62 | 9 | 9 | 17 | 17 | 8 | 8 | 17 | 17 | 64 | 64 | 65 | 64 | 64 | 64 | 11 | 10 | 19 | 19 | 10 | 9 | 19 | 19 |
| RES 21A | 521 KAULANA ST | 38056026 | 46 | 53 | 51 | 54 | 47 | 53 | 2 | 5 | 7 | 13 | -4 | -1 | 2 | 8 | 48 | 55 | 51 | 56 | 49 | 55 | 2 | 7 | 9 | 15 | -4 | 1 | 4 | 10 |
| RES 21B | | | 51 | 55 | 54 | 56 | 51 | 55 | 2 | 4 | 8 | 12 | -1 | 1 | 6 | 10 | 53 | 57 | 55 | 58 | 53 | 57 | 3 | 6 | 10 | 14 | 0 | 3 | 8 | 12 |
| RES 21C | | | 47 | 52 | 50 | 53 | 48 | 52 | 3 | 6 | 9 | 13 | -5 | -2 | 3 | 7 | 49 | 54 | 51 | 55 | 49 | 54 | 4 | 8 | 10 | 15 | -4 | 0 | 4 | 9 |
| RES 21D | | | 62 | 64 | 63 | 65 | 62 | 64 | 8 | 10 | 16 | 18 | 8 | 10 | 16 | 18 | 64 | 66 | 64 | 67 | 64 | 66 | 9 | 12 | 18 | 20 | 9 | 12 | 18 | 20 |
| RES 22A | 533 KAULANA ST | 38056024 | 44 | 51 | 49 | 53 | 45 | 51 | 2 | 6 | 6 | 12 | -6 | -2 | 0 | 6 | 46 | 53 | 50 | 54 | 47 | 53 | 3 | 7 | 8 | 14 | -5 | -1 | 2 | 8 |
| RES 22B | | | 41 | 54 | 53 | 56 | 45 | 54 | 1 | 4 | 2 | 11 | -2 | 1 | 0 | 9 | 43 | 56 | 53 | 57 | 46 | 56 | 1 | 5 | 3 | 13 | -2 | 2 | 1 | 11 |
| RES 22C | | | 44 | 51 | 49 | 52 | 45 | 51 | 2 | 5 | 6 | 12 | -6 | -3 | 0 | 6 | 46 | 53 | 50 | 54 | 47 | 53 | 3 | 7 | 8 | 14 | -5 | -1 | 2 | 8 |
| RES 22D | | | 54 | 61 | 58 | 62 | 55 | 61 | 3 | 7 | 9 | 15 | 3 | 7 | 9 | 15 | 56 | 63 | 59 | 64 | 57 | 63 | 4 | 9 | 11 | 17 | 4 | 9 | 11 | 17 |
| RES 23A | 543 KAULANA ST | 38056022 | 42 | 51 | 47 | 52 | 44 | 51 | 1 | 6 | 5 | 12 | -8 | -3 | -1 | 6 | 44 | 53 | 48 | 53 | 45 | 53 | 2 | 7 | 6 | 14 | -7 | -2 | 0 | 8 |
| RES 23B | | | 36 | 53 | 50 | 54 | 42 | 53 | 1 | 5 | 2 | 13 | -5 | -1 | -3 | 8 | 38 | 55 | 50 | 56 | 42 | 55 | 1 | 7 | 2 | 15 | -5 | 1 | -3 | 10 |
| RES 23C | | | 41 | 49 | 50 | 52 | 43 | 50 | 1 | 3 | 3 | 10 | -5 | -3 | -2 | 5 | 43 | 51 | 50 | 53 | 45 | 52 | 1 | 4 | 5 | 12 | -5 | -2 | 0 | 7 |
| RES 23D | | | 39 | 54 | 55 | 57 | 47 | 54 | 0 | 2 | 1 | 8 | 0 | 2 | 1 | 8 | 41 | 56 | 55 | 58 | 47 | 56 | 0 | 3 | 1 | 10 | 0 | 3 | 1 | 10 |
| RES 24A | 557 KAULANA ST | 38056019 | 40 | 49 | 49 | 52 | 43 | 50 | 1 | 4 | 4 | 11 | -6 | -3 | -2 | 5 | 42 | 51 | 49 | 53 | 44 | 52 | 1 | 5 | 5 | 13 | -6 | -2 | -1 | 7 |
| RES 24B | | | 51 | 50 | 53 | 53 | 51 | 51 | 4 | 4 | 11 | 11 | -2 | -2 | 6 | 6 | 53 | 52 | 54 | 54 | 53 | 52 | 5 | 5 | 13 | 12 | -1 | -1 | 8 | 7 |
| RES 24C | | | 45 | 52 | 58 | 59 | 51 | 54 | 0 | 1 | 2 | 5 | 0 | 1 | 2 | 5 | 47 | 54 | 58 | 59 | 51 | 55 | 0 | 1 | 2 | 6 | 0 | 1 | 2 | 6 |
| RES 24D | | | 51 | 58 | 57 | 60 | 53 | 58 | 1 | 4 | 6 | 11 | 1 | 4 | 6 | 11 | 53 | 60 | 58 | 61 | 54 | 60 | 2 | 5 | 7 | 13 | 2 | 5 | 7 | 13 |
| RES 25A | 252 LAAU ST | 38056001 | 59 | 65 | 62 | 66 | 59 | 65 | 3 | 7 | 9 | 15 | 3 | 7 | 9 | 15 | 61 | 67 | 63 | 68 | 61 | 67 | 4 | 9 | 11 | 17 | 4 | 9 | 11 | 17 |
| RES 25B | | | 44 | 60 | 66 | 67 | 57 | 62 | 0 | 1 | 0 | 5 | 0 | 1 | 0 | 5 | 46 | 62 | 66 | 67 | 57 | 63 | 0 | 1 | 0 | 6 | 0 | 1 | 0 | 6 |
| RES 25C | | | 51 | 54 | 56 | 57 | 52 | 54 | 2 | 3 | 7 | 9 | 1 | 2 | 7 | 9 | 53 | 56 | 56 | 58 | 54 | 56 | 2 | 4 | 9 | 11 | 1 | 3 | 9 | 11 |
| RES 25D | | | 49 | 56 | 52 | 57 | 49 | 56 | 2 | 7 | 8 | 15 | -3 | 2 | 4 | 11 | 51 | 58 | 53 | 58 | 51 | 58 | 3 | 8 | 10 | 17 | -2 | 3 | 6 | 13 |
| RES 26A | 482 S KAMEHAMEHA AVE | 38056003 | 49 | 54 | 52 | 55 | 49 | 54 | 4 | 7 | 10 | 15 | -3 | 0 | 4 | 9 | 51 | 56 | 53 | 57 | 51 | 56 | 5 | 9 | 12 | 17 | -2 | 2 | 6 | 11 |
| RES 26B | | | 52 | 55 | 66 | 66 | 58 | 59 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 2 | 54 | 57 | 66 | 66 | 59 | 60 | 0 | 0 | 2 | 3 | 0 | 0 | 2 | 3 |
| RES 26C | | | 46 | 55 | 55 | 58 | 49 | 55 | 1 | 4 | 4 | 10 | 0 | 3 | 4 | 10 | 48 | 57 | 55 | 59 | 50 | 57 | 1 | 5 | 5 | 12 | 0 | 4 | 5 | 12 |
| RES 26D | | | 48 | 54 | 50 | 55 | 48 | 54 | 3 | 8 | 9 | 15 | -5 | 0 | 3 | 9 | 50 | 56 | 51 | 56 | 50 | 56 | 4 | 9 | 11 | 17 | -4 | 1 | 5 | 11 |
| RES 27A | 492 S KAMEHAMEHA AVE | 38056005 | 54 | 59 | 57 | 60 | 55 | 59 | 4 | 7 | 11 | 15 | 2 | 5 | 10 | 14 | 56 | 61 | 58 | 62 | 57 | 61 | 5 | 9 | 13 | 17 | 3 | 7 | 12 | 16 |
| RES 27B | | | 49 | 55 | 67 | 67 | 59 | 60 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 2 | 51 | 57 | 67 | 68 | 59 | 61 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 |
| RES 27C | | | 50 | 57 | 54 | 58 | 51 | 57 | 2 | 6 | 8 | 14 | -1 | 3 | 6 | 12 | 52 | 59 | 55 | 59 | 52 | 59 | 3 | 7 | 9 | 16 | 0 | 4 | 7 | 14 |
| RES 27D | | | 48 | 55 | 50 | 55 | 49 | 55 | 4 | 9 | 10 | 16 | -5 | 0 | 4 | 10 | 50 | 57 | 52 | 57 | 51 | 57 | 6 | 11 | 12 | 18 | -3 | 2 | 6 | 12 |

| | | | CadnaA Construction Results | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Erection | | | | | | | | | | | | | | Finishing | | | | | | | | | | | | | |
| Receptor | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| RES 28A | 500 S KAMEHAMEHA AVE | 38056007 | 49 | 58 | 55 | 59 | 51 | 58 | 1 | 5 | 6 | 13 | 0 | 4 | 6 | 13 | 51 | 60 | 56 | 61 | 52 | 60 | 2 | 7 | 7 | 15 | 1 | 6 | 7 | 15 |
| RES 28B | | | 50 | 55 | 67 | 67 | 59 | 60 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 2 | 52 | 57 | 67 | 68 | 59 | 61 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 |
| RES 28C | | | 52 | 57 | 57 | 59 | 53 | 57 | 2 | 4 | 7 | 11 | 2 | 4 | 7 | 11 | 54 | 59 | 58 | 60 | 55 | 59 | 3 | 5 | 9 | 13 | 3 | 5 | 9 | 13 |
| RES 28D | | | 54 | 60 | 54 | 60 | 54 | 60 | 9 | 15 | 15 | 21 | -1 | 5 | 9 | 15 | 56 | 62 | 56 | 62 | 56 | 62 | 11 | 17 | 17 | 23 | 1 | 7 | 11 | 17 |
| RES 29A EG | 508 S KAMEHAMEHA AVE | 38056009 | 47 | 56 | 56 | 59 | 50 | 57 | 0 | 3 | 3 | 10 | 0 | 3 | 3 | 10 | 49 | 58 | 57 | 60 | 51 | 59 | 1 | 4 | 4 | 12 | 1 | 4 | 4 | 12 |
| RES 29A 1.OG | | | 53 | 59 | 60 | 62 | 55 | 60 | 2 | 4 | 6 | 11 | 2 | 4 | 6 | 11 | 55 | 61 | 60 | 63 | 56 | 61 | 2 | 5 | 7 | 12 | 2 | 5 | 7 | 12 |
| RES 29B EG | | | 50 | 57 | 68 | 68 | 59 | 61 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 52 | 59 | 68 | 68 | 59 | 62 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 |
| RES 29B 1.OG | | | 41 | 49 | 69 | 69 | 60 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 43 | 51 | 69 | 69 | 60 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 29C EG | | | 51 | 55 | 59 | 60 | 53 | 56 | 1 | 2 | 4 | 7 | 1 | 2 | 4 | 7 | 53 | 57 | 60 | 61 | 54 | 58 | 2 | 3 | 5 | 9 | 2 | 3 | 5 | 9 |
| RES 29C 1.OG | | | 52 | 58 | 62 | 63 | 55 | 59 | 1 | 2 | 3 | 7 | 1 | 2 | 3 | 7 | 54 | 60 | 62 | 64 | 56 | 61 | 1 | 3 | 4 | 9 | 1 | 3 | 4 | 9 |
| RES 29D EG | | | 53 | 57 | 54 | 57 | 53 | 57 | 8 | 11 | 14 | 18 | -1 | 2 | 8 | 12 | 55 | 59 | 55 | 59 | 55 | 59 | 9 | 13 | 16 | 20 | 0 | 4 | 10 | 14 |
| RES 29D 1.OG | | | 58 | 61 | 59 | 61 | 58 | 61 | 9 | 11 | 17 | 20 | 4 | 6 | 13 | 16 | 60 | 63 | 60 | 63 | 60 | 63 | 10 | 13 | 19 | 22 | 5 | 8 | 15 | 18 |
| RES 30A | 516 S KAMEHAMEHA AVE | 38056011 | 43 | 51 | 56 | 57 | 48 | 53 | 1 | 2 | 2 | 7 | 1 | 2 | 2 | 7 | 45 | 53 | 56 | 58 | 49 | 54 | 1 | 3 | 3 | 8 | 1 | 3 | 3 | 8 |
| RES 30B | | | 41 | 57 | 67 | 68 | 58 | 61 | 0 | 1 | 0 | 3 | 0 | 1 | 0 | 3 | 43 | 59 | 67 | 68 | 58 | 62 | 0 | 1 | 0 | 4 | 0 | 1 | 0 | 4 |
| RES 30C | | | 47 | 54 | 59 | 60 | 51 | 55 | 1 | 2 | 2 | 6 | 1 | 2 | 2 | 6 | 49 | 56 | 59 | 60 | 52 | 57 | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 8 |
| RES 30D | | | 52 | 56 | 54 | 57 | 52 | 56 | 5 | 8 | 12 | 16 | -1 | 2 | 7 | 11 | 54 | 58 | 55 | 58 | 54 | 58 | 6 | 9 | 14 | 18 | 0 | 3 | 9 | 13 |
| RES 31A | 526 S KAMEHAMEHA AVE | 38056013 | 43 | 53 | 57 | 59 | 49 | 54 | 0 | 2 | 1 | 6 | 0 | 2 | 1 | 6 | 45 | 55 | 58 | 59 | 50 | 56 | 1 | 2 | 2 | 8 | 1 | 2 | 2 | 8 |
| RES 31B | | | 51 | 52 | 69 | 69 | 60 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 53 | 54 | 69 | 69 | 60 | 61 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 31C | | | 44 | 51 | 58 | 59 | 50 | 53 | 0 | 1 | 1 | 4 | 0 | 1 | 1 | 4 | 46 | 53 | 58 | 59 | 51 | 54 | 0 | 1 | 2 | 5 | 0 | 1 | 2 | 5 |
| RES 31D | | | 47 | 55 | 50 | 55 | 47 | 55 | 2 | 7 | 8 | 16 | -5 | 0 | 2 | 10 | 49 | 57 | 51 | 57 | 49 | 57 | 3 | 9 | 10 | 18 | -4 | 2 | 4 | 12 |
| RES 32A | 534 S KAMEHAMEHA AVE | 38056015 | 41 | 49 | 56 | 57 | 48 | 51 | 0 | 1 | 1 | 4 | 0 | 1 | 1 | 4 | 43 | 51 | 56 | 57 | 48 | 52 | 0 | 1 | 1 | 5 | 0 | 1 | 1 | 5 |
| RES 32B | | | 52 | 52 | 69 | 69 | 60 | 60 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 54 | 54 | 69 | 69 | 60 | 61 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 |
| RES 32C | | | 41 | 48 | 57 | 58 | 49 | 51 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 | 43 | 50 | 57 | 58 | 49 | 52 | 0 | 1 | 1 | 4 | 0 | 1 | 1 | 4 |
| RES 32D | | | 52 | 55 | 53 | 56 | 52 | 55 | 6 | 9 | 13 | 16 | -2 | 1 | 7 | 10 | 54 | 57 | 55 | 58 | 54 | 57 | 8 | 11 | 15 | 18 | 0 | 3 | 9 | 12 |
| RES 33A | 548 S KAMEHAMEHA AVE | 38056018 | 39 | 47 | 59 | 59 | 50 | 51 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 41 | 49 | 59 | 59 | 50 | 52 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| RES 33B | | | 39 | 51 | 69 | 69 | 60 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 41 | 53 | 69 | 69 | 60 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 33C | | | 42 | 49 | 63 | 63 | 55 | 55 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 44 | 51 | 63 | 64 | 55 | 56 | 0 | 1 | 1 | 2 | 0 | 1 | 1 | 2 |
| RES 33D | | | 49 | 48 | 54 | 54 | 50 | 49 | 2 | 2 | 7 | 6 | -1 | -1 | 5 | 4 | 51 | 50 | 55 | 54 | 51 | 51 | 3 | 2 | 8 | 8 | 0 | -1 | 6 | 6 |
| RES 34A | 504 KAIMANA ST | 38056063 | 64 | 71 | 66 | 72 | 64 | 71 | 6 | 12 | 14 | 21 | 6 | 12 | 14 | 21 | 66 | 73 | 67 | 73 | 66 | 73 | 7 | 13 | 16 | 23 | 7 | 13 | 16 | 23 |
| RES 34B | | | 66 | 71 | 66 | 71 | 66 | 71 | 8 | 13 | 18 | 23 | 8 | 13 | 18 | 23 | 68 | 73 | 68 | 73 | 68 | 73 | 10 | 15 | 20 | 25 | 10 | 15 | 20 | 25 |
| RES 34C | | | 48 | 55 | 51 | 55 | 49 | 55 | 3 | 7 | 10 | 16 | -4 | 0 | 4 | 10 | 50 | 57 | 52 | 57 | 50 | 57 | 4 | 9 | 11 | 18 | -3 | 2 | 5 | 12 |
| RES 34D | | | 62 | 56 | 62 | 57 | 62 | 56 | 10 | 5 | 20 | 14 | 7 | 2 | 17 | 11 | 64 | 58 | 64 | 59 | 64 | 58 | 12 | 7 | 22 | 16 | 9 | 4 | 19 | 13 |
| RES 35A EG | 516 KAIMANA ST | 38056066 | 47 | 52 | 50 | 54 | 48 | 53 | 2 | 6 | 9 | 14 | -5 | -1 | 3 | 8 | 49 | 54 | 51 | 55 | 49 | 55 | 3 | 7 | 10 | 16 | -4 | 0 | 4 | 10 |
| RES 35A 1.OG | | | 55 | 59 | 56 | 59 | 55 | 59 | 5 | 8 | 14 | 18 | 1 | 4 | 10 | 14 | 57 | 61 | 58 | 61 | 57 | 61 | 7 | 10 | 16 | 20 | 3 | 6 | 12 | 16 |
| RES 35B EG | | | 54 | 65 | 60 | 66 | 55 | 65 | 1 | 7 | 6 | 16 | 1 | 7 | 6 | 16 | 56 | 67 | 61 | 67 | 57 | 67 | 2 | 8 | 8 | 18 | 2 | 8 | 8 | 18 |
| RES 35B 1.OG | | | 58 | 66 | 62 | 67 | 59 | 66 | 2 | 7 | 9 | 16 | 2 | 7 | 9 | 16 | 60 | 68 | 63 | 68 | 61 | 68 | 3 | 8 | 11 | 18 | 3 | 8 | 11 | 18 |
| RES 35C EG | | | 46 | 53 | 51 | 54 | 47 | 53 | 2 | 5 | 8 | 14 | -4 | -1 | 2 | 8 | 48 | 55 | 52 | 56 | 49 | 55 | 3 | 7 | 10 | 16 | -3 | 1 | 4 | 10 |
| RES 35C 1.OG | | | 52 | 58 | 55 | 59 | 52 | 58 | 2 | 6 | 9 | 15 | 0 | 4 | 7 | 13 | 54 | 60 | 56 | 61 | 54 | 60 | 3 | 8 | 11 | 17 | 1 | 6 | 9 | 15 |
| RES 35D EG | | | 50 | 54 | 52 | 54 | 51 | 54 | 5 | 7 | 12 | 15 | -3 | -1 | 6 | 9 | 52 | 56 | 54 | 56 | 53 | 56 | 7 | 9 | 14 | 17 | -1 | 1 | 8 | 11 |
| RES 35D 1.OG | | | 56 | 58 | 57 | 59 | 56 | 58 | 5 | 7 | 14 | 16 | 2 | 4 | 11 | 13 | 58 | 60 | 59 | 61 | 58 | 60 | 7 | 9 | 16 | 18 | 4 | 6 | 13 | 15 |
| RES 36A | 524 KAIMANA ST | 38056068 | 47 | 51 | 51 | 53 | 48 | 51 | 2 | 4 | 9 | 12 | -4 | -2 | 3 | 6 | 49 | 53 | 52 | 54 | 50 | 53 | 3 | 5 | 11 | 14 | -3 | -1 | 5 | 8 |
| RES 36B | | | 52 | 59 | 59 | 62 | 53 | 59 | 1 | 4 | 5 | 11 | 1 | 4 | 5 | 11 | 54 | 61 | 59 | 63 | 55 | 61 | 1 | 5 | 7 | 13 | 1 | 5 | 7 | 13 |
| RES 36C | | | 42 | 50 | 51 | 53 | 44 | 50 | 1 | 3 | 4 | 10 | -4 | -2 | -1 | 5 | 44 | 52 | 51 | 54 | 45 | 52 | 1 | 4 | 5 | 12 | -4 | -1 | 0 | 7 |
| RES 36D | | | 52 | 56 | 53 | 56 | 52 | 56 | 8 | 11 | 13 | 17 | -2 | 1 | 7 | 11 | 54 | 58 | 55 | 58 | 54 | 58 | 10 | 13 | 15 | 19 | 0 | 3 | 9 | 13 |
| RES 37A | 532 KAIMANA ST | 38056070 | 39 | 51 | 48 | 53 | 42 | 52 | 1 | 6 | 3 | 13 | -7 | -2 | -3 | 7 | 41 | 53 | 48 | 54 | 43 | 54 | 1 | 7 | 4 | 15 | -7 | -1 | -2 | 9 |
| RES 37B | | | 50 | 59 | 60 | 62 | 52 | 60 | 1 | 3 | 3 | 11 | 1 | 3 | 3 | 11 | 52 | 61 | 60 | 63 | 54 | 61 | 1 | 4 | 5 | 12 | 1 | 4 | 5 | 12 |
| RES 37C | | | 45 | 51 | 51 | 53 | 46 | 52 | 2 | 4 | 7 | 13 | -4 | -2 | 1 | 7 | 47 | 53 | 51 | 55 | 48 | 54 | 2 | 6 | 9 | 15 | -4 | 0 | 3 | 9 |
| RES 37D | | | 34 | 51 | 48 | 53 | 40 | 51 | 0 | 5 | 1 | 12 | -7 | -2 | -5 | 6 | 36 | 53 | 48 | 54 | 41 | 53 | 0 | 6 | 2 | 14 | -7 | -1 | -4 | 8 |
| RES 38A | 544 KAIMANA ST | 38056072 | 39 | 45 | 49 | 50 | 42 | 46 | 1 | 2 | 3 | 7 | -6 | -5 | -3 | 1 | 41 | 47 | 49 | 51 | 43 | 48 | 1 | 3 | 4 | 9 | -6 | -4 | -2 | 3 |
| RES 38B | | | 49 | 55 | 59 | 60 | 52 | 56 | 1 | 2 | 4 | 8 | 1 | 2 | 4 | 8 | 51 | 57 | 59 | 61 | 53 | 57 | 1 | 3 | 5 | 9 | 1 | 3 | 5 | 9 |
| RES 38C | | | 40 | 47 | 50 | 51 | 43 | 47 | 0 | 1 | 3 | 7 | -5 | -4 | -2 | 2 | 42 | 49 | 51 | 52 | 44 | 49 | 1 | 2 | 4 | 9 | -4 | -3 | -1 | 4 |
| RES 38D | | | 46 | 52 | 49 | 53 | 47 | 52 | 3 | 7 | 8 | 13 | -6 | -2 | 2 | 7 | 48 | 54 | 50 | 55 | 48 | 54 | 4 | 9 | 9 | 15 | -5 | 0 | 3 | 9 |
| RES 39A | 670 MOLOKAI AKAU ST | 38056075 | 37 | 47 | 49 | 51 | 41 | 48 | 0 | 2 | 2 | 9 | -6 | -4 | -4 | 3 | 39 | 49 | 49 | 52 | 42 | 50 | 0 | 3 | 3 | 11 | -6 | -3 | -3 | 5 |
| RES 39B | | | 49 | 54 | 59 | 60 | 52 | 55 | 0 | 1 | 3 | 6 | 0 | 1 | 3 | 6 | 51 | 56 | 59 | 60 | 53 | 57 | 0 | 1 | 4 | 8 | 0 | 1 | 4 | 8 |
| RES 39C | | | 44 | 50 | 61 | 61 | 52 | 53 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 2 | 46 | 52 | 61 | 61 | 52 | 54 | 0 | 0 | 1 | 3 | 0 | 0 | 1 | 3 |
| RES 39D | | | 32 | 45 | 53 | 54 | 44 | 47 | 0 | 1 | 1 | 4 | -2 | -1 | -1 | 2 | 34 | 47 | 53 | 54 | 44 | 48 | 0 | 1 | 1 | 5 | -2 | -1 | -1 | 3 |

| | | | CadnaA Construction Results | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Erection | | | | | | | | | | | | | | Finishing | | | | | | | | | | | | | |
| Receptor | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| RES 40A | 290 UHU ST | 38056088 | 62 | 69 | 64 | 70 | 62 | 69 | 4 | 10 | 12 | 19 | 4 | 10 | 12 | 19 | 64 | 71 | 65 | 72 | 64 | 71 | 5 | 12 | 14 | 21 | 5 | 12 | 14 | 21 |
| RES 40B | | | 52 | 67 | 55 | 67 | 52 | 67 | 2 | 14 | 9 | 24 | 0 | 12 | 7 | 22 | 54 | 69 | 56 | 69 | 54 | 69 | 3 | 16 | 11 | 26 | 1 | 14 | 9 | 24 |
| RES 40C | | | 58 | 61 | 59 | 62 | 58 | 61 | 10 | 13 | 19 | 22 | 4 | 7 | 13 | 16 | 60 | 63 | 60 | 64 | 60 | 63 | 11 | 15 | 21 | 24 | 5 | 9 | 15 | 18 |
| RES 40D | | | 41 | 59 | 59 | 62 | 49 | 59 | 0 | 3 | 0 | 10 | 0 | 3 | 0 | 10 | 43 | 61 | 59 | 63 | 50 | 61 | 0 | 4 | 1 | 12 | 0 | 4 | 1 | 12 |
| RES 41A | 511 POHAI ST | 38056086 | 47 | 52 | 52 | 54 | 48 | 52 | 2 | 4 | 8 | 12 | -3 | -1 | 3 | 7 | 49 | 54 | 53 | 55 | 50 | 54 | 3 | 5 | 10 | 14 | -2 | 0 | 5 | 9 |
| RES 41B | | | 47 | 50 | 49 | 52 | 48 | 51 | 4 | 7 | 9 | 12 | -6 | -3 | 3 | 6 | 49 | 52 | 51 | 53 | 49 | 53 | 6 | 8 | 10 | 14 | -4 | -2 | 4 | 8 |
| RES 41C | | | 50 | 52 | 53 | 54 | 50 | 52 | 3 | 4 | 10 | 12 | -2 | -1 | 5 | 7 | 52 | 54 | 54 | 55 | 52 | 54 | 4 | 5 | 12 | 14 | -1 | 0 | 7 | 9 |
| RES 41D | | | 50 | 59 | 60 | 62 | 53 | 60 | 1 | 3 | 4 | 11 | 1 | 3 | 4 | 11 | 52 | 61 | 60 | 64 | 54 | 62 | 1 | 5 | 5 | 13 | 1 | 5 | 5 | 13 |
| RES 42A | 521 POHAI ST | 38056084 | 42 | 48 | 49 | 51 | 44 | 49 | 1 | 3 | 5 | 10 | -6 | -4 | -1 | 4 | 44 | 50 | 50 | 52 | 45 | 51 | 2 | 4 | 6 | 12 | -5 | -3 | 0 | 6 |
| RES 42B | | | 51 | 54 | 52 | 55 | 51 | 54 | 5 | 8 | 12 | 15 | -3 | 0 | 6 | 9 | 53 | 56 | 54 | 57 | 53 | 56 | 7 | 10 | 14 | 17 | -1 | 2 | 8 | 11 |
| RES 42C | | | 46 | 52 | 50 | 54 | 46 | 52 | 1 | 5 | 7 | 13 | -5 | -1 | 1 | 7 | 48 | 54 | 51 | 55 | 48 | 54 | 2 | 6 | 9 | 15 | -4 | 0 | 3 | 9 |
| RES 42D | | | 47 | 53 | 59 | 60 | 51 | 55 | 1 | 2 | 3 | 7 | 1 | 2 | 3 | 7 | 49 | 55 | 59 | 60 | 52 | 56 | 1 | 2 | 4 | 8 | 1 | 2 | 4 | 8 |
| RES 43A | 529 POHAI ST | 38056082 | 49 | 50 | 51 | 52 | 49 | 50 | 4 | 5 | 10 | 11 | -4 | -3 | 4 | 5 | 51 | 52 | 52 | 53 | 51 | 52 | 5 | 6 | 12 | 13 | -3 | -2 | 6 | 7 |
| RES 43B | | | 43 | 55 | 48 | 55 | 44 | 55 | 1 | 8 | 5 | 16 | -7 | 0 | -1 | 10 | 45 | 57 | 49 | 57 | 46 | 57 | 2 | 10 | 7 | 18 | -6 | 2 | 1 | 12 |
| RES 43C | | | 44 | 48 | 50 | 52 | 45 | 49 | 1 | 3 | 6 | 10 | -5 | -3 | 0 | 4 | 46 | 50 | 51 | 53 | 47 | 51 | 2 | 4 | 8 | 12 | -4 | -2 | 2 | 6 |
| RES 43D | | | 47 | 52 | 59 | 59 | 51 | 54 | 0 | 0 | 2 | 5 | 0 | 0 | 2 | 5 | 49 | 54 | 59 | 60 | 52 | 55 | 0 | 1 | 3 | 6 | 0 | 1 | 3 | 6 |
| RES 44A | 539 POHAI ST | 38056080 | 38 | 50 | 51 | 53 | 42 | 50 | 1 | 3 | 2 | 10 | -4 | -2 | -3 | 5 | 40 | 52 | 51 | 54 | 43 | 52 | 1 | 4 | 3 | 12 | -4 | -1 | -2 | 7 |
| RES 44B | | | 48 | 54 | 51 | 55 | 48 | 54 | 3 | 7 | 9 | 15 | -4 | 0 | 3 | 9 | 50 | 56 | 52 | 57 | 50 | 56 | 4 | 9 | 11 | 17 | -3 | 2 | 5 | 11 |
| RES 44C | | | 39 | 49 | 52 | 54 | 44 | 50 | 0 | 2 | 2 | 8 | -3 | -1 | -1 | 5 | 41 | 51 | 52 | 55 | 44 | 52 | 0 | 3 | 2 | 10 | -3 | 0 | -1 | 7 |
| RES 44D | | | 33 | 46 | 58 | 59 | 49 | 50 | 0 | 1 | 1 | 2 | 0 | 1 | 1 | 2 | 35 | 48 | 58 | 59 | 49 | 51 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 |
| RES 45A | 549 POHAI ST | 38056078 | 36 | 45 | 50 | 51 | 42 | 46 | 0 | 1 | 2 | 6 | -5 | -4 | -3 | 1 | 38 | 47 | 50 | 52 | 42 | 48 | 0 | 2 | 2 | 8 | -5 | -3 | -3 | 3 |
| RES 45B | | | 42 | 51 | 49 | 53 | 44 | 51 | 1 | 5 | 5 | 12 | -6 | -2 | -1 | 6 | 44 | 53 | 50 | 54 | 45 | 53 | 2 | 6 | 6 | 14 | -5 | -1 | 0 | 8 |
| RES 45C | | | 38 | 45 | 51 | 52 | 43 | 46 | 0 | 1 | 2 | 5 | -4 | -3 | -2 | 1 | 40 | 47 | 51 | 52 | 43 | 48 | 0 | 1 | 2 | 7 | -4 | -3 | -2 | 3 |
| RES 45D | | | 32 | 51 | 59 | 59 | 49 | 53 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 4 | 34 | 53 | 59 | 60 | 49 | 54 | 0 | 1 | 0 | 5 | 0 | 1 | 0 | 5 |
| RES 46A | 680 MOLOKAI AKAU ST | 38056076 | 35 | 43 | 49 | 50 | 40 | 44 | 0 | 1 | 1 | 5 | -6 | -5 | -5 | -1 | 37 | 45 | 49 | 50 | 41 | 46 | 0 | 1 | 2 | 7 | -6 | -5 | -4 | 1 |
| RES 46B | | | 43 | 49 | 51 | 52 | 45 | 49 | 1 | 2 | 5 | 9 | -4 | -3 | 0 | 4 | 45 | 51 | 51 | 53 | 46 | 51 | 1 | 3 | 6 | 11 | -4 | -2 | 1 | 6 |
| RES 46C | | | 39 | 49 | 60 | 60 | 50 | 52 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 41 | 51 | 60 | 60 | 50 | 53 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 |
| RES 46D | | | 42 | 51 | 59 | 60 | 50 | 53 | 0 | 1 | 1 | 4 | 0 | 1 | 1 | 4 | 44 | 53 | 59 | 60 | 50 | 54 | 0 | 1 | 1 | 5 | 0 | 1 | 1 | 5 |
| RES 47A EG | 470 KAULANA ST | 38048049 | 42 | 52 | 47 | 52 | 44 | 52 | 2 | 7 | 5 | 13 | -8 | -3 | -1 | 7 | 44 | 54 | 48 | 54 | 45 | 54 | 3 | 9 | 6 | 15 | -7 | -1 | 0 | 9 |
| RES 47A 1.OG | | | 42 | 52 | 51 | 54 | 45 | 52 | 1 | 4 | 4 | 11 | -4 | -1 | 0 | 7 | 44 | 54 | 51 | 55 | 46 | 54 | 1 | 5 | 5 | 13 | -4 | 0 | 1 | 9 |
| RES 47B EG | | | 52 | 68 | 58 | 68 | 53 | 68 | 1 | 11 | 5 | 20 | 1 | 11 | 5 | 20 | 54 | 70 | 59 | 70 | 55 | 70 | 2 | 13 | 7 | 22 | 2 | 13 | 7 | 22 |
| RES 47B 1.OG | | | 50 | 68 | 59 | 69 | 53 | 68 | 1 | 11 | 4 | 19 | 1 | 11 | 4 | 19 | 52 | 70 | 59 | 70 | 54 | 70 | 1 | 12 | 5 | 21 | 1 | 12 | 5 | 21 |
| RES 47C EG | | | 68 | 79 | 68 | 79 | 68 | 79 | 13 | 24 | 22 | 33 | 13 | 24 | 22 | 33 | 70 | 81 | 70 | 81 | 70 | 81 | 15 | 26 | 24 | 35 | 15 | 26 | 24 | 35 |
| RES 47C 1.OG | | | 69 | 80 | 69 | 80 | 69 | 80 | 14 | 25 | 23 | 34 | 14 | 25 | 23 | 34 | 71 | 82 | 71 | 82 | 71 | 82 | 16 | 27 | 25 | 36 | 16 | 27 | 25 | 36 |
| RES 47D EG | | | 57 | 68 | 58 | 68 | 57 | 68 | 7 | 17 | 15 | 26 | 3 | 13 | 12 | 23 | 59 | 70 | 60 | 70 | 59 | 70 | 9 | 19 | 17 | 28 | 5 | 15 | 14 | 25 |
| RES 47D 1.OG | | | 58 | 70 | 59 | 70 | 58 | 70 | 6 | 17 | 14 | 26 | 4 | 15 | 13 | 25 | 60 | 72 | 60 | 72 | 60 | 72 | 7 | 19 | 16 | 28 | 5 | 17 | 15 | 27 |
| RES 48A | 462 KAULANA ST | 38048047 | 50 | 55 | 51 | 55 | 50 | 55 | 5 | 9 | 11 | 16 | -4 | 0 | 5 | 10 | 52 | 57 | 53 | 57 | 52 | 57 | 7 | 11 | 13 | 18 | -2 | 2 | 7 | 12 |
| RES 48B | | | 59 | 59 | 60 | 60 | 59 | 59 | 5 | 5 | 13 | 13 | 5 | 5 | 13 | 13 | 61 | 61 | 62 | 62 | 61 | 61 | 7 | 7 | 15 | 15 | 7 | 7 | 15 | 15 |
| RES 48C | | | 44 | 53 | 48 | 54 | 45 | 53 | 2 | 8 | 6 | 14 | -7 | -1 | 0 | 8 | 46 | 55 | 49 | 56 | 47 | 55 | 3 | 10 | 8 | 16 | -6 | 1 | 2 | 10 |
| RES 48D | | | 52 | 64 | 54 | 64 | 52 | 64 | 4 | 14 | 11 | 23 | -1 | 9 | 7 | 19 | 54 | 66 | 55 | 66 | 54 | 66 | 5 | 16 | 13 | 25 | 0 | 11 | 9 | 21 |
| RES 49A EG | 456 KAULANA ST | 38048045 | 37 | 45 | 46 | 48 | 41 | 46 | 1 | 3 | 2 | 7 | -9 | -7 | -4 | 1 | 39 | 47 | 46 | 49 | 42 | 48 | 1 | 4 | 3 | 9 | -9 | -6 | -3 | 3 |
| RES 49A 1.OG | | | 37 | 53 | 52 | 55 | 44 | 53 | 1 | 4 | 2 | 11 | -3 | 0 | -1 | 8 | 39 | 55 | 52 | 56 | 44 | 55 | 1 | 5 | 2 | 13 | -3 | 1 | -1 | 10 |
| RES 49B EG | | | 39 | 53 | 55 | 57 | 47 | 54 | 0 | 2 | 1 | 8 | 0 | 2 | 1 | 8 | 41 | 55 | 55 | 58 | 47 | 56 | 0 | 3 | 1 | 10 | 0 | 3 | 1 | 10 |
| RES 49B 1.OG | | | 55 | 53 | 59 | 58 | 56 | 54 | 3 | 2 | 9 | 7 | 3 | 2 | 9 | 7 | 57 | 55 | 60 | 59 | 57 | 56 | 4 | 3 | 10 | 9 | 4 | 3 | 10 | 9 |
| RES 49C EG | | | 54 | 59 | 55 | 59 | 55 | 59 | 8 | 12 | 16 | 20 | 0 | 4 | 10 | 14 | 56 | 61 | 57 | 61 | 56 | 61 | 10 | 14 | 17 | 22 | 2 | 6 | 11 | 16 |
| RES 49C 1.OG | | | 58 | 60 | 58 | 61 | 58 | 60 | 8 | 11 | 17 | 19 | 3 | 6 | 13 | 15 | 60 | 62 | 60 | 63 | 60 | 62 | 10 | 13 | 19 | 21 | 5 | 8 | 15 | 17 |
| RES 49D EG | | | 54 | 58 | 56 | 58 | 55 | 58 | 7 | 9 | 15 | 18 | 1 | 3 | 10 | 13 | 56 | 60 | 57 | 60 | 57 | 60 | 8 | 11 | 17 | 20 | 2 | 5 | 12 | 15 |
| RES 49D 1.OG | | | 54 | 59 | 56 | 59 | 55 | 59 | 5 | 8 | 13 | 17 | 1 | 4 | 10 | 14 | 56 | 61 | 57 | 61 | 56 | 61 | 6 | 10 | 14 | 19 | 2 | 6 | 11 | 16 |
| RES 50A | 450 KAULANA ST | 38048043 | 41 | 49 | 46 | 50 | 43 | 49 | 1 | 5 | 4 | 10 | -9 | -5 | -2 | 4 | 43 | 51 | 47 | 52 | 44 | 51 | 2 | 7 | 5 | 12 | -8 | -3 | -1 | 6 |
| RES 50B | | | 51 | 53 | 57 | 58 | 52 | 54 | 1 | 2 | 5 | 7 | 1 | 2 | 5 | 7 | 53 | 55 | 58 | 59 | 54 | 56 | 2 | 3 | 7 | 9 | 2 | 3 | 7 | 9 |
| RES 50C | | | 41 | 47 | 46 | 49 | 43 | 48 | 1 | 4 | 4 | 9 | -9 | -6 | -2 | 3 | 43 | 49 | 47 | 51 | 44 | 50 | 2 | 6 | 5 | 11 | -8 | -4 | -1 | 5 |
| RES 50D | | | 44 | 58 | 47 | 58 | 45 | 58 | 2 | 13 | 6 | 19 | -8 | 3 | 0 | 13 | 46 | 60 | 48 | 60 | 46 | 60 | 3 | 15 | 7 | 21 | -7 | 5 | 1 | 15 |

| | | | CadnaA Construction Results | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Erection | | | | | | | | | | | | | | Finishing | | | | | | | | | | | | | |
| Receptor | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| RES 51A EG | 444 KAULANA ST | 38048041 | 36 | 46 | 46 | 49 | 41 | 47 | 1 | 4 | 2 | 8 | -9 | -6 | -4 | 2 | 38 | 48 | 46 | 50 | 42 | 49 | 1 | 5 | 3 | 10 | -9 | -5 | -3 | 4 |
| RES 51A 1.OG | | | 34 | 44 | 46 | 48 | 40 | 45 | 1 | 3 | 1 | 6 | -9 | -7 | -5 | 0 | 36 | 46 | 46 | 49 | 41 | 47 | 1 | 4 | 2 | 8 | -9 | -6 | -4 | 2 |
| RES 51B EG | | | 35 | 51 | 55 | 56 | 46 | 52 | 0 | 1 | 0 | 6 | 0 | 1 | 0 | 6 | 37 | 53 | 55 | 57 | 46 | 54 | 0 | 2 | 0 | 8 | 0 | 2 | 0 | 8 |
| RES 51B 1.OG | | | 35 | 54 | 56 | 58 | 47 | 55 | 0 | 2 | 0 | 8 | 0 | 2 | 0 | 8 | 37 | 56 | 56 | 59 | 48 | 56 | 0 | 3 | 1 | 9 | 0 | 3 | 1 | 9 |
| RES 51C EG | | | 37 | 44 | 46 | 48 | 41 | 45 | 1 | 3 | 2 | 6 | -9 | -7 | -4 | 0 | 39 | 46 | 46 | 49 | 42 | 47 | 1 | 4 | 3 | 8 | -9 | -6 | -3 | 2 |
| RES 51C 1.OG | | | 39 | 56 | 49 | 56 | 42 | 56 | 1 | 8 | 3 | 17 | -6 | 1 | -3 | 11 | 41 | 58 | 49 | 58 | 43 | 58 | 1 | 10 | 4 | 19 | -6 | 3 | -2 | 13 |
| RES 51D EG | | | 39 | 52 | 47 | 53 | 42 | 52 | 1 | 7 | 3 | 13 | -8 | -2 | -3 | 7 | 41 | 54 | 47 | 55 | 43 | 54 | 1 | 9 | 4 | 15 | -8 | 0 | -2 | 9 |
| RES 51D 1.OG | | | 39 | 54 | 49 | 55 | 42 | 54 | 1 | 7 | 3 | 15 | -6 | 0 | -3 | 9 | 41 | 56 | 49 | 56 | 44 | 56 | 1 | 8 | 5 | 17 | -6 | 1 | -1 | 11 |
| RES 52A | 436 KAULANA ST | 38048039 | 37 | 43 | 46 | 47 | 41 | 45 | 1 | 2 | 2 | 6 | -9 | -8 | -4 | 0 | 39 | 45 | 46 | 48 | 42 | 46 | 1 | 3 | 3 | 7 | -9 | -7 | -3 | 1 |
| RES 52B | | | 34 | 54 | 55 | 58 | 46 | 54 | 0 | 3 | 0 | 8 | 0 | 3 | 0 | 8 | 36 | 56 | 55 | 58 | 47 | 56 | 0 | 3 | 1 | 10 | 0 | 3 | 1 | 10 |
| RES 52C | | | 36 | 42 | 46 | 47 | 41 | 44 | 1 | 2 | 2 | 5 | -9 | -8 | -4 | -1 | 38 | 44 | 46 | 48 | 41 | 45 | 1 | 3 | 2 | 6 | -9 | -7 | -4 | 0 |
| RES 52D | | | 36 | 42 | 48 | 48 | 41 | 44 | 1 | 1 | 2 | 5 | -7 | -7 | -4 | -1 | 38 | 44 | 48 | 49 | 42 | 45 | 1 | 2 | 3 | 6 | -7 | -6 | -3 | 0 |
| RES 53A | 430 KAULANA ST | 38048037 | 36 | 43 | 46 | 47 | 41 | 44 | 1 | 2 | 2 | 5 | -9 | -8 | -4 | -1 | 38 | 45 | 46 | 48 | 42 | 46 | 1 | 3 | 3 | 7 | -9 | -7 | -3 | 1 |
| RES 53B | | | 32 | 52 | 54 | 56 | 46 | 53 | 0 | 2 | 1 | 8 | -1 | 1 | 1 | 8 | 34 | 54 | 54 | 57 | 46 | 55 | 0 | 3 | 1 | 10 | -1 | 2 | 1 | 10 |
| RES 53C | | | 34 | 41 | 46 | 47 | 40 | 43 | 1 | 2 | 1 | 4 | -9 | -8 | -5 | -2 | 36 | 43 | 46 | 47 | 41 | 44 | 1 | 2 | 2 | 5 | -9 | -8 | -4 | -1 |
| RES 53D | | | 37 | 49 | 49 | 51 | 41 | 49 | 1 | 3 | 2 | 10 | -6 | -4 | -4 | 4 | 39 | 51 | 49 | 53 | 42 | 51 | 1 | 5 | 3 | 12 | -6 | -2 | -3 | 6 |
| RES 54A | 424 KAULANA ST | 38048035 | 34 | 41 | 45 | 46 | 40 | 43 | 0 | 1 | 1 | 4 | -10 | -9 | -5 | -2 | 36 | 43 | 46 | 47 | 41 | 44 | 1 | 2 | 2 | 5 | -9 | -8 | -4 | -1 |
| RES 54B | | | 31 | 53 | 55 | 57 | 46 | 54 | 0 | 2 | 0 | 8 | 0 | 2 | 0 | 8 | 33 | 55 | 55 | 58 | 46 | 55 | 0 | 3 | 0 | 9 | 0 | 3 | 0 | 9 |
| RES 54C | | | 33 | 40 | 45 | 46 | 40 | 42 | 0 | 1 | 1 | 3 | -10 | -9 | -5 | -3 | 35 | 42 | 45 | 47 | 41 | 43 | 0 | 2 | 2 | 4 | -10 | -8 | -4 | -2 |
| RES 54D | | | 38 | 51 | 49 | 53 | 42 | 52 | 1 | 5 | 3 | 13 | -6 | -2 | -3 | 7 | 40 | 53 | 49 | 55 | 43 | 53 | 1 | 7 | 4 | 14 | -6 | 0 | -2 | 8 |
| RES 55A | 246 HINA AVE | 38048033 | 29 | 35 | 63 | 63 | 54 | 54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 37 | 63 | 63 | 54 | 54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 55B | | | 36 | 49 | 59 | 59 | 50 | 53 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 38 | 51 | 59 | 60 | 50 | 54 | 0 | 1 | 0 | 4 | 0 | 1 | 0 | 4 |
| RES 55C | | | 32 | 39 | 46 | 46 | 40 | 42 | 1 | 1 | 1 | 3 | -9 | -9 | -5 | -3 | 34 | 41 | 46 | 47 | 40 | 43 | 1 | 2 | 1 | 4 | -9 | -8 | -5 | -2 |
| RES 55D | | | 34 | 39 | 56 | 56 | 47 | 48 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 36 | 41 | 56 | 56 | 47 | 48 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Maui Evangelical Church A | 256 HINA AVE | 38048032 | 29 | 37 | 64 | 64 | 55 | 55 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 39 | 64 | 64 | 55 | 55 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Maui Evangelical Church B EG | | | 29 | 41 | 59 | 59 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 43 | 59 | 59 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Maui Evangelical Church B 1.OG | | | 34 | 49 | 61 | 61 | 52 | 54 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 36 | 51 | 61 | 61 | 52 | 54 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| Maui Evangelical Church C EG | | | 41 | 49 | 50 | 52 | 43 | 49 | 1 | 3 | 3 | 9 | -5 | -3 | -2 | 4 | 43 | 51 | 50 | 53 | 45 | 51 | 1 | 4 | 5 | 11 | -5 | -2 | 0 | 6 |
| Maui Evangelical Church C 1.OG | | | 38 | 53 | 52 | 56 | 44 | 53 | 0 | 4 | 1 | 10 | -3 | 1 | -1 | 8 | 40 | 55 | 53 | 57 | 45 | 55 | 1 | 5 | 2 | 12 | -2 | 2 | 0 | 10 |
| Maui Evangelical Church D EG | | | 32 | 49 | 60 | 60 | 51 | 53 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 34 | 51 | 60 | 60 | 51 | 54 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 |
| Maui Evangelical Church D 1.OG | | | 35 | 52 | 61 | 61 | 52 | 55 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 37 | 54 | 61 | 62 | 52 | 56 | 0 | 1 | 0 | 4 | 0 | 1 | 0 | 4 |
| RES 56A | 421 KAULANA ST | 38048031 | 36 | 46 | 52 | 53 | 43 | 47 | 1 | 2 | 1 | 5 | -3 | -2 | -2 | 2 | 38 | 48 | 52 | 53 | 44 | 49 | 1 | 2 | 2 | 7 | -3 | -2 | -1 | 4 |
| RES 56B | | | 38 | 50 | 50 | 53 | 43 | 50 | 0 | 3 | 2 | 9 | -5 | -2 | -2 | 5 | 40 | 52 | 50 | 54 | 43 | 52 | 0 | 4 | 2 | 11 | -5 | -1 | -2 | 7 |
| RES 56C | | | 36 | 45 | 49 | 50 | 41 | 46 | 0 | 1 | 1 | 6 | -6 | -5 | -4 | 1 | 38 | 47 | 49 | 51 | 42 | 47 | 0 | 2 | 2 | 7 | -6 | -4 | -3 | 2 |
| RES 56D | | | 40 | 52 | 58 | 59 | 50 | 54 | 0 | 1 | 1 | 5 | 0 | 1 | 1 | 5 | 42 | 54 | 58 | 60 | 50 | 55 | 0 | 2 | 1 | 6 | 0 | 2 | 1 | 6 |
| RES 57A | 429 KAULANA ST | 38048029 | 36 | 47 | 49 | 51 | 42 | 48 | 0 | 2 | 2 | 8 | -6 | -4 | -3 | 3 | 38 | 49 | 49 | 52 | 42 | 50 | 0 | 3 | 2 | 10 | -6 | -3 | -3 | 5 |
| RES 57B | | | 35 | 49 | 45 | 50 | 41 | 49 | 0 | 5 | 2 | 10 | -10 | -5 | -4 | 4 | 37 | 51 | 46 | 52 | 41 | 51 | 1 | 7 | 2 | 12 | -9 | -3 | -4 | 6 |
| RES 57C | | | 34 | 45 | 49 | 50 | 41 | 46 | 0 | 1 | 1 | 6 | -6 | -5 | -4 | 1 | 36 | 47 | 49 | 51 | 41 | 48 | 0 | 2 | 1 | 8 | -6 | -4 | -4 | 3 |
| RES 57D | | | 39 | 52 | 56 | 58 | 48 | 53 | 0 | 2 | 1 | 6 | 0 | 2 | 1 | 6 | 41 | 54 | 57 | 58 | 48 | 55 | 1 | 2 | 1 | 8 | 1 | 2 | 1 | 8 |
| RES 58A | 435 KAULANA ST | 38048027 | 37 | 47 | 47 | 50 | 41 | 47 | 1 | 4 | 2 | 8 | -8 | -5 | -4 | 2 | 39 | 49 | 47 | 51 | 42 | 49 | 1 | 5 | 3 | 10 | -8 | -4 | -3 | 4 |
| RES 58B | | | 32 | 47 | 49 | 51 | 41 | 48 | 0 | 2 | 1 | 8 | -6 | -4 | -4 | 3 | 34 | 49 | 49 | 52 | 41 | 50 | 0 | 3 | 1 | 10 | -6 | -3 | -4 | 5 |
| RES 58C | | | 35 | 45 | 47 | 49 | 40 | 46 | 0 | 2 | 1 | 7 | -8 | -6 | -5 | 1 | 37 | 47 | 48 | 50 | 41 | 48 | 1 | 3 | 2 | 9 | -7 | -5 | -4 | 3 |
| RES 58D | | | 41 | 51 | 56 | 57 | 48 | 52 | 0 | 1 | 1 | 5 | 0 | 1 | 1 | 5 | 43 | 53 | 56 | 58 | 49 | 54 | 0 | 2 | 2 | 7 | 0 | 2 | 2 | 7 |
| RES 59A | 443 KAULANA ST | 38048025 | 38 | 46 | 48 | 50 | 42 | 46 | 0 | 2 | 3 | 7 | -7 | -5 | -3 | 1 | 40 | 48 | 48 | 51 | 43 | 48 | 0 | 3 | 4 | 9 | -7 | -4 | -2 | 3 |
| RES 59B | | | 39 | 47 | 48 | 51 | 42 | 48 | 0 | 3 | 3 | 9 | -7 | -4 | -3 | 3 | 41 | 49 | 49 | 52 | 43 | 50 | 1 | 4 | 4 | 11 | -6 | -3 | -2 | 5 |
| RES 59C | | | 37 | 45 | 50 | 51 | 42 | 46 | 1 | 2 | 2 | 6 | -5 | -4 | -3 | 1 | 39 | 47 | 50 | 51 | 43 | 48 | 1 | 2 | 3 | 8 | -5 | -4 | -2 | 3 |
| RES 59D | | | 44 | 55 | 56 | 58 | 48 | 56 | 1 | 3 | 2 | 10 | 1 | 3 | 2 | 10 | 46 | 57 | 56 | 59 | 49 | 57 | 1 | 4 | 3 | 11 | 1 | 4 | 3 | 11 |
| RES 60A | 449 KAULANA ST | 38048023 | 39 | 47 | 48 | 50 | 42 | 48 | 1 | 3 | 3 | 9 | -7 | -5 | -3 | 3 | 41 | 49 | 48 | 51 | 43 | 49 | 1 | 4 | 4 | 10 | -7 | -4 | -2 | 4 |
| RES 60B | | | 35 | 43 | 47 | 48 | 40 | 44 | 0 | 1 | 1 | 5 | -8 | -7 | -5 | -1 | 37 | 45 | 47 | 49 | 41 | 46 | 0 | 2 | 2 | 7 | -8 | -6 | -4 | 1 |
| RES 60C | | | 39 | 45 | 47 | 48 | 42 | 46 | 1 | 2 | 3 | 7 | -8 | -7 | -3 | 1 | 41 | 47 | 47 | 49 | 43 | 48 | 1 | 3 | 4 | 9 | -8 | -6 | -2 | 3 |
| RES 60D | | | 46 | 57 | 57 | 60 | 50 | 57 | 0 | 3 | 2 | 9 | 0 | 3 | 2 | 9 | 48 | 59 | 57 | 61 | 51 | 59 | 0 | 4 | 3 | 11 | 0 | 4 | 3 | 11 |

| | | | CadnaA Construction Results | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Erection | | | | | | | | | | | | | | Finishing | | | | | | | | | | | | | |
| Receptor | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| RES 61A EG | 455 KAULANA ST | 38048021 | 39 | 47 | 46 | 49 | 42 | 47 | 1 | 4 | 3 | 8 | -9 | -6 | -3 | 2 | 41 | 49 | 47 | 50 | 43 | 49 | 2 | 5 | 4 | 10 | -8 | -5 | -2 | 4 |
| RES 61A 1.OG | | | 36 | 51 | 50 | 54 | 42 | 51 | 0 | 4 | 1 | 10 | -5 | -1 | -3 | 6 | 38 | 53 | 50 | 55 | 43 | 53 | 0 | 5 | 2 | 12 | -5 | 0 | -2 | 8 |
| RES 61B EG | | | 42 | 49 | 49 | 51 | 44 | 49 | 1 | 3 | 5 | 10 | -6 | -4 | -1 | 4 | 44 | 51 | 50 | 53 | 46 | 51 | 2 | 5 | 7 | 12 | -5 | -2 | 1 | 6 |
| RES 61B 1.OG | | | 37 | 45 | 54 | 54 | 46 | 48 | 0 | 0 | 1 | 3 | -1 | -1 | 1 | 3 | 39 | 47 | 54 | 55 | 46 | 49 | 0 | 1 | 1 | 4 | -1 | 0 | 1 | 4 |
| RES 61C EG | | | 40 | 48 | 48 | 51 | 43 | 49 | 1 | 4 | 4 | 10 | -7 | -4 | -2 | 4 | 42 | 50 | 49 | 52 | 44 | 51 | 2 | 5 | 5 | 12 | -6 | -3 | -1 | 6 |
| RES 61C 1.OG | | | 40 | 53 | 52 | 56 | 45 | 54 | 0 | 4 | 2 | 11 | -3 | 1 | 0 | 9 | 42 | 55 | 52 | 57 | 45 | 55 | 0 | 5 | 2 | 12 | -3 | 2 | 0 | 10 |
| RES 61D EG | | | 53 | 58 | 58 | 60 | 54 | 58 | 1 | 3 | 6 | 10 | 1 | 3 | 6 | 10 | 55 | 60 | 59 | 61 | 56 | 60 | 2 | 4 | 8 | 12 | 2 | 4 | 8 | 12 |
| RES 61D 1.OG | | | 54 | 61 | 59 | 63 | 55 | 62 | 1 | 5 | 6 | 13 | 1 | 5 | 6 | 13 | 56 | 63 | 60 | 64 | 57 | 63 | 2 | 6 | 8 | 14 | 2 | 6 | 8 | 14 |
| RES 62A | 461 KAULANA ST | 38048019 | 44 | 53 | 52 | 56 | 46 | 54 | 0 | 4 | 3 | 11 | -3 | 1 | 1 | 9 | 46 | 55 | 53 | 57 | 48 | 56 | 1 | 5 | 5 | 13 | -2 | 2 | 3 | 11 |
| RES 62B | | | 39 | 51 | 54 | 56 | 46 | 52 | 0 | 2 | 1 | 7 | -1 | 1 | 1 | 7 | 41 | 53 | 55 | 57 | 47 | 53 | 1 | 3 | 2 | 8 | 0 | 2 | 2 | 8 |
| RES 62C | | | 44 | 55 | 51 | 57 | 46 | 55 | 0 | 6 | 4 | 13 | -4 | 2 | 1 | 10 | 46 | 57 | 52 | 58 | 47 | 57 | 1 | 7 | 5 | 15 | -3 | 3 | 2 | 12 |
| RES 62D | | | 62 | 67 | 63 | 67 | 62 | 67 | 6 | 10 | 14 | 19 | 6 | 10 | 14 | 19 | 64 | 69 | 65 | 69 | 64 | 69 | 8 | 12 | 16 | 21 | 8 | 12 | 16 | 21 |
| RES 63A | 241 LAAU ST | 38048017 | 42 | 56 | 52 | 57 | 45 | 56 | 1 | 6 | 3 | 14 | -3 | 2 | 0 | 11 | 44 | 58 | 52 | 59 | 46 | 58 | 1 | 8 | 4 | 16 | -3 | 4 | 1 | 13 |
| RES 63B | | | 41 | 49 | 56 | 57 | 48 | 51 | 0 | 1 | 1 | 4 | 0 | 1 | 1 | 4 | 43 | 51 | 56 | 57 | 48 | 53 | 0 | 1 | 1 | 6 | 0 | 1 | 1 | 6 |
| RES 63C | | | 65 | 71 | 66 | 71 | 65 | 71 | 9 | 14 | 17 | 23 | 9 | 14 | 17 | 23 | 67 | 73 | 68 | 73 | 67 | 73 | 11 | 16 | 19 | 25 | 11 | 16 | 19 | 25 |
| RES 63D | | | 65 | 73 | 66 | 73 | 65 | 73 | 8 | 15 | 16 | 24 | 8 | 15 | 16 | 24 | 67 | 75 | 68 | 75 | 67 | 75 | 10 | 17 | 18 | 26 | 10 | 17 | 18 | 26 |
| RES 64A | 262 HINA AVE | 38048001 | 29 | 37 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 39 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 64B | | | 29 | 37 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 39 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 64C | | | 37 | 49 | 57 | 58 | 49 | 52 | 0 | 1 | 1 | 4 | 0 | 1 | 1 | 4 | 39 | 51 | 57 | 58 | 49 | 53 | 0 | 1 | 1 | 5 | 0 | 1 | 1 | 5 |
| RES 64D | | | 38 | 54 | 61 | 61 | 52 | 56 | 1 | 1 | 1 | 5 | 1 | 1 | 1 | 5 | 40 | 56 | 61 | 62 | 52 | 57 | 1 | 2 | 1 | 6 | 1 | 2 | 1 | 6 |
| RES 65A | 422 S KAMEHAMEHA AVE | 38048003 | 38 | 49 | 56 | 57 | 48 | 51 | 0 | 1 | 1 | 4 | 0 | 1 | 1 | 4 | 40 | 51 | 56 | 57 | 48 | 52 | 0 | 1 | 1 | 5 | 0 | 1 | 1 | 5 |
| RES 65B | | | 32 | 41 | 65 | 65 | 56 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 43 | 65 | 65 | 56 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 65C | | | 37 | 51 | 55 | 56 | 46 | 52 | 0 | 1 | 0 | 6 | 0 | 1 | 0 | 6 | 39 | 53 | 55 | 57 | 47 | 54 | 0 | 2 | 1 | 8 | 0 | 2 | 1 | 8 |
| RES 65D | | | 36 | 57 | 51 | 58 | 43 | 57 | 0 | 7 | 1 | 15 | -4 | 3 | -2 | 12 | 38 | 59 | 51 | 60 | 43 | 59 | 0 | 9 | 1 | 17 | -4 | 5 | -2 | 14 |
| RES 66A | 428 S KAMEHAMEHA AVE | 38048005 | 48 | 51 | 58 | 58 | 51 | 53 | 1 | 1 | 3 | 5 | 1 | 1 | 3 | 5 | 50 | 53 | 58 | 59 | 52 | 55 | 1 | 2 | 4 | 7 | 1 | 2 | 4 | 7 |
| RES 66B | | | 33 | 41 | 65 | 65 | 56 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 43 | 65 | 65 | 56 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 66C | | | 43 | 50 | 56 | 57 | 48 | 52 | 0 | 1 | 1 | 5 | 0 | 1 | 1 | 5 | 45 | 52 | 56 | 57 | 49 | 53 | 0 | 1 | 2 | 6 | 0 | 1 | 2 | 6 |
| RES 66D | | | 48 | 58 | 52 | 58 | 49 | 58 | 1 | 7 | 7 | 16 | -3 | 3 | 4 | 13 | 50 | 60 | 53 | 60 | 50 | 60 | 2 | 9 | 8 | 18 | -2 | 5 | 5 | 15 |
| RES 67A | 434 S KAMEHAMEHA AVE | 38048007 | 51 | 50 | 57 | 57 | 52 | 52 | 2 | 2 | 6 | 6 | 2 | 2 | 6 | 6 | 53 | 52 | 57 | 57 | 54 | 53 | 2 | 2 | 8 | 7 | 2 | 2 | 8 | 7 |
| RES 67B | | | 33 | 40 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 42 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 67C | | | 48 | 48 | 59 | 60 | 52 | 52 | 0 | 1 | 2 | 2 | 0 | 1 | 2 | 2 | 50 | 50 | 60 | 60 | 53 | 53 | 1 | 1 | 3 | 3 | 1 | 1 | 3 | 3 |
| RES 67D | | | 49 | 54 | 53 | 55 | 50 | 54 | 3 | 5 | 9 | 13 | -2 | 0 | 5 | 9 | 51 | 56 | 54 | 57 | 51 | 56 | 4 | 7 | 10 | 15 | -1 | 2 | 6 | 11 |
| RES 68A | 440 S KAMEHAMEHA AVE | 38048009 | 50 | 49 | 58 | 57 | 52 | 51 | 1 | 0 | 4 | 3 | 1 | 0 | 4 | 3 | 52 | 51 | 58 | 58 | 53 | 53 | 1 | 1 | 5 | 5 | 1 | 1 | 5 | 5 |
| RES 68B | | | 35 | 41 | 64 | 64 | 55 | 55 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 43 | 64 | 64 | 55 | 55 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 68C | | | 47 | 49 | 56 | 56 | 50 | 51 | 1 | 1 | 4 | 5 | 1 | 1 | 4 | 5 | 49 | 51 | 56 | 57 | 51 | 52 | 1 | 2 | 5 | 6 | 1 | 2 | 5 | 6 |
| RES 68D | | | 47 | 50 | 52 | 53 | 48 | 50 | 2 | 3 | 7 | 9 | -3 | -2 | 3 | 5 | 49 | 52 | 52 | 54 | 50 | 52 | 2 | 4 | 9 | 11 | -3 | -1 | 5 | 7 |
| RES 69A | 448 S KAMEHAMEHA AVE | 38048011 | 45 | 49 | 53 | 54 | 47 | 50 | 0 | 1 | 3 | 6 | -2 | -1 | 2 | 5 | 47 | 51 | 54 | 55 | 48 | 51 | 1 | 2 | 4 | 7 | -1 | 0 | 3 | 6 |
| RES 69B | | | 35 | 44 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 46 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 69C | | | 41 | 45 | 56 | 56 | 48 | 49 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 2 | 43 | 47 | 56 | 57 | 48 | 50 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 |
| RES 69D | | | 43 | 47 | 51 | 52 | 45 | 48 | 1 | 2 | 4 | 7 | -4 | -3 | 0 | 3 | 45 | 49 | 51 | 53 | 47 | 49 | 1 | 3 | 6 | 8 | -4 | -2 | 2 | 4 |
| RES 70A | 454 S KAMEHAMEHA AVE | 38048013 | 36 | 45 | 58 | 58 | 49 | 50 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 38 | 47 | 58 | 58 | 49 | 51 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| RES 70B | | | 37 | 45 | 66 | 66 | 57 | 58 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 39 | 47 | 66 | 66 | 57 | 58 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 70C | | | 43 | 51 | 57 | 58 | 49 | 52 | 0 | 1 | 1 | 4 | 0 | 1 | 1 | 4 | 45 | 53 | 57 | 58 | 49 | 54 | 0 | 1 | 1 | 6 | 0 | 1 | 1 | 6 |
| RES 70D | | | 47 | 55 | 52 | 56 | 48 | 55 | 1 | 5 | 6 | 13 | -3 | 1 | 3 | 10 | 49 | 57 | 53 | 58 | 50 | 57 | 2 | 7 | 8 | 15 | -2 | 3 | 5 | 12 |
| RES 71A | 253 LAAU ST | 38048016 | 50 | 55 | 56 | 57 | 52 | 55 | 2 | 3 | 7 | 10 | 1 | 2 | 7 | 10 | 52 | 57 | 56 | 59 | 53 | 57 | 2 | 5 | 8 | 12 | 1 | 4 | 8 | 12 |
| RES 71B | | | 40 | 51 | 65 | 65 | 56 | 57 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 42 | 53 | 65 | 65 | 56 | 58 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| RES 71C | | | 50 | 66 | 60 | 67 | 53 | 67 | 0 | 7 | 2 | 16 | 0 | 7 | 2 | 16 | 52 | 68 | 61 | 69 | 54 | 68 | 1 | 9 | 3 | 17 | 1 | 9 | 3 | 17 |
| RES 71D | | | 61 | 59 | 62 | 61 | 61 | 59 | 5 | 4 | 13 | 11 | 5 | 4 | 13 | 11 | 63 | 61 | 64 | 62 | 63 | 61 | 7 | 5 | 15 | 13 | 7 | 5 | 15 | 13 |
| S_HMHC A | 472 LAAU ST | 38007084 | 34 | 42 | 46 | 47 | 40 | 44 | 0 | 1 | 1 | 5 | -9 | -8 | -5 | -1 | 36 | 44 | 47 | 48 | 41 | 45 | 1 | 2 | 2 | 6 | -8 | -7 | -4 | 0 |
| S_HMHC B | | | 61 | 68 | 61 | 68 | 61 | 68 | 12 | 19 | 21 | 28 | 6 | 13 | 16 | 23 | 63 | 70 | 63 | 70 | 63 | 70 | 14 | 21 | 23 | 30 | 8 | 15 | 18 | 25 |
| S_HMHC C | | | 59 | 66 | 59 | 66 | 59 | 66 | 13 | 20 | 20 | 27 | 4 | 11 | 14 | 21 | 61 | 68 | 61 | 68 | 61 | 68 | 15 | 22 | 22 | 29 | 6 | 13 | 16 | 23 |
| S_HMHC D | | | 40 | 45 | 46 | 48 | 43 | 46 | 1 | 3 | 4 | 7 | -9 | -7 | -2 | 1 | 42 | 47 | 47 | 49 | 44 | 48 | 2 | 4 | 5 | 9 | -8 | -6 | -1 | 3 |
| N_HMHC A | | | 38 | 42 | 46 | 47 | 41 | 44 | 1 | 2 | 2 | 5 | -9 | -8 | -4 | -1 | 40 | 44 | 46 | 48 | 42 | 45 | 1 | 3 | 3 | 6 | -9 | -7 | -3 | 0 |
| N_HMHC B | | | 37 | 42 | 46 | 47 | 41 | 44 | 1 | 2 | 2 | 5 | -9 | -8 | -4 | -1 | 39 | 44 | 46 | 48 | 42 | 45 | 1 | 3 | 3 | 6 | -9 | -7 | -3 | 0 |
| N_HMHC C | | | 54 | 56 | 54 | 57 | 54 | 56 | 9 | 12 | 15 | 17 | -1 | 2 | 9 | 11 | 56 | 58 | 56 | 59 | 56 | 58 | 11 | 14 | 17 | 19 | 1 | 4 | 11 | 13 |
| N_HMHC D | | | 34 | 41 | 49 | 50 | 41 | 43 | 0 | 1 | 1 | 3 | -6 | -5 | -4 | -2 | 36 | 43 | 49 | 50 | 41 | 45 | 0 | 1 | 1 | 5 | -6 | -5 | -4 | 0 |

| | | | CadnaA Construction Results | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Erection | | | | | | | | | | | | | | Finishing | | | | | | | | | | | | | |
| Receptor | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| Kahului Comm Center A | 275 UHU ST | 38007097 | 54 | 61 | 55 | 61 | 54 | 61 | 8 | 14 | 15 | 22 | 0 | 6 | 9 | 16 | 56 | 63 | 56 | 63 | 56 | 63 | 9 | 16 | 17 | 24 | 1 | 8 | 11 | 18 |
| Kahului Comm Center B | | | 67 | 74 | 67 | 74 | 67 | 74 | 20 | 27 | 28 | 35 | 12 | 19 | 22 | 29 | 69 | 76 | 69 | 76 | 69 | 76 | 22 | 29 | 30 | 37 | 14 | 21 | 24 | 31 |
| Kahului Comm Center C | | | 68 | 74 | 68 | 74 | 68 | 74 | 21 | 27 | 29 | 35 | 13 | 19 | 23 | 29 | 70 | 76 | 70 | 76 | 70 | 76 | 23 | 29 | 31 | 37 | 15 | 21 | 25 | 31 |
| Kahului Comm Center D | | | 55 | 60 | 56 | 60 | 55 | 60 | 8 | 12 | 16 | 21 | 1 | 5 | 10 | 15 | 57 | 62 | 57 | 62 | 57 | 62 | 9 | 14 | 18 | 23 | 2 | 7 | 12 | 17 |
| PALS A | | | 64 | 67 | 64 | 67 | 64 | 67 | 18 | 21 | 25 | 28 | 9 | 12 | 19 | 22 | 66 | 69 | 66 | 69 | 66 | 69 | 20 | 23 | 27 | 30 | 11 | 14 | 21 | 24 |
| PALS B | | | 65 | 70 | 65 | 70 | 65 | 70 | 19 | 24 | 26 | 31 | 10 | 15 | 20 | 25 | 67 | 72 | 67 | 72 | 67 | 72 | 21 | 26 | 28 | 33 | 12 | 17 | 22 | 27 |
| PALS C | | | 58 | 58 | 59 | 58 | 58 | 58 | 11 | 10 | 19 | 19 | 4 | 3 | 13 | 13 | 60 | 60 | 61 | 60 | 60 | 60 | 13 | 12 | 21 | 21 | 6 | 5 | 15 | 15 |
| PALS D | | | 42 | 47 | 48 | 50 | 44 | 48 | 1 | 3 | 5 | 9 | -7 | -5 | -1 | 3 | 44 | 49 | 48 | 51 | 45 | 50 | 1 | 4 | 6 | 11 | -7 | -4 | 0 | 5 |
| POOL A | | | 36 | 44 | 48 | 49 | 41 | 45 | 0 | 1 | 2 | 6 | -7 | -6 | -4 | 0 | 38 | 46 | 48 | 50 | 42 | 46 | 0 | 2 | 3 | 7 | -7 | -5 | -3 | 1 |
| POOL B | | | 53 | 59 | 53 | 60 | 53 | 59 | 8 | 15 | 14 | 20 | -2 | 5 | 8 | 14 | 55 | 61 | 55 | 62 | 55 | 61 | 10 | 17 | 16 | 22 | 0 | 7 | 10 | 16 |
| POOL C | | | 53 | 57 | 54 | 57 | 53 | 57 | 9 | 12 | 14 | 18 | -1 | 2 | 8 | 12 | 55 | 59 | 55 | 59 | 55 | 59 | 10 | 14 | 16 | 20 | 0 | 4 | 10 | 14 |
| POOL D | | | 39 | 45 | 47 | 49 | 42 | 46 | 1 | 3 | 3 | 7 | -8 | -6 | -3 | 1 | 41 | 47 | 48 | 50 | 43 | 48 | 2 | 4 | 4 | 9 | -7 | -5 | -2 | 3 |
| 1 Comm Housing A | 200 HINA AVE | 38007095 | 43 | 52 | 47 | 53 | 44 | 52 | 2 | 8 | 5 | 13 | -8 | -2 | -1 | 7 | 45 | 54 | 48 | 54 | 46 | 54 | 3 | 9 | 7 | 15 | -7 | -1 | 1 | 9 |
| 1 Comm Housing B | | | 52 | 57 | 53 | 57 | 52 | 57 | 7 | 11 | 13 | 18 | -2 | 2 | 7 | 12 | 54 | 59 | 55 | 59 | 54 | 59 | 9 | 13 | 15 | 20 | 0 | 4 | 9 | 14 |
| 1 Comm Housing C | | | 54 | 59 | 55 | 59 | 54 | 59 | 10 | 14 | 15 | 20 | 0 | 4 | 9 | 14 | 56 | 61 | 57 | 61 | 56 | 61 | 12 | 16 | 17 | 22 | 2 | 6 | 11 | 16 |
| 1 Comm Housing D | | | 34 | 41 | 53 | 53 | 45 | 46 | 0 | 0 | 1 | 2 | -2 | -2 | 0 | 1 | 36 | 43 | 53 | 54 | 45 | 47 | 0 | 1 | 1 | 3 | -2 | -1 | 0 | 2 |
| 2 Comm Housing A | | | 43 | 46 | 47 | 49 | 44 | 47 | 2 | 4 | 5 | 8 | -8 | -6 | -1 | 2 | 45 | 48 | 48 | 50 | 46 | 49 | 3 | 5 | 7 | 10 | -7 | -5 | 1 | 4 |
| 2 Comm Housing B | | | 48 | 54 | 51 | 55 | 48 | 54 | 3 | 7 | 9 | 15 | -4 | 0 | 3 | 9 | 50 | 56 | 52 | 56 | 50 | 56 | 4 | 8 | 11 | 17 | -3 | 1 | 5 | 11 |
| 2 Comm Housing C | | | 48 | 56 | 51 | 57 | 49 | 56 | 3 | 9 | 10 | 17 | -4 | 2 | 4 | 11 | 50 | 58 | 52 | 59 | 50 | 58 | 4 | 11 | 11 | 19 | -3 | 4 | 5 | 13 |
| 2 Comm Housing D | | | 34 | 44 | 57 | 58 | 49 | 50 | 0 | 1 | 1 | 2 | 0 | 1 | 1 | 2 | 36 | 46 | 57 | 58 | 49 | 50 | 0 | 1 | 1 | 2 | 0 | 1 | 1 | 2 |
| 3 Comm Housing A | | | 28 | 35 | 57 | 57 | 48 | 49 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 30 | 37 | 57 | 57 | 48 | 49 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 3 Comm Housing B | | | 32 | 39 | 57 | 57 | 48 | 48 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 34 | 41 | 57 | 57 | 48 | 48 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 3 Comm Housing C | | | 36 | 41 | 45 | 46 | 41 | 43 | 0 | 1 | 2 | 4 | -10 | -9 | -4 | -2 | 38 | 43 | 46 | 47 | 41 | 44 | 1 | 2 | 2 | 5 | -9 | -8 | -4 | -1 |
| 3 Comm Housing D | | | 28 | 37 | 55 | 55 | 46 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 39 | 55 | 55 | 46 | 47 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Hale Mahaolu Elua A | | | 30 | 46 | 47 | 49 | 40 | 47 | 0 | 2 | 1 | 8 | -8 | -6 | -5 | 2 | 32 | 48 | 47 | 51 | 40 | 49 | 0 | 4 | 1 | 10 | -8 | -4 | -5 | 4 |
| Hale Mahaolu Elua B | | | 35 | 42 | 50 | 50 | 42 | 44 | 0 | 0 | 1 | 3 | -5 | -5 | -3 | -1 | 37 | 44 | 50 | 51 | 42 | 45 | 0 | 1 | 1 | 4 | -5 | -4 | -3 | 0 |
| Hale Mahaolu Elua C | | | 36 | 43 | 45 | 47 | 41 | 44 | 0 | 2 | 2 | 5 | -10 | -8 | -4 | -1 | 38 | 45 | 46 | 48 | 41 | 46 | 1 | 3 | 2 | 7 | -9 | -7 | -4 | 1 |
| Hale Mahaolu Elua D | | | 30 | 38 | 46 | 46 | 40 | 41 | 1 | 1 | 1 | 2 | -9 | -9 | -5 | -4 | 32 | 40 | 46 | 47 | 40 | 42 | 1 | 2 | 1 | 3 | -9 | -8 | -5 | -3 |
| 4 Comm Housing A | | | 30 | 36 | 48 | 49 | 40 | 41 | 0 | 1 | 1 | 2 | -7 | -6 | -5 | -4 | 32 | 38 | 48 | 49 | 40 | 42 | 0 | 1 | 1 | 3 | -7 | -6 | -5 | -3 |
| 4 Comm Housing B | | | 30 | 39 | 45 | 46 | 40 | 42 | 0 | 1 | 1 | 3 | -10 | -9 | -5 | -3 | 32 | 41 | 45 | 46 | 40 | 43 | 0 | 1 | 1 | 4 | -10 | -9 | -5 | -2 |
| 4 Comm Housing C | | | 36 | 42 | 45 | 47 | 41 | 44 | 0 | 2 | 2 | 5 | -10 | -8 | -4 | -1 | 38 | 44 | 46 | 48 | 41 | 45 | 1 | 3 | 2 | 6 | -9 | -7 | -4 | 0 |
| 4 Comm Housing D | | | 36 | 40 | 48 | 49 | 41 | 43 | 0 | 1 | 2 | 4 | -7 | -6 | -4 | -2 | 38 | 42 | 48 | 49 | 41 | 44 | 0 | 1 | 2 | 5 | -7 | -6 | -4 | -1 |
| 5 Comm Housing A | | | 27 | 34 | 58 | 58 | 49 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 36 | 58 | 58 | 49 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 Comm Housing B | | | 42 | 53 | 52 | 55 | 46 | 53 | 0 | 3 | 3 | 10 | -3 | 0 | 1 | 8 | 44 | 55 | 53 | 57 | 47 | 55 | 1 | 5 | 4 | 12 | -2 | 2 | 2 | 10 |
| 5 Comm Housing C | | | 40 | 45 | 49 | 50 | 43 | 46 | 1 | 2 | 4 | 7 | -6 | -5 | -2 | 1 | 42 | 47 | 49 | 51 | 44 | 48 | 1 | 3 | 5 | 9 | -6 | -4 | -1 | 3 |
| 5 Comm Housing D | | | 27 | 34 | 55 | 55 | 46 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 36 | 55 | 55 | 46 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 71A | 294 HINA AVE | 38047048 | 29 | 37 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 39 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 71B | | | 29 | 35 | 59 | 59 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 37 | 59 | 59 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 71C | | | 37 | 50 | 57 | 57 | 48 | 52 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 4 | 39 | 52 | 57 | 58 | 48 | 53 | 0 | 1 | 0 | 5 | 0 | 1 | 0 | 5 |
| RES 71A | | | 49 | 53 | 68 | 68 | 59 | 60 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 51 | 55 | 68 | 68 | 59 | 60 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 72A | 439 S KAMEHAMEHA AVE | 38047042 | 43 | 47 | 57 | 57 | 49 | 50 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 2 | 45 | 49 | 57 | 57 | 49 | 52 | 0 | 0 | 1 | 4 | 0 | 0 | 1 | 4 |
| RES 72B | | | 45 | 50 | 48 | 51 | 46 | 50 | 2 | 5 | 7 | 11 | -7 | -4 | 1 | 5 | 47 | 52 | 49 | 53 | 47 | 52 | 3 | 7 | 8 | 13 | -6 | -2 | 2 | 7 |
| RES 72C | | | 39 | 48 | 59 | 59 | 50 | 52 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 41 | 50 | 59 | 59 | 50 | 53 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 |
| RES 72A | | | 45 | 48 | 65 | 65 | 57 | 57 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 47 | 50 | 65 | 65 | 57 | 57 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| RES 73A | 461 S KAMEHAMEHA AVE | 38047036 | 36 | 47 | 54 | 55 | 45 | 49 | 0 | 1 | 0 | 4 | -1 | 0 | 0 | 4 | 38 | 49 | 54 | 55 | 46 | 50 | 0 | 1 | 1 | 5 | -1 | 0 | 1 | 5 |
| RES 73B | | | 36 | 44 | 47 | 49 | 41 | 45 | 0 | 2 | 2 | 6 | -8 | -6 | -4 | 0 | 38 | 46 | 47 | 49 | 42 | 47 | 0 | 2 | 3 | 8 | -8 | -6 | -3 | 2 |
| RES 73C | | | 44 | 61 | 60 | 64 | 52 | 61 | 0 | 4 | 1 | 10 | 0 | 4 | 1 | 10 | 46 | 63 | 60 | 65 | 52 | 63 | 0 | 5 | 1 | 12 | 0 | 5 | 1 | 12 |
| RES 73A | | | 44 | 55 | 66 | 67 | 58 | 59 | 0 | 1 | 1 | 2 | 0 | 1 | 1 | 2 | 46 | 57 | 66 | 67 | 58 | 60 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 |
| RES 74A | 378 Molokai Hema Street | 38047023 | 28 | 35 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 37 | 66 | 66 | 57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 74B | | | 29 | 36 | 61 | 61 | 52 | 52 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 38 | 61 | 61 | 52 | 52 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 74C | | | 35 | 39 | 51 | 51 | 43 | 44 | 0 | 0 | 1 | 2 | -4 | -4 | -2 | -1 | 37 | 41 | 51 | 51 | 43 | 45 | 0 | 0 | 1 | 3 | -4 | -4 | -2 | 0 |
| RES 74A | | | 35 | 39 | 58 | 58 | 49 | 50 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 37 | 41 | 58 | 58 | 49 | 50 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| MATIU AKI A | 400 MOLOKAI HEMA ST | 38047029 | 31 | 39 | 48 | 48 | 40 | 42 | 0 | 0 | 1 | 3 | -7 | -7 | -5 | -3 | 33 | 41 | 48 | 49 | 40 | 43 | 0 | 1 | 1 | 4 | -7 | -6 | -5 | -2 |
| MATIU AKI B | | | 43 | 48 | 54 | 55 | 47 | 50 | 0 | 1 | 2 | 5 | -1 | 0 | 2 | 5 | 45 | 50 | 54 | 55 | 48 | 51 | 0 | 1 | 3 | 6 | -1 | 0 | 3 | 6 |
| MATIU AKI C | | | 44 | 51 | 48 | 52 | 45 | 51 | 2 | 6 | 6 | 12 | -7 | -3 | 0 | 6 | 46 | 53 | 49 | 53 | 47 | 53 | 3 | 7 | 8 | 14 | -6 | -2 | 2 | 8 |
| MATIU AKI D | | | 37 | 45 | 50 | 51 | 42 | 46 | 0 | 1 | 1 | 5 | -5 | -4 | -3 | 1 | 39 | 47 | 50 | 51 | 43 | 48 | 0 | 1 | 2 | 7 | -5 | -4 | -2 | 3 |

| | | | CadnaA Construction Results | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Erection | | | | | | | | | | | | | | Finishing | | | | | | | | | | | | | |
| Receptor | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| RES 75A | 289 LAAU ST | 38047035 | 43 | 53 | 47 | 53 | 45 | 53 | 2 | 8 | 6 | 14 | -8 | -2 | 0 | 8 | 45 | 55 | 48 | 55 | 46 | 55 | 3 | 10 | 7 | 16 | -7 | 0 | 1 | 10 |
| RES 75B | | | 47 | 51 | 56 | 57 | 50 | 53 | 0 | 1 | 3 | 6 | 0 | 1 | 3 | 6 | 49 | 53 | 57 | 58 | 51 | 54 | 1 | 2 | 4 | 7 | 1 | 2 | 4 | 7 |
| RES 75C | | | 47 | 55 | 54 | 57 | 49 | 55 | 1 | 4 | 5 | 11 | -1 | 2 | 4 | 10 | 49 | 57 | 54 | 58 | 50 | 57 | 1 | 5 | 6 | 13 | -1 | 3 | 5 | 12 |
| RES 75A | | | 39 | 51 | 51 | 54 | 44 | 52 | 1 | 4 | 3 | 11 | -4 | -1 | -1 | 7 | 41 | 53 | 51 | 55 | 44 | 54 | 1 | 5 | 3 | 13 | -4 | 0 | -1 | 9 |
| RES 76A | 503 S KAMEHAMEHA AVE | 38057007 | 44 | 55 | 60 | 61 | 52 | 57 | 0 | 1 | 1 | 6 | 0 | 1 | 1 | 6 | 46 | 57 | 60 | 62 | 52 | 58 | 0 | 2 | 1 | 7 | 0 | 2 | 1 | 7 |
| RES 76B | | | 46 | 59 | 52 | 59 | 47 | 59 | 2 | 9 | 6 | 18 | -3 | 4 | 2 | 14 | 48 | 61 | 52 | 61 | 49 | 61 | 2 | 11 | 8 | 20 | -3 | 6 | 4 | 16 |
| RES 76C | | | 47 | 53 | 56 | 57 | 50 | 54 | 1 | 2 | 4 | 8 | 1 | 2 | 4 | 8 | 49 | 55 | 56 | 58 | 51 | 55 | 1 | 3 | 5 | 9 | 1 | 3 | 5 | 9 |
| RES 76D | | | 47 | 61 | 68 | 69 | 59 | 63 | 0 | 1 | 0 | 4 | 0 | 1 | 0 | 4 | 49 | 63 | 68 | 69 | 59 | 65 | 0 | 1 | 0 | 6 | 0 | 1 | 0 | 6 |
| RES 77A | 507 S KAMEHAMEHA AVE | 38057008 | 40 | 55 | 56 | 58 | 48 | 56 | 0 | 2 | 1 | 9 | 0 | 2 | 1 | 9 | 42 | 57 | 56 | 59 | 48 | 57 | 0 | 3 | 1 | 10 | 0 | 3 | 1 | 10 |
| RES 77B | | | 47 | 53 | 50 | 54 | 47 | 53 | 3 | 7 | 8 | 14 | -5 | -1 | 2 | 8 | 49 | 55 | 51 | 56 | 49 | 55 | 4 | 9 | 10 | 16 | -4 | 1 | 4 | 10 |
| RES 77C | | | 42 | 52 | 57 | 58 | 49 | 53 | 1 | 2 | 2 | 6 | 1 | 2 | 2 | 6 | 44 | 54 | 57 | 58 | 49 | 54 | 1 | 2 | 2 | 7 | 1 | 2 | 2 | 7 |
| RES 77D | | | 50 | 56 | 67 | 67 | 59 | 60 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 2 | 52 | 58 | 67 | 68 | 59 | 61 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 |
| RES 78A EG | 541 S KAMEHAMEHA AVE | 38057016 | 37 | 45 | 56 | 57 | 48 | 49 | 0 | 1 | 1 | 2 | 0 | 1 | 1 | 2 | 39 | 47 | 56 | 57 | 48 | 50 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 |
| RES 78A 1.OG | | | 45 | 52 | 59 | 60 | 51 | 54 | 0 | 1 | 1 | 4 | 0 | 1 | 1 | 4 | 47 | 54 | 59 | 60 | 52 | 55 | 0 | 1 | 2 | 5 | 0 | 1 | 2 | 5 |
| RES 78B EG | | | 45 | 52 | 49 | 53 | 46 | 52 | 2 | 6 | 7 | 13 | -6 | -2 | 1 | 7 | 47 | 54 | 50 | 54 | 47 | 54 | 3 | 7 | 8 | 15 | -5 | -1 | 2 | 9 |
| RES 78B 1.OG | | | 44 | 44 | 51 | 51 | 46 | 46 | 1 | 1 | 5 | 5 | -4 | -4 | 1 | 1 | 46 | 46 | 51 | 51 | 47 | 47 | 1 | 1 | 6 | 6 | -4 | -4 | 2 | 2 |
| RES 78C EG | | | 47 | 51 | 57 | 58 | 50 | 53 | 0 | 1 | 2 | 5 | 0 | 1 | 2 | 5 | 49 | 53 | 57 | 58 | 51 | 54 | 0 | 1 | 3 | 6 | 0 | 1 | 3 | 6 |
| RES 78C 1.OG | | | 51 | 55 | 60 | 61 | 54 | 57 | 1 | 2 | 4 | 7 | 1 | 2 | 4 | 7 | 53 | 57 | 60 | 62 | 55 | 58 | 1 | 3 | 5 | 8 | 1 | 3 | 5 | 8 |
| RES 78D | | | 45 | 55 | 66 | 67 | 57 | 59 | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 2 | 47 | 57 | 66 | 67 | 58 | 60 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 |
| RES 78D 1.OG | | | 50 | 57 | 68 | 68 | 59 | 61 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 52 | 59 | 68 | 68 | 60 | 62 | 0 | 0 | 1 | 3 | 0 | 0 | 1 | 3 |
| RES 78A 1.OG | | | 36 | 62 | 57 | 63 | 48 | 62 | 0 | 6 | 0 | 14 | 0 | 6 | 0 | 14 | 38 | 64 | 57 | 65 | 48 | 64 | 0 | 8 | 0 | 16 | 0 | 8 | 0 | 16 |
| RES 79 B | 282 LAAU ST | 38057033 | 35 | 46 | 50 | 51 | 42 | 47 | 0 | 1 | 1 | 6 | -5 | -4 | -3 | 2 | 37 | 48 | 50 | 52 | 42 | 49 | 0 | 2 | 1 | 8 | -5 | -3 | -3 | 4 |
| RES 79 C | | | 44 | 50 | 48 | 51 | 45 | 50 | 2 | 5 | 6 | 11 | -7 | -4 | 0 | 5 | 46 | 52 | 49 | 53 | 47 | 52 | 3 | 7 | 8 | 13 | -6 | -2 | 2 | 7 |
| RES 79 D | | | 49 | 59 | 54 | 60 | 50 | 59 | 1 | 7 | 6 | 15 | -1 | 5 | 5 | 14 | 51 | 61 | 55 | 61 | 52 | 61 | 2 | 8 | 8 | 17 | 0 | 6 | 7 | 16 |
| RES 80 A | 490 MOLOKAI HEMA ST | 38057025 | 47 | 51 | 49 | 52 | 47 | 51 | 4 | 7 | 8 | 12 | -6 | -3 | 2 | 6 | 49 | 53 | 50 | 53 | 49 | 53 | 5 | 8 | 10 | 14 | -5 | -2 | 4 | 8 |
| RES 80 B | | | 34 | 42 | 57 | 57 | 48 | 49 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 36 | 44 | 57 | 57 | 48 | 49 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 80 C | | | 41 | 48 | 47 | 50 | 43 | 49 | 2 | 5 | 4 | 10 | -8 | -5 | -2 | 4 | 43 | 50 | 47 | 51 | 44 | 51 | 2 | 6 | 5 | 12 | -8 | -4 | -1 | 6 |
| RES 80 D | | | 44 | 51 | 51 | 54 | 46 | 51 | 1 | 4 | 5 | 10 | -4 | -1 | 1 | 6 | 46 | 53 | 52 | 55 | 48 | 53 | 2 | 5 | 7 | 12 | -3 | 0 | 3 | 8 |
| RES 81 A | 540 MOLOKAI HEMA ST | 38057018 | 45 | 51 | 50 | 53 | 46 | 51 | 2 | 5 | 7 | 12 | -5 | -2 | 1 | 6 | 47 | 53 | 51 | 54 | 48 | 53 | 3 | 6 | 9 | 14 | -4 | -1 | 3 | 8 |
| RES 81 B | | | 33 | 40 | 55 | 55 | 46 | 47 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 35 | 42 | 55 | 55 | 46 | 48 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| RES 81 C | | | 39 | 49 | 57 | 57 | 48 | 51 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 41 | 51 | 57 | 58 | 48 | 52 | 0 | 1 | 0 | 4 | 0 | 1 | 0 | 4 |
| RES 81 D | | | 47 | 52 | 53 | 55 | 48 | 52 | 1 | 3 | 5 | 9 | -2 | 0 | 3 | 7 | 49 | 54 | 54 | 56 | 50 | 54 | 2 | 4 | 7 | 11 | -1 | 1 | 5 | 9 |
| RES 82 A | 270 UHU ST | 38053001 | 59 | 66 | 62 | 67 | 60 | 66 | 4 | 9 | 11 | 17 | 4 | 9 | 11 | 17 | 61 | 68 | 63 | 69 | 62 | 68 | 5 | 11 | 13 | 19 | 5 | 11 | 13 | 19 |
| RES 82 B | | | 60 | 65 | 62 | 66 | 60 | 65 | 5 | 9 | 12 | 17 | 5 | 9 | 12 | 17 | 62 | 67 | 63 | 68 | 62 | 67 | 6 | 11 | 14 | 19 | 6 | 11 | 14 | 19 |
| RES 82 B | | | 47 | 53 | 49 | 54 | 48 | 53 | 4 | 9 | 9 | 14 | -6 | -1 | 3 | 8 | 49 | 55 | 51 | 55 | 50 | 55 | 6 | 10 | 11 | 16 | -4 | 0 | 5 | 10 |
| RES 82 D | | | 49 | 63 | 54 | 63 | 50 | 63 | 2 | 11 | 7 | 20 | -1 | 8 | 5 | 18 | 51 | 65 | 55 | 65 | 51 | 65 | 3 | 13 | 8 | 22 | 0 | 10 | 6 | 20 |
| RES 83 A | 530 POHAI ST | 38053007 | 40 | 46 | 46 | 48 | 43 | 46 | 1 | 3 | 4 | 7 | -9 | -7 | -2 | 1 | 42 | 48 | 47 | 49 | 44 | 48 | 2 | 4 | 5 | 9 | -8 | -6 | -1 | 3 |
| RES 83 B | | | 44 | 51 | 57 | 58 | 49 | 53 | 0 | 1 | 1 | 5 | 0 | 1 | 1 | 5 | 46 | 53 | 57 | 58 | 50 | 54 | 0 | 1 | 2 | 6 | 0 | 1 | 2 | 6 |
| RES 83 C | | | 41 | 51 | 48 | 52 | 43 | 51 | 1 | 5 | 4 | 12 | -7 | -3 | -2 | 6 | 43 | 53 | 48 | 54 | 44 | 53 | 1 | 7 | 5 | 14 | -7 | -1 | -1 | 8 |
| RES 83 D | | | 50 | 51 | 51 | 52 | 50 | 51 | 6 | 7 | 11 | 12 | -4 | -3 | 5 | 6 | 52 | 53 | 52 | 54 | 52 | 53 | 7 | 9 | 13 | 14 | -3 | -1 | 7 | 8 |
| RES 84 A | 700 MOLOKAI AKAU ST | 38053013 | 36 | 46 | 47 | 49 | 41 | 47 | 0 | 2 | 2 | 8 | -8 | -6 | -4 | 2 | 38 | 48 | 47 | 51 | 41 | 49 | 0 | 4 | 2 | 10 | -8 | -4 | -4 | 4 |
| RES 84 B | | | 40 | 51 | 56 | 57 | 48 | 52 | 0 | 1 | 1 | 5 | 0 | 1 | 1 | 5 | 42 | 53 | 56 | 58 | 48 | 54 | 0 | 2 | 1 | 7 | 0 | 2 | 1 | 7 |
| RES 84 C | | | 44 | 54 | 60 | 61 | 52 | 56 | 0 | 1 | 1 | 5 | 0 | 1 | 1 | 5 | 46 | 56 | 60 | 61 | 52 | 57 | 0 | 1 | 1 | 6 | 0 | 1 | 1 | 6 |
| RES 84 D | | | 40 | 49 | 51 | 53 | 44 | 50 | 0 | 2 | 2 | 8 | -4 | -2 | -1 | 5 | 42 | 51 | 52 | 54 | 45 | 51 | 1 | 3 | 3 | 9 | -3 | -1 | 0 | 6 |
| RES 85 A | 260 UHU ST | 38053026 | 59 | 65 | 62 | 66 | 60 | 65 | 3 | 7 | 10 | 15 | 3 | 7 | 10 | 15 | 61 | 67 | 63 | 67 | 62 | 67 | 4 | 8 | 12 | 17 | 4 | 8 | 12 | 17 |
| RES 85 B | | | 57 | 56 | 58 | 57 | 57 | 56 | 8 | 7 | 16 | 15 | 3 | 2 | 12 | 11 | 59 | 58 | 60 | 59 | 59 | 58 | 10 | 9 | 18 | 17 | 5 | 4 | 14 | 13 |
| RES 85 C | | | 44 | 55 | 48 | 56 | 45 | 55 | 3 | 11 | 6 | 16 | -7 | 1 | 0 | 10 | 46 | 57 | 49 | 58 | 47 | 57 | 4 | 13 | 8 | 18 | -6 | 3 | 2 | 12 |
| RES 85 D | | | 57 | 57 | 60 | 60 | 58 | 57 | 3 | 3 | 10 | 9 | 3 | 3 | 10 | 9 | 59 | 59 | 61 | 61 | 60 | 59 | 4 | 4 | 12 | 11 | 4 | 4 | 12 | 11 |
| RES 86 A | 529 POHAKU ST | 38053020 | 44 | 52 | 48 | 53 | 45 | 52 | 2 | 7 | 6 | 13 | -7 | -2 | 0 | 7 | 46 | 54 | 49 | 55 | 47 | 54 | 3 | 9 | 8 | 15 | -6 | 0 | 2 | 9 |
| RES 86 B | | | 48 | 49 | 49 | 50 | 48 | 49 | 4 | 5 | 9 | 10 | -6 | -5 | 3 | 4 | 50 | 51 | 51 | 52 | 50 | 51 | 6 | 7 | 11 | 12 | -4 | -3 | 5 | 6 |
| RES 86 C | | | 40 | 46 | 46 | 48 | 43 | 46 | 1 | 3 | 4 | 7 | -9 | -7 | -2 | 1 | 42 | 48 | 47 | 50 | 44 | 48 | 2 | 5 | 5 | 9 | -8 | -5 | -1 | 3 |
| RES 86 D | | | 46 | 50 | 56 | 56 | 49 | 52 | 1 | 1 | 3 | 6 | 1 | 1 | 3 | 6 | 48 | 52 | 56 | 57 | 50 | 53 | 1 | 2 | 4 | 7 | 1 | 2 | 4 | 7 |
| RES 87 A | 710 MOLOKAI AKAU ST | 38053014 | 34 | 42 | 46 | 47 | 40 | 44 | 0 | 1 | 1 | 5 | -9 | -8 | -5 | -1 | 36 | 44 | 46 | 48 | 41 | 45 | 0 | 2 | 2 | 6 | -9 | -7 | -4 | 0 |
| RES 87 B | | | 47 | 51 | 52 | 54 | 48 | 51 | 2 | 4 | 7 | 10 | -3 | -1 | 3 | 6 | 49 | 53 | 53 | 55 | 50 | 53 | 3 | 5 | 9 | 12 | -2 | 0 | 5 | 8 |
| RES 87 C | | | 40 | 46 | 58 | 58 | 49 | 50 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 42 | 48 | 58 | 58 | 49 | 51 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| RES 87 D | | | 42 | 47 | 58 | 58 | 50 | 51 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 2 | 44 | 49 | 58 | 58 | 50 | 52 | 0 | 0 | 1 | 3 | 0 | 0 | 1 | 3 |

| | | | CadnaA Construction Results | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Erection | | | | | | | | | | | | | | Finishing | | | | | | | | | | | | | |
| Receptor | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | | Construction | | Total Noise Level (Existing | | | | Increment over Ambient | | | | Increases over Code | | | |
| A = North; B = East; C = South; D = West; EG = 1st Floor; 1.0G = 2nd Floor | | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | | Noise Only | | Day | | Night | | Day | | Night | | Day | | Night | |
| Model ID | Address | Maui TMK | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| RES 88 A | 730 MOLOKAI AKAU ST | 38053039 | 39 | 42 | 48 | 48 | 42 | 44 | 1 | 1 | 3 | 5 | -7 | -7 | -3 | -1 | 41 | 44 | 48 | 49 | 43 | 45 | 1 | 2 | 4 | 6 | -7 | -6 | -2 | 0 |
| RES 88 B | | | 43 | 46 | 56 | 56 | 48 | 49 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 2 | 45 | 48 | 56 | 57 | 49 | 50 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 |
| RES 88 C | | | 41 | 46 | 57 | 57 | 49 | 50 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 2 | 43 | 48 | 57 | 57 | 49 | 51 | 0 | 0 | 1 | 3 | 0 | 0 | 1 | 3 |
| RES 88 D | | | 45 | 47 | 49 | 50 | 46 | 47 | 2 | 3 | 7 | 8 | -6 | -5 | 1 | 2 | 47 | 49 | 50 | 51 | 47 | 49 | 3 | 4 | 8 | 10 | -5 | -4 | 2 | 4 |
| RES 89 A | 503 WAIKALA ST | 38053052 | 51 | 59 | 59 | 62 | 53 | 59 | 1 | 4 | 4 | 10 | 1 | 4 | 4 | 10 | 53 | 61 | 59 | 63 | 54 | 61 | 1 | 5 | 5 | 12 | 1 | 5 | 5 | 12 |
| RES 89 B | | | 44 | 51 | 50 | 53 | 45 | 52 | 2 | 5 | 6 | 13 | -5 | -2 | 0 | 7 | 46 | 53 | 50 | 55 | 47 | 54 | 2 | 7 | 8 | 15 | -5 | 0 | 2 | 9 |
| RES 89 C | | | 48 | 52 | 51 | 53 | 49 | 52 | 3 | 5 | 10 | 13 | -4 | -2 | 4 | 7 | 50 | 54 | 52 | 55 | 50 | 54 | 4 | 7 | 11 | 15 | -3 | 0 | 5 | 9 |
| RES 89 D | | | 45 | 53 | 57 | 58 | 50 | 54 | 0 | 1 | 2 | 6 | 0 | 1 | 2 | 6 | 47 | 55 | 57 | 59 | 50 | 56 | 0 | 2 | 2 | 8 | 0 | 2 | 2 | 8 |
| RES 90 A | 525 WAIKALA ST | 38053047 | 45 | 48 | 48 | 49 | 46 | 48 | 3 | 4 | 7 | 9 | -7 | -6 | 1 | 3 | 47 | 50 | 49 | 51 | 47 | 50 | 4 | 6 | 8 | 11 | -6 | -4 | 2 | 5 |
| RES 90 B | | | 40 | 44 | 46 | 48 | 42 | 45 | 1 | 3 | 3 | 6 | -9 | -7 | -3 | 0 | 42 | 46 | 47 | 49 | 44 | 47 | 2 | 4 | 5 | 8 | -8 | -6 | -1 | 2 |
| RES 90 C | | | 36 | 42 | 46 | 47 | 41 | 44 | 0 | 1 | 2 | 5 | -9 | -8 | -4 | -1 | 38 | 44 | 46 | 48 | 41 | 45 | 0 | 2 | 2 | 6 | -9 | -7 | -4 | 0 |
| RES 90 D | | | 32 | 44 | 56 | 56 | 47 | 48 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 34 | 46 | 56 | 56 | 47 | 49 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 3 |
| RES 91 A | 740 MOLOKAI AKAU ST | 38053040 | 33 | 47 | 45 | 49 | 40 | 47 | 0 | 4 | 1 | 8 | -10 | -6 | -5 | 2 | 35 | 49 | 45 | 50 | 40 | 49 | 0 | 5 | 1 | 10 | -10 | -5 | -5 | 4 |
| RES 91 B | | | 37 | 45 | 48 | 49 | 41 | 46 | 1 | 2 | 2 | 7 | -7 | -6 | -4 | 1 | 39 | 47 | 48 | 50 | 42 | 47 | 1 | 3 | 3 | 8 | -7 | -5 | -3 | 2 |
| RES 91 C | | | 40 | 45 | 56 | 57 | 48 | 49 | 0 | 1 | 1 | 2 | 0 | 1 | 1 | 2 | 42 | 47 | 56 | 57 | 48 | 50 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | 3 |
| RES 91 D | | | 28 | 36 | 56 | 56 | 47 | 48 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 30 | 38 | 56 | 56 | 47 | 48 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| RES 92 A | 504 POHAKU ST | 38053027 | 58 | 62 | 62 | 64 | 59 | 62 | 2 | 4 | 8 | 11 | 2 | 4 | 8 | 11 | 60 | 64 | 63 | 65 | 60 | 64 | 3 | 5 | 9 | 13 | 3 | 5 | 9 | 13 |
| RES 92 B | | | 45 | 57 | 57 | 60 | 50 | 58 | 0 | 3 | 2 | 10 | 0 | 3 | 2 | 10 | 47 | 59 | 57 | 61 | 51 | 59 | 0 | 4 | 3 | 11 | 0 | 4 | 3 | 11 |
| RES 92 C | | | 45 | 53 | 48 | 54 | 46 | 53 | 3 | 9 | 7 | 14 | -7 | -1 | 1 | 8 | 47 | 55 | 50 | 56 | 48 | 55 | 5 | 11 | 9 | 16 | -5 | 1 | 3 | 10 |
| RES 92 D | | | 41 | 47 | 52 | 53 | 45 | 48 | 1 | 2 | 3 | 6 | -3 | -2 | 0 | 3 | 43 | 49 | 52 | 53 | 46 | 50 | 1 | 2 | 4 | 8 | -3 | -2 | 1 | 5 |
| RES 93 A | 526 POHAKU ST | 38053032 | 39 | 45 | 46 | 48 | 42 | 46 | 1 | 3 | 3 | 7 | -9 | -7 | -3 | 1 | 41 | 47 | 47 | 49 | 43 | 48 | 2 | 4 | 4 | 9 | -8 | -6 | -2 | 3 |
| RES 93 B | | | 48 | 51 | 56 | 57 | 50 | 52 | 1 | 2 | 4 | 6 | 1 | 2 | 4 | 6 | 50 | 53 | 56 | 57 | 51 | 53 | 1 | 2 | 5 | 7 | 1 | 2 | 5 | 7 |
| RES 93 C | | | 40 | 45 | 46 | 48 | 42 | 46 | 1 | 3 | 3 | 7 | -9 | -7 | -3 | 1 | 42 | 47 | 47 | 49 | 44 | 48 | 2 | 4 | 5 | 9 | -8 | -6 | -1 | 3 |
| RES 93 D | | | 38 | 45 | 46 | 48 | 42 | 46 | 1 | 3 | 3 | 7 | -9 | -7 | -3 | 1 | 40 | 47 | 46 | 49 | 43 | 48 | 1 | 4 | 4 | 9 | -9 | -6 | -2 | 3 |
| RES 94 A | 310 HINA AVE | 38047022 | 28 | 36 | 66 | 66 | 57 | 57 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 30 | 38 | 66 | 66 | 57 | 57 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| RES 94 B | | | 42 | 45 | 59 | 59 | 51 | 51 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 44 | 47 | 59 | 59 | 51 | 52 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 2 |
| RES 94 C | | | 41 | 45 | 48 | 50 | 43 | 46 | 0 | 2 | 4 | 7 | -7 | -5 | -2 | 1 | 43 | 47 | 49 | 50 | 44 | 48 | 1 | 2 | 5 | 9 | -6 | -5 | -1 | 3 |
| RES 94 D | | | 41 | 47 | 59 | 59 | 51 | 52 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 2 | 43 | 49 | 59 | 59 | 51 | 52 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 2 |
| RES 95 A | 403 MOLOKAI HEMA ST | 38047016 | 42 | 48 | 48 | 50 | 43 | 48 | 2 | 4 | 4 | 9 | -7 | -5 | -2 | 3 | 44 | 50 | 48 | 51 | 45 | 50 | 2 | 5 | 6 | 11 | -7 | -4 | 0 | 5 |
| RES 95 B | | | 40 | 44 | 46 | 47 | 43 | 45 | 1 | 2 | 4 | 6 | -9 | -8 | -2 | 0 | 42 | 46 | 47 | 48 | 44 | 46 | 2 | 3 | 5 | 7 | -8 | -7 | -1 | 1 |
| RES 95 C | | | 41 | 49 | 47 | 50 | 43 | 49 | 2 | 5 | 4 | 10 | -8 | -5 | -2 | 4 | 43 | 51 | 47 | 52 | 45 | 51 | 2 | 7 | 6 | 12 | -8 | -3 | 0 | 6 |
| RES 95 D | | | 47 | 52 | 55 | 56 | 50 | 53 | 1 | 2 | 5 | 8 | 0 | 1 | 5 | 8 | 49 | 54 | 56 | 57 | 51 | 54 | 2 | 3 | 6 | 9 | 1 | 2 | 6 | 9 |
| RES 96 A | 320 HINA AVE | 38047001 | 28 | 34 | 65 | 65 | 56 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 36 | 65 | 65 | 56 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 96 B | | | 27 | 34 | 58 | 58 | 49 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 36 | 58 | 58 | 49 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES 96 C | | | 33 | 41 | 45 | 46 | 40 | 43 | 0 | 1 | 1 | 4 | -10 | -9 | -5 | -2 | 35 | 43 | 45 | 47 | 40 | 44 | 0 | 2 | 1 | 5 | -10 | -8 | -5 | -1 |
| RES 96 D | | | 39 | 45 | 58 | 58 | 49 | 50 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 41 | 47 | 58 | 58 | 49 | 51 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| RES 97 A | 366 NIIHAU ST | 38047006 | 43 | 47 | 47 | 49 | 45 | 47 | 2 | 4 | 6 | 8 | -8 | -6 | 0 | 2 | 45 | 49 | 48 | 50 | 46 | 49 | 3 | 5 | 7 | 10 | -7 | -5 | 1 | 4 |
| RES 97 B | | | 29 | 36 | 45 | 45 | 39 | 41 | 0 | 0 | 0 | 2 | -10 | -10 | -6 | -4 | 31 | 38 | 45 | 46 | 40 | 41 | 0 | 1 | 1 | 2 | -10 | -9 | -5 | -4 |
| RES 97 C | | | 32 | 42 | 45 | 47 | 40 | 44 | 0 | 2 | 1 | 5 | -10 | -8 | -5 | -1 | 34 | 44 | 45 | 47 | 40 | 45 | 0 | 2 | 1 | 6 | -10 | -8 | -5 | 0 |
| RES 97 D | | | 36 | 45 | 46 | 48 | 41 | 46 | 0 | 2 | 2 | 7 | -9 | -7 | -4 | 1 | 38 | 47 | 46 | 49 | 41 | 48 | 0 | 3 | 2 | 9 | -9 | -6 | -4 | 3 |
| Kahului Jodo Mission A | 325 LAAU ST | 38047011 | 44 | 49 | 48 | 50 | 45 | 49 | 3 | 5 | 6 | 10 | -7 | -5 | 0 | 4 | 46 | 51 | 49 | 52 | 47 | 51 | 4 | 7 | 8 | 12 | -6 | -3 | 2 | 6 |
| Kahului Jodo Mission B | | | 42 | 51 | 47 | 52 | 44 | 51 | 2 | 7 | 5 | 12 | -8 | -3 | -1 | 6 | 44 | 53 | 47 | 53 | 45 | 53 | 2 | 8 | 6 | 14 | -8 | -2 | 0 | 8 |
| Kahului Jodo Mission C | | | 43 | 53 | 52 | 55 | 46 | 53 | 1 | 4 | 4 | 11 | -3 | 0 | 1 | 8 | 45 | 55 | 52 | 56 | 47 | 55 | 1 | 5 | 5 | 13 | -3 | 1 | 2 | 10 |
| Kahului Jodo Mission D | | | 44 | 50 | 54 | 55 | 47 | 51 | 0 | 1 | 2 | 6 | -1 | 0 | 2 | 6 | 46 | 52 | 54 | 56 | 48 | 52 | 0 | 2 | 3 | 7 | -1 | 1 | 3 | 7 |
| Maui HS GYM | 660 LONO AVE | 38007098 | 49 | 55 | 51 | 55 | 49 | 55 | 3 | 7 | 10 | 16 | -4 | 0 | 4 | 10 | 51 | 57 | 52 | 57 | 51 | 57 | 4 | 9 | 12 | 18 | -3 | 2 | 6 | 12 |
| REC Kahalui Elem School | 410 HINA AVE | 38007041 | 53 | 54 | 54 | 55 | 53 | 54 | 7 | 8 | 14 | 15 | -1 | 0 | 8 | 9 | 55 | 56 | 56 | 56 | 55 | 56 | 9 | 9 | 16 | 17 | 1 | 1 | 10 | 11 |

# *Appendix C: Archaeological Report*

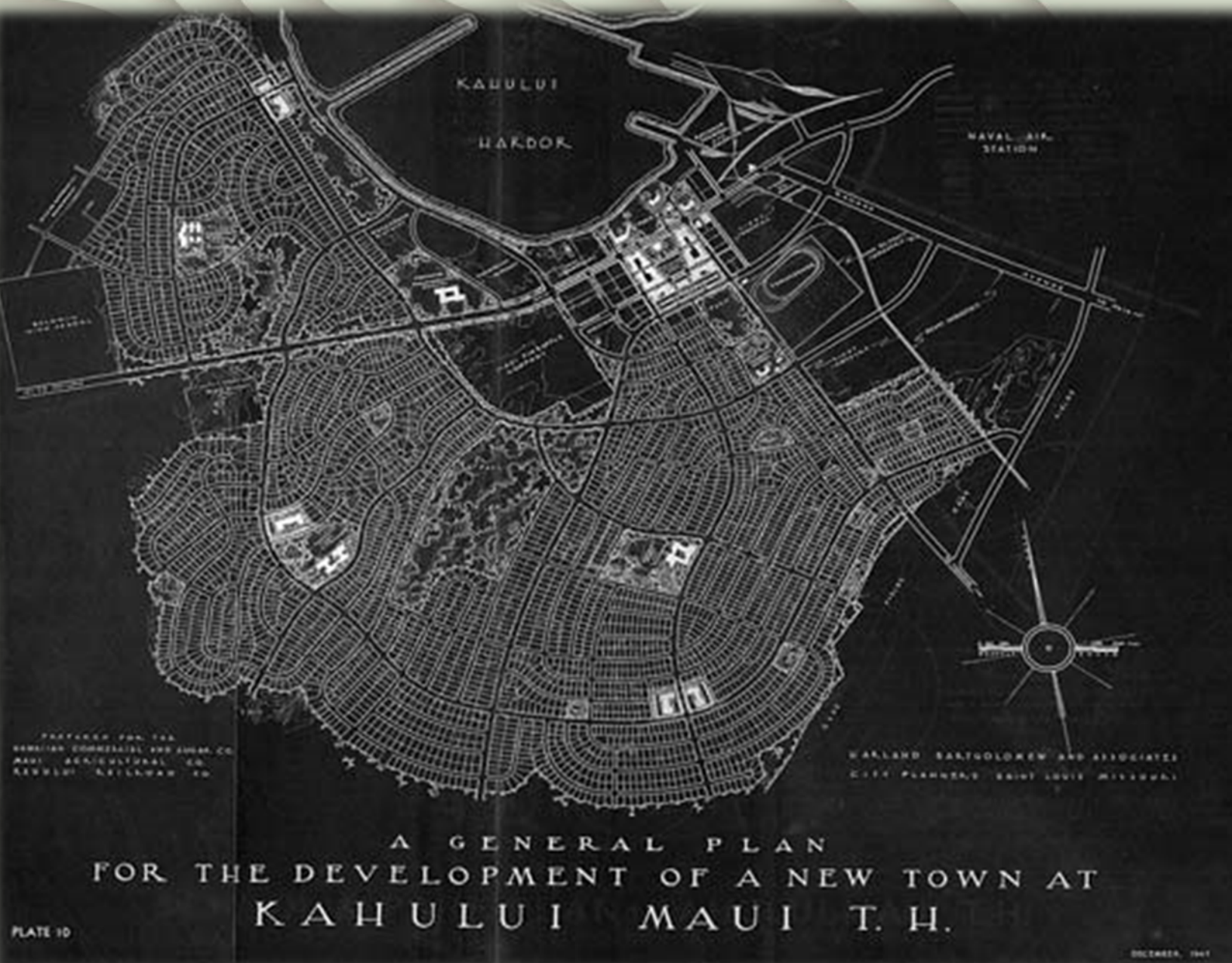
AA PROJECT NO. 2112

DRAFT

# HISTORIC PRESERVATION REVIEW FOR THE PROPOSED HALE MAKUA REHABILITATION FACILITY

Wailuku Ahupuaʻa, Nā Wai ʻEha -- Pūʻali Komohana (Wailuku Moku and Modern Tax District), Mokupuni o Maui

TMK: (2) 3-8-007:097 por.



## COVER IMAGE

General plan for Dream City at Kahului, 1947 (Draft Maui Island Plan, March 2008:19)

## DREAM CITY:

Conceptualized by Harland Bartholomew, who was recognized as the national authority on municipal planning in the mid-20th Century (Harland Bartholomew - Rutgers University Alumni Association), Dream City at Kahului sought to meet the rising demand for single family homes due to: the increasing prosperity of plantation workers, returning opportunity endowed GIs returning from the battlefields of WWII, mechanization of the sugar industry, and the closure of plantation camps (Draft Maui Island Plan, March 2008: 19).

AA PROJECT NO. 2112
AA PERMIT NO. 21-02

DRAFT

# HISTORIC PRESERVATION REVIEW FOR THE PROPOSED HALE MAKUA REHABILITATION FACILITY

Wailuku Ahupuaʻa, Nā Wai ʻEha -- Pūʻali Komohana (Wailuku Moku and Modern Tax District), Mokupuni o Maui

TMK: (2) 3-8-007:097 por.

12/21/2021

**Project Proponent**
Hale Makua Rehab & Nursing
ʻOhana Pacific Health

**Under Contract To**:
Kaimana Environmental Solutions, LLC
Honolulu, HI

**Prepared By**:
Tanya Lee-Greig, M.A.

ʻĀINA ARCHAEOLOGY

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Maui: 1305 N. Holopono St., Suite 6, Kīhei, HI 96753

# Management Summary

| | |
|---|---|
| **Project Name:** | Hale Makua Rehabilitation Facility |
| **Summary of Project Description:** | The Kahului care facility of Hale Makua Health Services is proposing to expand their existing facility which would involve a lease of a portion of the adjacent County land and construction of a new Rehabilitation Facility. The proposed Rehabilitation Facility would include an approximately 76,200 square foot, two-story commercial building, and associated parking area. |
| **Project Acreage:** | 2.8-acres |
| **Land Owner and/or Jurisdiction:** | Landowner: Public – County of Maui<br>Land Jurisdiction: County of Maui – Department of Parks & Recreation |
| **Funding Sources:** | Private: Hale Makua Health Services |
| **Regulatory Context:** | As a project located on publicly held lands under the jurisdiction of Maui County – Department of Parks & Recreation, the overall project is subject to review by the Hawaiʻi under Hawaiʻi Revised Statutes (HRS) §6E-8 and in accordance with Hawaiʻi Administrative Rules (HAR) Chapter 13-275 |
| **Archaeological Considerations and Recommendations** | Given the clear and extensive presence of Puuone Sands within the open and relatively undeveloped proposed project area, as well as the apparent low impact nature of the minimal structures that are present on site, the probability of encountering pre-contact traditional Hawaiian burials during construction of the proposed facility across the approximate 2.8-acre project area is believed to be very high.<br><br>An intensive archaeological inventory survey (AIS), compliant with HAR 13-276 – Rules Governing Standards for Archaeological Inventory Surveys and Reports is recommended. Due to the highly sensitive nature of the underlying sediments, preparation of an archaeological inventory survey plan (AISP) to govern and guide the AIS fieldwork is also recommended. The development of the AISP should occur in consultation with SHPD Archaeology Branch, SHPD Culture and History Branch, Native Hawaiian Organizations and individuals with cultural and genealogical ties to the area, and the Maui/Lānaʻi Islands Burial Council. |

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# 1.0 INTRODUCTION

At the request of Hale Makua Health Services Kahului, and under contract to Kaimana Environmental Solutions, LLC., 'Āina Archaeology completed a field inspection of the proposed project site and a documentary review of historic preservation compliance documents within a half-mile radius of the proposed project. The proposed project site is composed of an approximately 2.8-acre portion of the County owned Tax Map Key (TMK) parcel (2) 3-8-007: 097. Situated within Wailuku Ahupua'a, Nā Wai Ehā Pū'ali Komohana (Wailuku Moku and Modern Tax District) (Figure 1-1 and Figure 1-2) and is bordered to the north by the Kahului Community Center and Park, to the northeast by the existing Hale Makua Kahului facility, and to the east, south and west by single family residences and public roadways (see also Figure 1-2).

## 1.1 PROJECT DESCRIPTION

The Kahului care facility of Hale Makua Health Services is proposing to expand their existing facility which would involve a lease of a portion of the adjacent County land and construction of a new Rehabilitation Facility. The proposed Rehabilitation Facility would include an approximately 76,200 square foot, two-story commercial building, and associated parking area (Figure 1-3). This facility would provide services such as physical, occupational, and speech therapy, as well as home health and nursing services to the Kahului community. The proposed Rehabilitation Facility is part of the Hale Makua Master Plan, which also includes renovations to the existing aging Hale Makua facilities in Kahului and Wailuku.

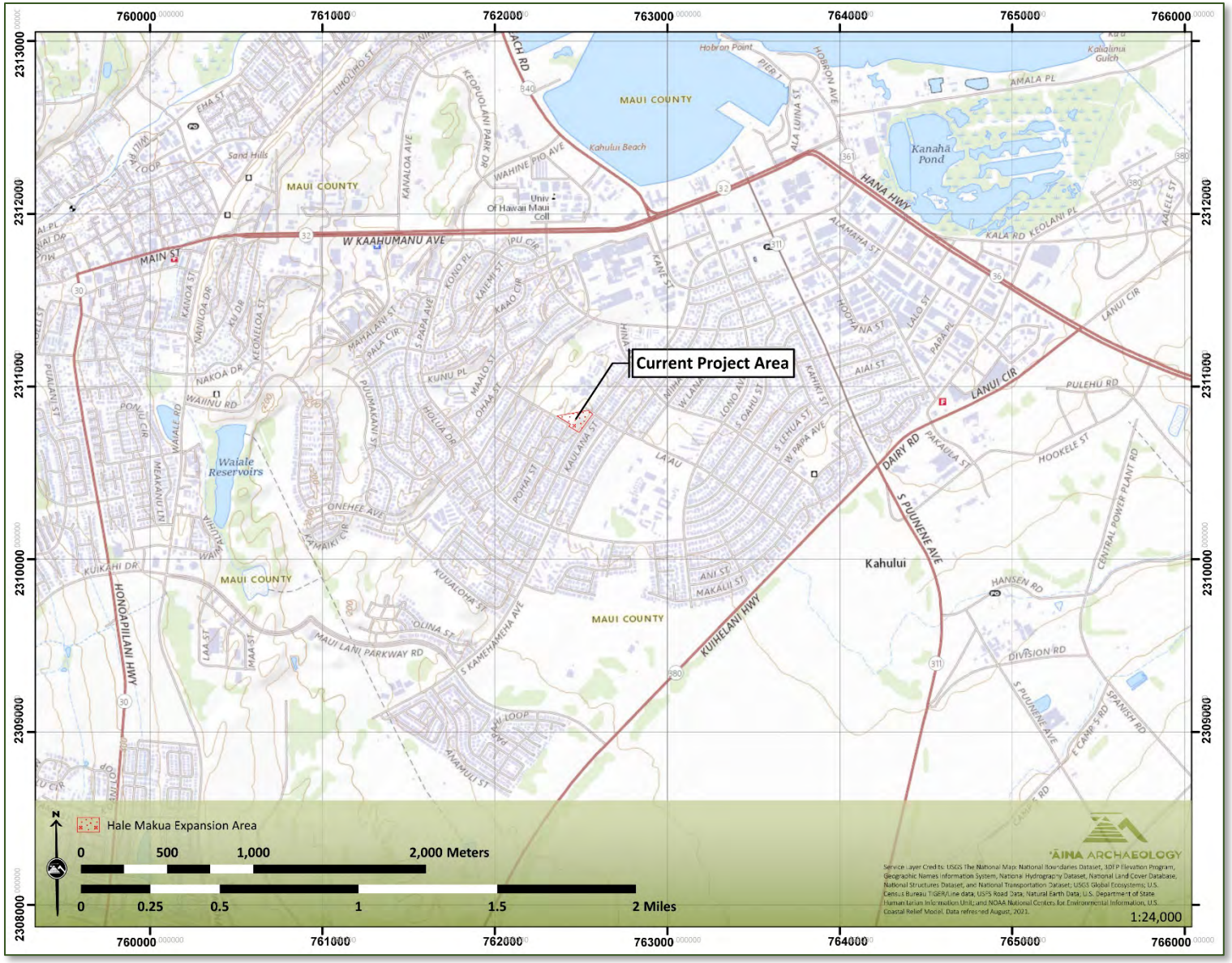


*Figure 1-1. A portion of the USGS National Map, Wailuku Quadrangle (United States Department of the Interior 2019), showing the proposed Hale Makua expansion area shaded in red.*

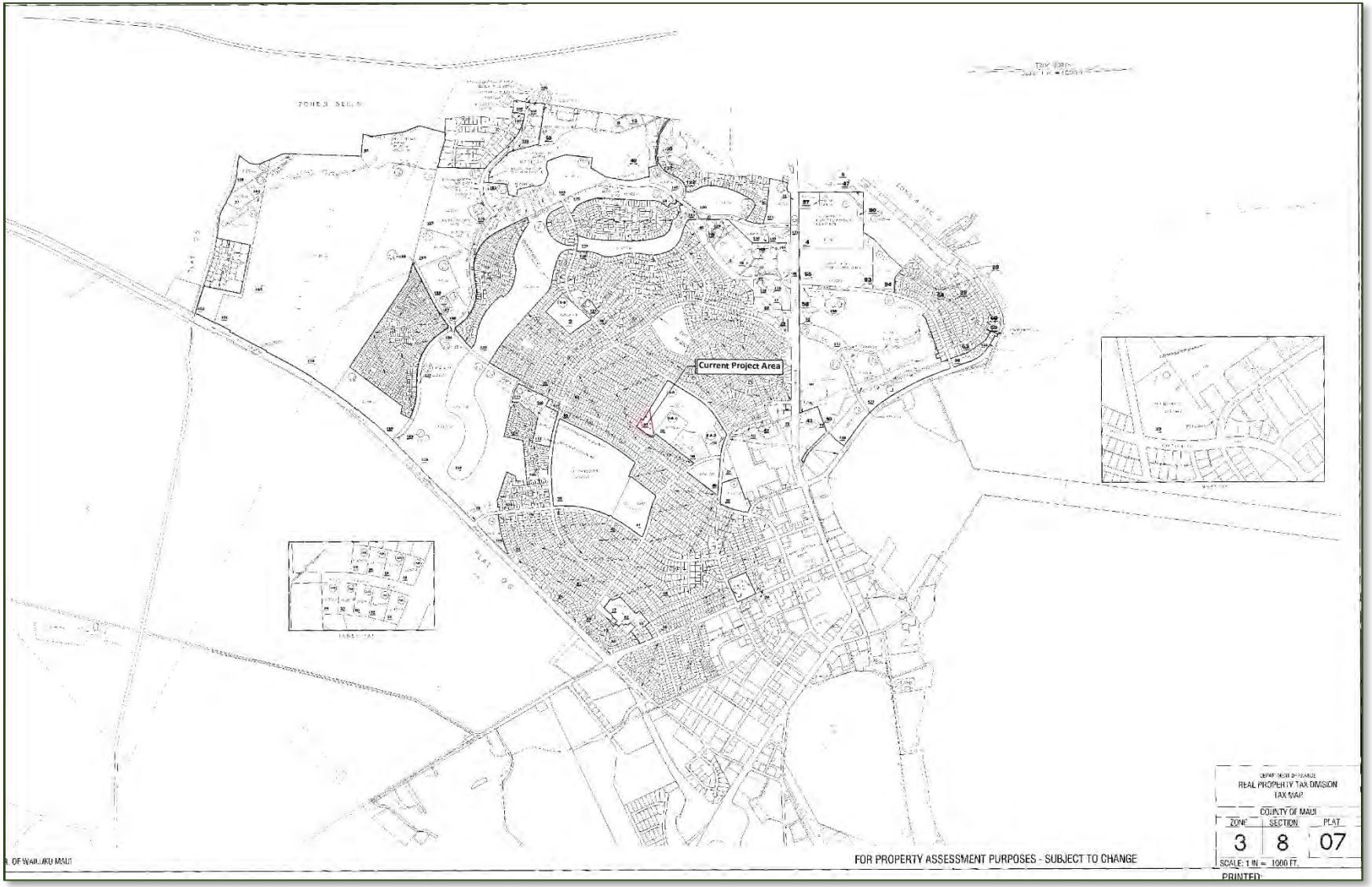


*Figure 1-2. Tax Map Key (2) 3-8-07 showing the proposed Hale Makua expansion area shaded in red.*

*Figure 1-3. Conceptual site plan for the proposed rehabilitation facility (plan courtesy of Kaimana Environmental Solutions, LLC .)*

## 1.2 SCOPE OF WORK

While Department of Land and Natural Resources' State Historic Preservation Division (DLNR/SHPD) had responded to a request for comment by the project proponent as a part of the Community Plan Amendment and Change in Zoning as a Chapter 6E-42 review (Log No.: 2019.00546, Doc. No.: 2004LS20; Appendix A), as a project located on publicly held lands under the jurisdiction of Maui County, the overall project is subject to review by the Hawaiʻi under Hawaiʻi Revised Statutes (HRS) §6E-8 and in accordance with Hawaiʻi Administrative Rules (HAR) Chapter 13-275. In order to develop the historical contexts and identify known historic properties as a part of the project Environmental Assessment, as well as assist in facilitating permitting review by identify areas of potential historic preservation concern, the following scope of work served as guidance for this documentary review and the compilation of information contained herein:

- Research on the locations and results of previous archaeological studies completed within a one-half mile radius of the proposed project;
- Research on the locations of known historic properties within a minimum one-half mile radius of the proposed project;
- Archaeological field inspection to characterize the project area and identify and summarize any immediate concerns;
- Incorporation of the above research into a report detailing the archaeological genealogy of the project area and surrounding vicinity to be comprised of:
    - Incorporation of the findings of the field inspection,
    - Summaries of previous archaeological studies,
    - Identification and descriptions of specific historic properties within the one-half mile review radius,
    - Identification of relevant compliance timelines,
    - Development of relevant GIS maps that illustrate the above findings.

## 1.3 METHODS

### 1.3.1 Document Review

Research venues included a search of the State Historic Preservation Division's HICRIS system, the physical libraries of SHPD at Kapolei and Wailuku, the historic map archive of the Department of Accounting and General Services' Land Survey Division, the EA and EIS digital library hosted by the Office of Environmental Quality Control (http://oeqc2.doh.hawaii.gov), and Hale Hoʻikeʻike at the Bailey House, as well as in-house digital resources.

### 1.3.2 GIS Methods

Previous archaeology study areas, site location maps, historic maps and AutoCAD files were georeferenced in relation to Maui Island TMK shapefile and portions of the Wailuku Quadrangle of the USGS National Map (United States Department of the Interior 2019) using known points and ArcGIS Desktop 10.8. All geographic maps presented herein were created using ArcGIS Desktop 10.8.

Figures showing the project area boundary overlain on historic maps and in relation to previously identified historic property locations should be considered approximate and used for informational purposes only.

# 2.0 ENVIRONMENTAL SETTING

## 2.1 NATURAL ENVIRONMENT

The current project area is situated on the central isthmus of Maui, where the lava flows and alluvial fans of the West Maui mountains merge with that of Haleakalā (Stearns and MacDonald 1942:7) and whose primary geologic characteristic once consisted of consolidated and unconsolidated calcareous sand dunes, which are primarily comprised of coral, shells, and foraminifera, with small amounts of basaltic sand, that stretched from Waiheʻe to Waikapū with some deposits noted in the south Maui coastal extent of Waiohuli, Kēōkea, and Kamaʻole (Stearns and MacDonald 1942:109; USDA-NRCS-NCGC 2001). Formed during the Pleistocene when the stand of the sea was roughly 60 ft. lower than the modern stand, these calcareous dunes once attained heights of 200 feet near the north coast but diminished rapidly in height and size toward the leeward coast (Stearns and MacDonald 1942:109). In general, the dunes show three different degrees of consolidation. The lowest sand is the hardest and is cemented to a firm rock or aeolianite. Above this is a brownish-red chiefly residual soil, that ranges in thickness from 2 to 6 feet, and above it lies dunes that are weakly cemented. In places these partly cemented dunes are overlain by recent unconsolidated dunes. The soil component contains fossil shells of land snails that show that the area once consisted of open forest conditions that were less arid than now.

The average annual rainfall accumulation at the elevation of the central isthmus at the current project area is generally less than 5 inches per year (Giambelluca et al. 2013), with the heaviest rainfall, approximately 2”-3”, occurring during the winter months (December through February) and little (~0.25”) to no rainfall during the summer months (June through August) (Giambelluca et al. 2013; Pratt and Gon III 1998:56). The resulting soils of the area are of the Pulehu-Ewa-Jaucus Association which are well-drained and excessively drained soils on alluvial fans and in basins that developed in alluvium weathered from basic igneous rock, coral, and seashells (Foote et al. 1972:8 and Maui General Soils Map). The specific soil unit within the project area consists entirely of Puuone[1] sand (PZUE) (Figure 2-1). A typical profile shows a grayish brown surface layer which is followed by calcareous sand about 20 inches thick underlain by grayish-brown cemented sand.

[1] Puuone spelled without Hawaiian diacritical mark in this section, otherwise spelled as Puʻuone, to be consistent with the soil unit naming convention determined by USDA.

*Figure 2-1. ESRI World Imagery Orthophoto (ESRI et al. 2018), showing the current project area (outlined in red) in relation to the underlying soil types (U.S. Department of Agriculture 2001).*

The above described geology, pattern of rainfall, and underlying soils once supported a lowland dry shrubland and grassland native ecosystem (Pratt and Gon III 1998:122). Vegetation along the

lower elevation plains that would have been supported include grasslands of pili (*Heteropogon contortus*), aʻaliʻi (*Dodonaea viscosa*) shrublands, patches of maʻo (Hawaiian cotton, *Gossypium tomentosum*), and dwarf shrublands of ʻākoko (*Chamaesyce* sp.) along with some occurrences of the now endangered koʻoloaʻula (*Abutilon menziesii*) and shrubs of the amaranth family (*Achyranthes splendens* var. *rotundata*) (Pratt and Gon III 1998:127-128).

Currently, the environment of the project footprint can primarily be characterized as an open recreational park, consisting of manicured lawn grasses with common, non-native weed species (Tetra Tech 2021:8). Trees such as iron wood (*Casuarina equisetifolia*) and monkey pod trees (*Samanea saman*) are also found in the project area, along with hala (*Pandanus tectorius*)and a single niu (coconut palm) (*Cocos nucifera*).

*Figure 2-2. Overview of project area, view to east.*

*Figure 2-3. Overview of project area, view to east-southeast*

*Figure 2-4. Overview of project area, view to West – Southwest.*

## 2.2 BUILT ENVIRONMENT

Currently, and as previously mentioned, the footprint of the proposed expansion bordered to the north by the Kahului Community Center and Park, to the northeast by the existing Hale Makua Kahului facility, and to the east, south and west by single family residences and public roadways (Figure 2-5).

*Figure 2-5. ESRI World Imagery Orthophoto (ESRI et al. 2018) showing the location of the proposed project are in relation to the modern built environment.*

# 3.0 CULTURAL HISTORICAL OVERVIEW

The division of Maui's lands into political districts occurred during the rule of Kakaʻalaneo, under the direction of his kahuna, Kalaihaʻōhiʻa (Beckwith 1970:383). This division resulted in the creation of several moku during traditional times: Kula, Honuaʻula, Kahikinui, Kaupō, Kīpahulu, Hāna, Koʻolau, Hāmākua Loa, Hāmākua Poko, Kāʻanapali, and Lāhainā (Alexander 1882; Sterling 1998:3). The moku o loko, or moku as it is most commonly called, literally means "to cut across, divide, separate" (Lucas 1995:77). When used as a term of traditional land tenure, a moku is similar to a modern political district.

Within kalana or moku are smaller units of land called ahupuaʻa, a word that is derived from the Hawaiian term ahu (altar), which was erected at the point where the boundary of land was intersected by the alaloa (main road encircling the island), upon which a carved puaʻa (hog) image, made of kukui wood and stained with red ochre was placed along with the tax of food items from that particular land unit as payment to the aliʻi (chief) during the annual progression of the akua makahiki (Alexander 1882:4). The typical configuration of the ahupuaʻa extends from the sea to the mountain so that the aliʻi (chiefs), as well as the makaʻāinana (common people) could have access to products of the uka (mountain region), the cultivated land, and the kai (sea) (Alexander 1882:4). While the boundary generally followed prominent landforms (i.e. ridge lines, the bottom of a ravine, or defined by a depression) there were times where a stone or rock that was notable from a tradition or sacred use would mark a corner or determine a line (Alexander 1890:105-106). Along similar lines, the growth of a certain kind of tree, herb or grass, or the habitat of a certain kind of bird would sometimes define a division (Alexander 1890:105-106).

With regard to the Waikapū, Wailuku, Waiehu, and Waiheʻe Ahupuaʻa, though they were collectively referred to as Na Poko or Nā Wai ʻEhā, these four ahupuaʻa in the traditional time period prior to 1778 were each known to be independent and thus belonged to no moku (Alexander 1882:4-5; Lyons 1903:29). In *Buke Kakau Paa no ka mahele aina i Hooholoia i waena o Kamehameha III a me Na Lii a me na Konohiki ana*, the land ledger which documents the division of lands between Kamehameha III, the aliʻi, and the konohiki, also commonly referred to as the Māhele Book, the four ahupuaʻa of Nā Wai ʻEhā are recorded as being in the kalana (land division smaller than a moku) of Pūʻali Komohana or West Isthmus (Buke Mahele 1848). At the time of the Hawaiian Government survey and as a part of the earliest development of the land division maps for Maui Island, the four ahupuaʻa of Nā Wai ʻEhā were folded into a then newly formed moku called Wailuku as it was thought that the traditional land tenure structure of Nā Wai ʻEhā was too complicated and poorly understood (Alexander 1882:5; Lyons 1903:29).

The current project area is located along the plains of Kamaʻomaʻo just south of Kaikuono o Kahului (Kahului Bay [Harbor]) (Figure 3-2) and amongst the sand hills of the central isthmus of Maui within the ahupuaʻa of Wailuku at Nā Wai ʻEhā, Pūʻali Komohona (Wailuku Moku and Modern Tax District), Mokupuni o Maui.

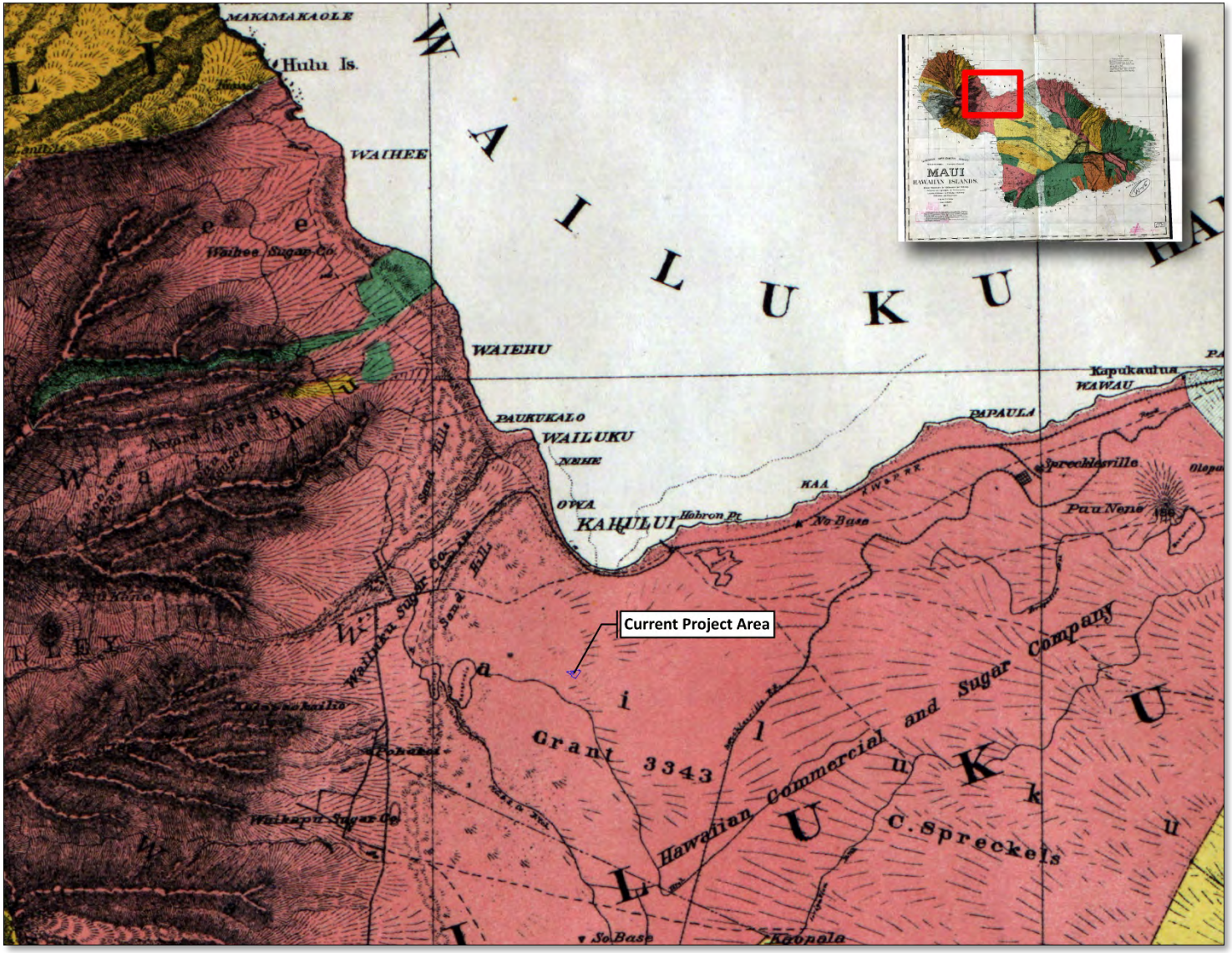


*Figure 3-1. A portion of the Hawaiian Government Survey map of Maui Island (Dodge 1885) showing the approximate location of the current project area (outlined in blue) in relation to the ahupuaʻa and moku of Wailuku.*

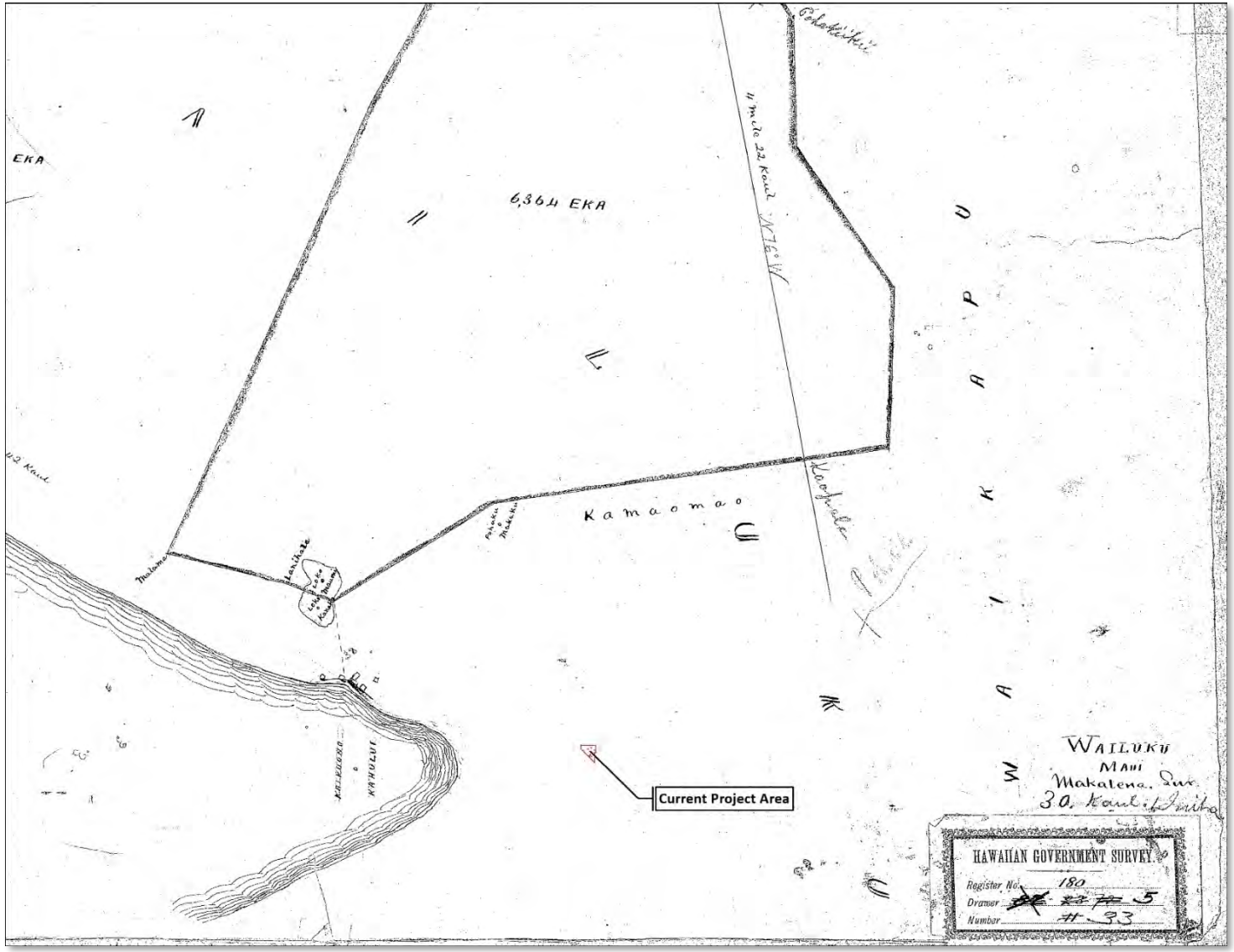


*Figure 3-2. A portion of Hawaiian Government Survey Registered Map No 180 (Makalena Undated) showing the location of the current project area in relation to Kahului Bay and Kama'oma'o.*

## 3.1 SUMMARY OF TRADITIONAL HAWAIIAN SETTLEMENT WITHIN THE PUʻUONE OF WAILUKU AHUPUAʻA

The region "from Waiheʻe to Wailuku Valley, in ancient times was the largest continuous area of wet taro cultivation in the islands" (Handy et al. 1972:496). The high degree of cultivation within Wailuku Ahupuaʻa and particularly along the flood plain of Wailuku River, gives evidence that the region was considerably populated and well established prior to the arrival of Western vessels to the shores of Maui. From each of the four valleys, well-developed field systems of loʻi kalo (pond field taro agriculture) supported the moʻi (high chief) and those of rank who were associated with the moʻi during the time when the traditional political and ceremonial centers were situated at Kaʻuiki (Hāna), Pihana-Halekiʻi (Wailuku), or Ka Lua ʻEhu (Lāhainā).

While Hawaiian moʻolelo (traditions) do not offer a direct account of the size of the Wailuku population in terms of Hawaiian demography prior to Western contact, it may possible to infer density and distribution from the number and locations of awarded kuleana claims, as depicted on the 1882 M. D. Monsarrat map (Figure 3-3), as well as traditional accounts of Wailuku Ahupuaʻa as a seat of political power (Kamakau 1992; Kolb and Keau 1990; Sterling 1998; Taylor 1951; Thrum 1908). Specific to the central isthmus, it is interesting to note, that the distribution of kuleana awards within Wailuku Ahupua'a are clearly clustered along the valley floor and flood plain of Wailuku River, as well as upon the alluvial fans extending from the base of the West Maui Mountains, in comparison to the area noted as "Sand Hills" and surrounding sand dunes. An article published by C.F. Gordon Cumming for the Gentleman's Magazine in 1882 described the scenery of the plains and sand hills of Wailuku Ahupuaʻa in the following manner:

> *The distant sea and hills were of a heavenly blue, while the near sandhills were of every shade of orange and rust colour* [sic]*. I never saw such rich colouring* [sic] *in sand. There is no road across this isthmus of ever-shifting volcanic dust, where each day's changes obliterate the faint landmarks of those preceding it; so we followed devious cart-tracks, and meandered in somewhat erratic fashion among the desert sand heaps, which are scarcely tinged by a poor scanty vegetation. (Cumming 1882)*

An earlier excerpt from the Wilkes expedition under the directive of U.S. Congress provides the following description of the sand dunes of the central isthmus as seen in 1841 and before the major shift to industrial agriculture:

> *After breakfast, Mr. Greene was obliging enough to accompany us to see the sugar-mills and taro plantations, in the valley of the Wailuku….*
>
> *We now rode down the valley among the taro-patches, and over to the Sand-hills. In passing over them we saw some remarkable concretions, resembling large tunnels or broken pipes, which were quite hard, and resembled solid rock interspersed with amorphous sandstone…. On the isthmus, the sand was drifting like snow, and afforded a good illustration of the rapidity with which it changes its place by the effects of the winds.*
>
> *In the center of the Sand-hills, we stopped on a mound of human bones, —a perfect Golgotha…. By some it is supposed to have been a burying place after a battle, for the place where they were found was known to be a battle-ground. Bloody contests indeed, must have taken place here, if we are to judge from the number of skeletons which are exposed.*
>
> *Near this place we saw several boys anxiously watching some object, and on getting near them, found they were employed in catching birds. This was done by bating small sticks, to which a string was tied, and the other end of the string fastened to a small stone: the bird swallow the stick along with the bait, and in attempting to fly off, it pierces his throat, and he is thus secured. (Wilkes 1845:260)*

### 3.1.1 Huakaʻi Pō and The Plains of Kamaʻomaʻo

In keeping with the kuleana of Pueonuiokona, a pueo (owl) who lived at Kamaʻomaʻo, other moʻolelo tell of Kamaʻomaʻo as a place where the spirits roam:

> *The worst fate that can befall a soul is to be abandoned by its aumakua and left to stray, a wandering spirit (kuewa) in some barren and desolate place, feeding upon spiders and night moths. Such spirits are believed to be malicious and to take delight in leading travelers astray; hence the wild places which they haunt on each island are feared and avoided. Such are the plains of **Kamaʻomaʻo** on the island of Maui, the rough country of Kaupea at Puʻuloa on Oahu, Uhana on Lanai, Maohelaia on Molokai, Mana on Kauai, Halaliʻi on Niʻihau. In these desolate places lost spirits wander until some friendly aumakua takes pity upon them. (Beckwith 1970:154 bold emphasis added)*

In her book on the Huakaʻi Pō, Night Marchers, Helen Hoyt (1976) notes that Kamaʻomaʻo is also a place in which Ka Huakaʻi Pō have also been seen and heard. Hawaiian scholar Mary Kawena

Pukui noted that to see the Night Marchers is fatal unless there is a relative among the spirits who walk:

> *The time for the march is between half after seven when the sun has actually set and about two in the morning before the dawn breaks. It may occur on one of the four nights of the gods, on Kū, Akua, Lono, Kāne or on the nights of Kāloa. Those who took part in the march were the chiefs and warriors who had died, the ʻaumākua, and the gods, each of whom had their own march….*
>
> *If a living person met these marchers, it behooved him to get out of the way as quickly as possible. Otherwise he might be killed, unless he had an ancestor or ʻaumākua in the procession to plead for his life…. (Pukui 1997:82-83)*

It is also along these plains that the spirits of some of the warriors of Kalaniopuʻu who fell during the Battle of Kakanilua are thought to roam.

### 3.1.2 Warfare in the Sand Hills of Kalua -- Ahulau ka Piʻipiʻi i Kakanilua (Slaughter-of-the-Piʻipiʻi-at-Kakanilua) and the Retreat of Kalaniopuʻu to Kīheipukoʻa

During the time of Kahekili of Maui and Kalaniopuʻu of Hawaiʻi, the two chiefs engaged in a rivalry that resulted in many battles that were carried out in the territory of both chiefs. Historians note that the fiercest battle with the most casualties between the rival chiefs occurred on the central isthmus of Maui around the year 1776 when the army of Kalaniopuʻu landed on the shores of Pūlehunui and Waikapū after ravaging the countryside of Honuaʻula. An account of the battle was published in the Hawaiian language newspapers by the Hawaiian scholar Samuel Kamakau and compiled together in the book *Ruling Chiefs* (Kamakau 1992). Because the battle took place within the Puʻuone of the central isthmus of Maui, the sands of which once covered the current project area, the story of the battle of Kakanilua as translated in *Ruling Chiefs* (Kamakau 1992:84-89) is presented below:

> *Ka-lani-ʻopuʻu landed his forces before noon, a great multitude filling the land from Kiheipukoʻa at Kealia to Kapaʻahu, all eager with the thought that the Alapa were to drink of the waters of Wailuku. The Alapa were led by Inaina, Kuaʻana, Kane-haʻi-lua, and Keawe-hano. There were 800 of them, all expert spear-point breakers, every one of whose spears went straight to the mark, like arrows shot from a bow, to drink the blood of a victim. Across the plains of Puʻuʻainako (Cane-trash-hill) and Kamaʻomaʻo shone the feather cloaks of the soldiers, woven in the ancient pattern and colored like the hues of the rainbow in red, yellow, and green, with helmets on their heads whose arcs shone like a night in summer when the crescent lies within the moon.*
>
> *Ka-hekili was at Kalanihale just below Kihahale and above the plateau of Kaʻilipoe at Pohakuokahi. Said Ka-leo-puʻupuʻu to Ka-hekili, "The fish have entered the*

*sluice; draw in the net." Like a dark cloud hovering over the Alapa, rose the destroying host of Ka-hekili seaward of the sandhills of Kahuluʻu, the "smoke head" (poʻouahi) and the "red coconut" (niuʻula) divisions. They slew the Alapa on the sandhills at the southeast of Kalua. There the dead lay in heaps strewn like kukui branches; the corpses lay heaped in death; they were slain like fish enclosed in a net. This great slaughter was called Ahulau ka Piʻipiʻi I Kakanilua (Slaughter-of-the-Piʻipiʻi-at-Kaka-nilua). Keawe-hano, the governing chief of Hilo, was discovered by Ka-po-lua almost dead among the heap of corpses, and he alone was taken alive before Ka-hekili, because of an agreement between Ka-po-lua and Keawe-hano [that each should spare the other in battle]; but it was too late to save him for he was fatally injured….*

*Ka-lani-ʻopuʻu turned to his defenders, the chiefs of Hawaii—to Keawe-maʻu-hili, the Keawe whose tabu was doubly twisted, twisted into knots, woven in and out, broken from the topmost branch of the expanding family with the Mahi and the Ahu under his feet; to Ka-lani-mano-o-ka-hoʻowaha-a-heulu, the highest on both sides of the Palea, that is of the Leapa; to I-maka-koloa, the dark ʻawa among the hala blossoms of Puna; to Nuʻu-anu-paʻahu, tearer-up of the cutworms of Naʻalehu, the hillside that withstands the winds of Ka-ʻu; to Nae-ʻole, growler of Kohala at Wahilani; to Kane-koa also, like the big cold raindrops of Waimea; to Nanue Ka-lei-opu, the sandpiper of Hamakua; to Ka-meʻe-ia-moku and Kamanawa, the twins of the burning tabu of Ke-kau-like; to Ke-ku-hau-piʻo, the grandchild of Holo-ʻae, the teacher who trained Kamehameha I in warfare; and to the royal sons and cousins of Ka-lani-ʻopuʻu, his friends and favorites, the warrior chiefs of Hawaii and the fighting men, and asked, "What about fighting Ka-hekili?" Everyone answered, "Tomorrow we will drink the waters of Wailuku and rest in the shade of Hekuawa." Thus encouraged, Kalaniʻopuʻu prepared for an attack on the day following.*

*Ka-hekili was the younger brother of Kamehameha-nui, both being sons of Ke-kau-like whose family were ruling chiefs on Maui at that time. He prepared for the battle and Ka-hahana, the ruling chief of Oahu (sic) and Molokai (sic), came to his aid. The great battle took place between Waikapū and Wailuku. Kalaniʻopuʻu expected to enter Wailuku at Kakanilua, but Ka-hekili's men rose at dawn and occupied the sandhills of Kamaʻomaʻo, and a portion of them took their stand on the side toward Waikapū turn, so that the forces of Ka-lani-ʻopuʻu, who had supposed that the battle would be at Kakanilua, found a divided front from which spears, javelins, and other missiles poured like water. Death-dealing weapons poured down like a swift rainstorm beating the sides of the fisherman's canoe and agitating the surface of the sea like a cloudburst over the deep ocean. The terrified soldiers were surrounded and took to flight; they were driven by Ka-hekili's men*

*like leaves before a whirlwind. The plains of Kamaʻomaʻo became like a fishpond through whose sluice gate the sea flooded, Kalaniʻopuʻu's men [became] like the mullet driven by the sound of beating into the sluice gate of ʻUkoʻa; and the sea rose up to the walls. Like the fiery petals of the lehua blossoms of Piʻiholo were the soldiers of Ka-hekili, red among the leaves of the koa trees of Liliko'i or as one glimpses them through the kukui trees of Haʻiku. Like the creeping branches of the ʻulei, so moved the cloaked warriors, young and middle-aged, over the ʻilima-covered plain of Paholei. A chill seized Kalaniʻopuʻu as he crouched in the canoe, mourning the dead who lay like fish stupefied by the poison spread by the great fisherman, Ka-hekili….*

*When Ka-lani-ʻopuʻu saw that the forces of Hawaii were surrounded by Ka-hekili's men he said to Ka-lola his chiefess, "O Hono-ka-wai-lani! we shall all be killed. Do go up to your brother Kahekili to sue for peace," Ka-lola answered, "It will not do any good for me to go, for we came to deal death. If we had come offering love, we should have been received with affection. I can do nothing. Our only hope lies in Ka-lani-kau-i-ke-aouli Kiwalaʻo." "Perhaps Kahekili will kill my child," said Ka-lani-ʻopuʻu. "Kahekili will not kill him. We will send Ka-hekili's half-brothers with him, Ka-meʻe-ia-moku and Ka-manawa." So Kiwalaʻo was dressed in the garments of a chief and attended by Ka-meʻe-ia-moku bearing the spittoon and Ka-manawa carrying the kahili. As Kiwalaʻo advanced, splendidly arrayed, endowed with the tabu of a god and covered with the colors of the rainbow, down fell the fighting men of both sides prostrate to the ground because of his divine rank as a niʻaupiʻo and the severe tabu which demanded prostration to avoid facing the sacred back of a chief. The soldiers of Maui wished to ignore the tabu, regretting the cessation of the fighting, but Kiwalaʻo continued on to Wailuku.*

*Ka-hekili had not come to the battle in person but was at the chief's house in Wailuku where he had gathered together the old men and women, the children, and a great host. When the twins and Kiwalaʻo saw the multitude they said, "We imagined that he was in the midst of a school of fish, but it is only red sea moss." When, at the arrival of Kiwalaʻo, Ka-hekili heard the words, "Here is your child," he turned his face upward [as a sign of a favorable reception]. Kiwalaʻo entered and sat on his chest; and they kissed each other and wailed. Afterward the twins crawled forward and kissed the hands of Ka-hekili. Kiwalaʻo, being tabu, could not be addressed directly. Kahekili accordingly asked them, "Why do you two bring the chief here? If you are in trouble you should have come up here yourselves, lest without my knowledge your chief be killed." The twins answered, "We do not believe that the chief will be killed. It is we who would have been killed had we left the chief at the shore. The chief has been sent to ask for life. Grant us our lives. If the chief dies, we two will die with him (moe-puʻu). So, our royal brother*

*commanded." Kahekili replied. "There is no death to be dealt out here. Let live! Let the battle cease!" and he asked, "Where is your sister [referring to Ka-lola]?" "At the shore, at Kiheipukoʻa, and it was she who sent us to the chief," answered Ka-manawa. Then Kahekili said to his followers, "Take the fish of Kanaha and Mauʻoni and the vegetable food of Nawaieha down to Kiheipukoʻa." So, the two chiefs became reconciled, but Ka-lani-ʻopuʻu's was a feigned friendship.*

## 3.2 WESTERN CONTACT AND 19TH CENTURY CULTURE CHANGE

The nineteenth century brought a multitude of commercial, demographic, social, and religious changes to Wailuku Ahupuaʻa. These new arrivals and concepts of commercial enterprise would begin the shift from a traditional subsistence economy, toward a Western style commercial economy and fee simple land tenure model.

### 3.2.1 1778-1840 – The Arrival of Western Vessels and Rapid Culture Change

It was just a few years later, when Kahekili was again at Wailuku, that Capt. James Cook and his ships Resolution and Discovery encountered Maui (Speakman and Hackler 1989:23) and not long after that, Kamehameha I invaded Maui by crossing the channel from the island of Hawaiʻi with his war fleet taking the route to the north rather than south as in the Battle of Kakanilua. Kamehameha I overwhelmed the Maui forces at Hāna en route to engaging the main island defenses that were arrayed along the northern coastline of Maui, landing his war canoes at Kahului. With Kahekili on Oʻahu, the defense of Maui fell to his son, Kalanikupule, who was ill equipped to withstand the Western weaponry obtained by Kamehameha I. The Maui defenders were swept across the isthmus from Puʻunēnē to Wailuku, and ultimately defeated at ʻIao Valley (Alexander 1891:129-133). The high chiefs of Maui fled to other islands and Kamehameha I went on to defeat the combined forces of Kahekili and Kalanikupule at Nuʻuanu, on Oʻahu in 1795.

After the consolidation of the rulership of the Hawaiian Islands under Kamehameha I early in the nineteenth century, the political center of Maui moved from Wailuku to Lāhainā, which then became the "capital" of the kingdom until the 1840's when the government moved to Honolulu. With the death of Kamehameha I in 1819, warfare between the ranking Hawaiian chiefs was set aside by powerful changes within traditional Hawaiian society. Four decades of interaction with American, Russian, British and French traders had opened the way for Christianity. The establishment of a system of schools throughout the islands was vigorously pursued by the governing kings and queens of Hawaiʻi, aided by the newly-arrived American Protestant missionaries beginning in 1820 (Kuykendall 1938).

### 3.2.2 1840-1851 – The Great Māhele

In 1848, King Kamehameha III and 245 aliʻi (royalty) and konohiki (landlord) came together to divide the lands of the kingdom into three classifications and begin the process of altering land tenure and management practices within the Kingdom from traditional Hawaiian concepts to that of Western ownership. The Crown and the aliʻi received their land titles and awards for both

whole ahupuaʻa and individual parcels within an ahupuaʻa which were then subsequently formally granted in 1850 (Alexander 1890:114). The lands given to the aliʻi and konohiki were referred to as Konohiki Lands and lands retained by the King as Crown Lands. The distinction of Crown land is important and defined as:

> *… private lands of His Majesty Kamehameha III., to have and to hold for himself, his heirs and successors forever; and said lands shall be regulated and disposed of according to his royal will and pleasure subject only to the rights of tenants. (Kingdom of Hawaii 1848)*

At the death of Kamehameha IV and with lack of a clear heir some confusion as to the inheritance of Crown lands and whether or not it followed the family line or the throne. It was decided by the Supreme Court that under the confirmatory Act of June 7th, 1848, "the inheritance is limited to the *successors* to the *throne*," "the wearers of the crown which the conqueror had won," and that at the same time "each successive possessor may regulate and dispose of the same according to his will and pleasure as private property, in the manner as was done by Kamehameha III" (Alexander 1890:121).

The third classification of lands that were partitioned out was termed Government lands and were defined and set aside for management in the following manner:

> *… those lands to be set apart as the lands of the Hawaiian Government, subject always to the rights of tenants. And we do hereby appoint the Minister of the Interior and his successors in office, to direct, superintend, and dispose of said lands, as provided in the Act … (p)rovided, however, that the Minister … shall have the power, upon the approval of the King in Privy Council, to dispose of the government lands to Hawaiian subject, upon such other terms and conditions as to him and the King in Privy Council, may seem best for the promotion of agriculture, and the best interests for the Hawaiian Kingdom … (Kingdom of Hawaii 1848)*

In 1850, most of the chiefs ceded a third of their lands to Kamehameha III in order to obtain an allodia title for the remainder. The majority of these lands were then placed into the Government land base (Alexander 1890:114). The designation of lands to be set aside as Government lands, paved the way for land sales to foreigners and in 1850 the legislature granted resident aliens the right to acquire fee simple land rights (Moffat and Fitzpatrick 1995:41-45). In designations of lands as either Crown or Government, and through all awards of whole ahupuaʻa, ʻili, and later land sales to foreigners classified as Land Grants, the rights of the native tenants were expressly reserved, "*Koe na Kuleana o Kanaka"* (Reserving the Rights of Native Tenants) (Alexander 1890:114). In an Act ratified on August 6th, 1850, the gathering rights of the common people for personal use, which included the gathering of both terrestrial and marine resources, in addition to the right to water and the right of way on the lands of the Konohiki, were guaranteed and

embodied in Section 10477 of the Civil Code (Alexander 1890:114-115). By this same act, resolutions passed by the Privy Council granted fee simple titles, free of all commutation, with the exception of awards granted within the towns of Honolulu, Lāhainā, and Hilo, to all native tenants for their cultivated lands and house lots (hereafter referred to as kuleana land) (Alexander 1890:115). Claims of the native tenants, or kuleana land claims, were presented to and heard by the Land Commission whose duty was to:

> *…ascertain the nature and extent to each claimant's rights in land, and to issue an Award for the same which is prima facie evidence of title "and shall furnish as good and sufficient a ground upon which to maintain an action for trespass, ejectment or other real action against any other person or persons whatsoever, as if the claimant, his heirs or assigns had received a Royal Patent for the same." (Alexander 1890:110)*

With regard to the ahupuaʻa of Wailuku, the entirety of the ahupuaʻa was declared Crown Land during the Māhele ʻĀina. Crown Land designation notwithstanding, nearly 300 kuleana claims were awarded by the Land Commission within the ahupuaʻa of Wailuku. The majority of these claims were located in the upland portion of Wailuku and, as previously noted, were generally focused along the flood plain of the Wailuku River, as well as mauka of the area identified as the "Sand Hills" (see Figure 3-3).

### 3.2.3 Clause Spreckels Obtains Fee Ownership of Wailuku Commons and Hawaii Commercial and Sugar (HC&S) Takes Hold on the Central Isthmus

Twenty-four thousand acres of *ahupuaʻa* land that extended into lower isthmus, which was referred to as the Wailuku Commons and inclusive of the lands of the current project area, was initially leased to Claus Spreckels, a wealthy former sugar refiner from California, under a 30-year lease for $1,000 a year (Adler 1961). Under the terms of the statute that allowed the lease however, 30 years was the maximum permissible length of a lease to a single entity and Spreckels became concerned that he would not be able to recoup his investments in water development and the acquisition of water rights (Van Dyke 2008:100). Following his acquisition of an undivided half interest in 16,00 acres of Waikapū Commons from Cornwell, Spreckels looked toward the acquisition of the 24,000-acre area of Wailuku Commons. In 1882, he agreed to purchase a part interest in Crown Lands of the Kingdom of Hawaiʻi from Princess Ruth Keʻelikolani for $10,000 who gave Spreckels a deed that quitclaimed any rights in the Crown Lands to which she believed she was entitled as heir to Kamehameha line and not subject to the Act of January 3, 1865 that rendered Crown Lands inalienable (Van Dyke 2008:102). When this conveyance was disputed, the Legislature quieted Spreckels' claim by passing an "Act to Authorize the Commissioners of Crown Lands to Convey Certain Portions of Such Lands to Clause Spreckels in Satisfaction of all Claims He May Have on Such Lands," which was signed by King Kalākaua on July 21, 1882 thus conveying 24,000 acres to Spreckels in fee simple at $500,000 through the issuance of Land Grant 3343 (Daws 1968:228; Van Dyke 2008:103).

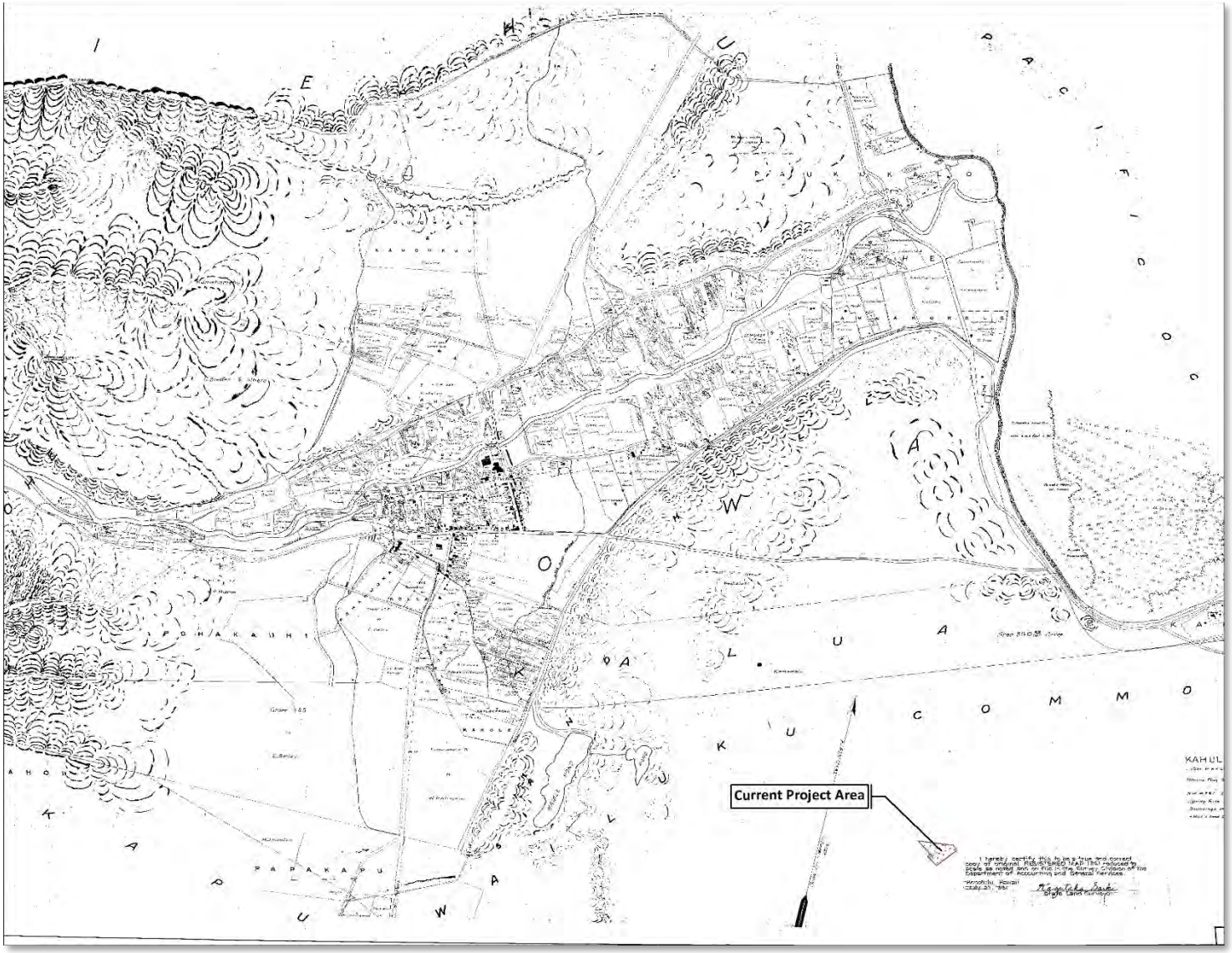


*Figure 3-3. Map of a Portion of Wailuku Maui (Monsarrat 1882) showing the distribution of Land Commission Awards in relation to current project area.*

It is this land that would be eventually incorporated into the holdings of Hawaii Commercial and Sugar (HC&S) and the beginning of the transformation of the central isthmus into vast sugar fields and the development of Kahului Harbor as a port of entry and town as a commercial center through a series of firsts in Hawaiian commercial sugar ventures (Adler 1961):

- First to attain complete control of sugar from growing to marketing;
- First to incorporate the five-roller mill;
- First in the island chain to use electrical lights at Mill 1 in Hāmākua Poko, predating use of electricity at ʻIolani Palace by six years, and thus allowing nighttime operations;
- First to use railroad to haul cane on a large scale; and
- First to use a steam plow

Through these innovations, partnerships with Kahului Railroad Company and others, and vast lands under sugar cultivation, HC&S experienced financial success until 1889 and the passage of the McKinley tariff of 1890 which would remove the benefits with the U.S. that was enjoyed by Hawaiian sugar producers through the Reciprocity Treaty. With heavy debt to repay, Claus Spreckels' efforts to foreclose were thwarted by his sons, Gus and Rudolph Spreckels, who enjoyed a brief victory would ultimately loose the plantation to J.B. Castle and his associates in 1898 with Alexander and Baldwin becoming the sugar agents (Adler 1961).

Finally, in 1926, the new leadership dissolved HC&S in California and incorporated in Hawaii under the leadership of H.P. Baldwin. Even as HC&S expanded their fields and the central isthmus of Maui was transformed into fields of sugar cane with industrial sugar agriculture gaining a large foothold in the economy of the island, the majority of the Puʻuone remained unturned (Figure 3-4 and Figure 3-5) until the development of Dream City at Kahului, the first master planned residential community in the State of Hawaii, in the late 1940s and through the 1970s (Chris Hart & Partners 2006:8-9).

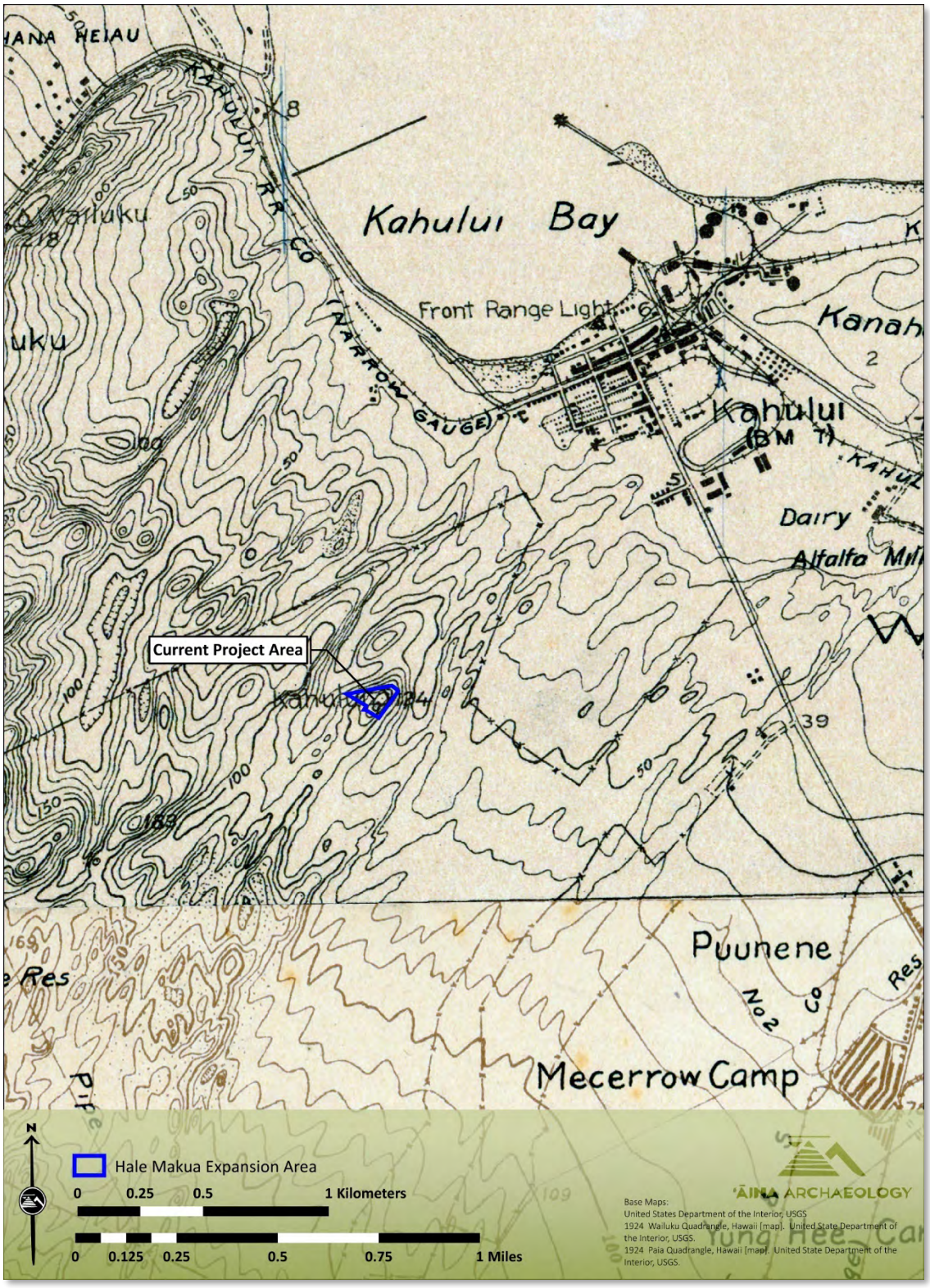


*Figure 3-4. Portions of the 15-minute 1924 USGS topographic quadrangles for Paia (1924b) and Kihei showing the current project area (outlined in blue) in relation to the topography and Kahului Town at that time.*

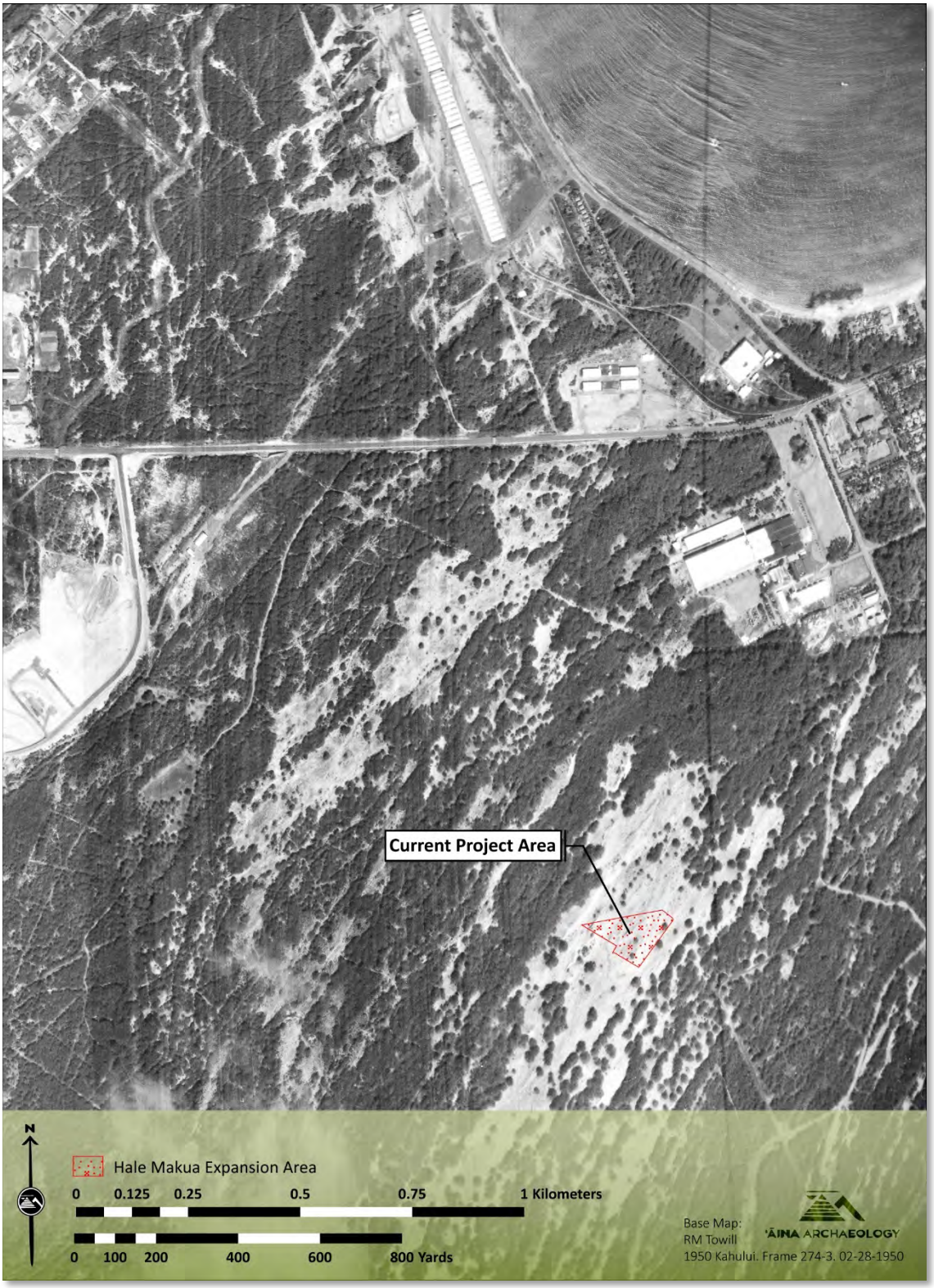


*Figure 3-5. 1950 aerial photograph of the Kahului showing the start of the growth of Kahului Town, note the continued use of the train system and presence of the pineapple cannery (photo credit: RM Towill).*

## 3.3 20TH CENTURY MODERNIZATION AND "DREAM CITY"

In 1947, HC&S hired Harlan Bartholowmew to prepare a master plan for a new town on the acreages surrounding Kahului harbor, which would come to be known as "Dream City" (Chris Hart & Partners 2006:8). An ambitious plan that sought to meet the demand for single-family homes following the closure of plantation camps and increasing prosperity of plantation workers and post-WWII opportunities held by returning soldiers, this master planned community sought to provide homes, businesses, schools, churches, and parks. In a column written for the Honolulu Advertiser entitled *Maui's Dream City*, Charles Hogue (1948) wrote the following about the plan itself and the area in which the new town would be developed:

> *Further interest may attach to the new Dream City on Maui because the Kahului terrain is one of the first with which this writer became acquainted in Hawaii…. Those rolling mesquite-covered hill—not too high, and pregnant with landscaping possibilities—lay cradled behind a bright sea, peaceful, beckoning. Even the news that a tidal wave had bathed their feet not long since cound [sic] not dim their charm.*
>
> *Somewhere along the road between Kahului and Wailuku, where the new town will grow, was a pond. It was on the sea side of the highway, in a pasture. There the fascinated passer-by saw horses seemingly trying to drown themselves. Their heads were submerged, ears deep, in the waters. Relief came, after the on looker's first surprised tension, when the animals one by one would lift their heads to munch dribbling mouthfuls of some greenish substance. Inquiry developed that a form of marine vegetation invited the equine under-water browsing, which may or may not be unique to Maui but would be worth preserving as a visitors' attraction…*
>
> *The area of homes in the new town, as shown by a prospectus, will be divided into three major parts. Near the center of each will be a park of from 15 to 20 acres in extent. Five acres will be devoted to a school site, the remainder to community pleasure—fun for everybody… There will be small playgrounds, too, for younger children, a thoughtful arrangement.*
>
> *There will be arterial highways, definitely defined trade and industrial centers. There will be landscaping. In brief there has been though out in advance what things go into making for a good living in a pleasant town….*

In October of 1948, grading and clearing for the First Increment of Dream City got underway in the area east of Puunene and south of the former Kahului fairgrounds ("Grading, Clearing Starts, Work Gets Underway on Building New Maui City" 1948) and the first 198 homes for "Dream City" was scheduled to start construction on January 3, 1950 ("News of Valley Isle" 1949) (Figure 3-6). Demands for shopping facilities in the area prompted HC&S to construct the Kahului Shopping

Center in 1951 and from 1950 to 1970, the development of Dream City at Kahului resulted in the centralization of the island's population (Chris Hart & Partners 2006:9).

### 3.3.1 The Development of Hale Mahaolu and Kahului Community Park

Along with the overall community master plan for single-family homes, the first increment of the Hale Mahaolu elderly housing community, located adjacent to the proposed project location, was kicked-off in 1967 by the Hawaii Council for Housing Action (HCHA). With support from the ILWU, United Public Workers, Retired Teachers Association, Maui Association of Buddhist Churches, and the Maui Council of Holy Name Societies, this increment covered nine acres and looked to incorporate community spaces, singe-story townhouse units, and kūpuna care facilities (Cook 1967) on lands donated by Alexander & Baldwin, Inc. The multi-cultural make-up of the kūpuna population presented interesting planning challenges resulting in what could be considered the first community gardening spaces along with the cultural characteristics of the plantation villages where they once lived (Segal 1968). On May 3, 1969, following approvals from U.S. Department of Housing and Urban Development (HUD), HCHA kicked of construction for the new kūpuna development with a groundbreaking ceremony at the project site in Kahului ("Ground Breaking Saturday for Hale Mahaolu" 1969).

On the heels of construction for the first phase of Hale Mahaolu in Kahului, the Hawaiʻi State Legislature set aside $150,000, which was to be matched by the County of Maui, for the development and construction of the Kahului Community Park next to the kūpuna housing project (State of Hawaii 1971:448). On August 28, 1973 the County broke ground for the park that would include a community center and little league fields ("Neighbor Island Shorts, Maui groundbreaking" 1973). Finally, in 1978, the construction of Hale Mahaolu Phase II, an extension of the first increment, began on 12 acres that was also donated by Alexander & Baldwin Inc. and located adjacent to the newly constructed Kahului Community Park. At the time of construction, both phases of Hale Mahaolu were identified as the first of their kind in Hawaiʻi to be funded and developed under HUD's revised Section 202 housing program for elderly and handicapped (McCabe 1978).

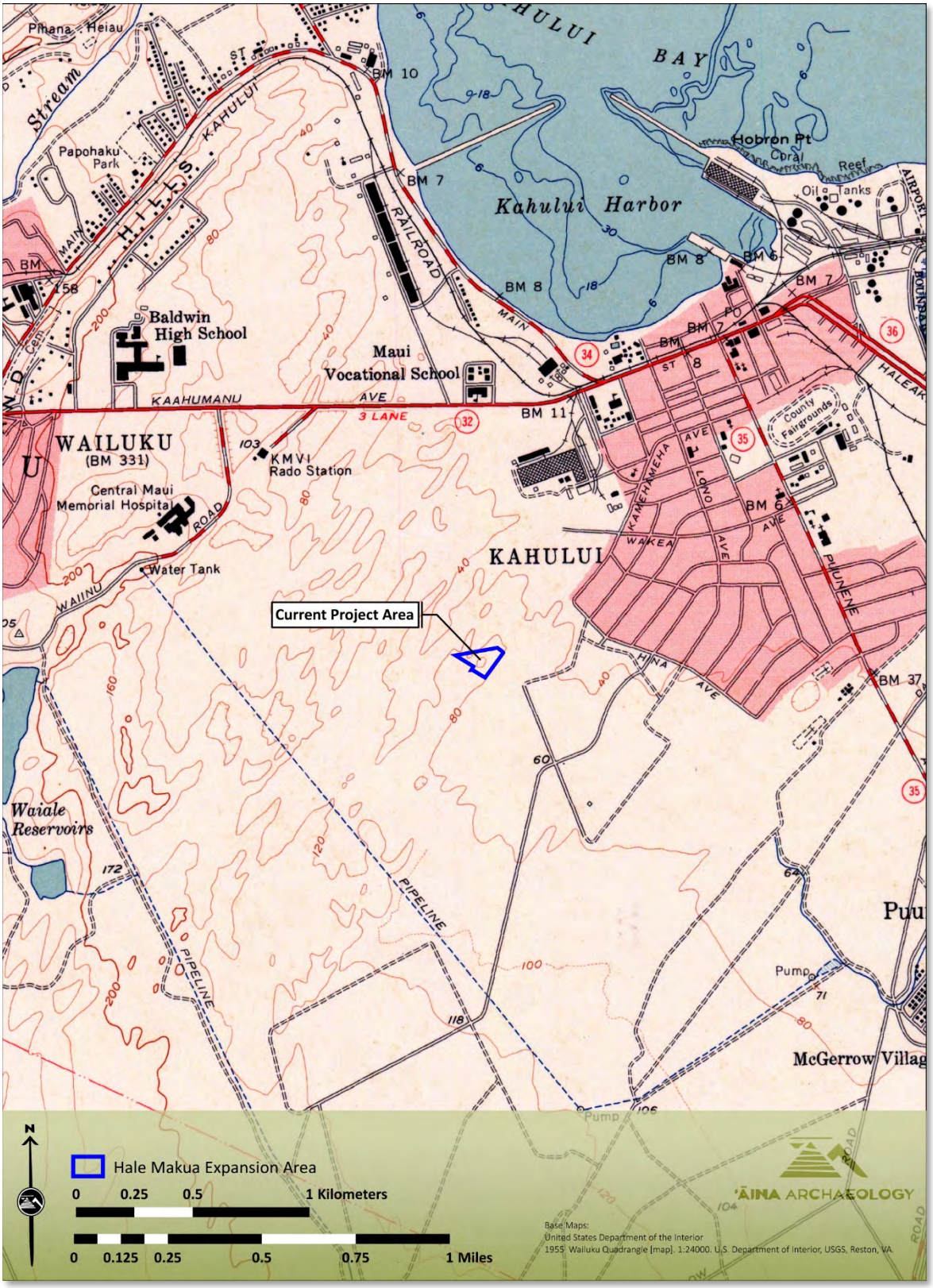


*Figure 3-6. A portion of the 1955 USGS 7.5-minute topographic map, Wailuku Quadrangle showing the location of the current project area in relation to the first completed increments of Dream City.*

## 3.4 PREVIOUS ARCHAEOLOGY

A search of archaeological investigations within a one-half mile radius of the current project area shows the publication of roughly 29 completed studies. The table below (Table 3-1) provides an overview these studies with Figure 3-7 illustrating the locations of these studies in relation to the current project area.

*Table 3-1. Summary of Previous Archaeological Studies within a 0.5-mile Radius of the Current Project Area (see also Figure 3-7, studies completed within Hale Mahaolu or Kahului Community Park highlighted in green)*

| Author | Locality | Type of Archaeological Study and Summary of Results |
|---|---|---|
| **Barrera 1976** | Waiale | **Reconnaissance**: Walk through of approximately 1020 acres resulted the identification of isolated artifact finds, possible hammerstone and lithic debitage, at Passion Acres and northwest of the hospital respectively. Given the sandy substrate and probability for encountering iwi kupuna, the authors recommended either testing or archaeological monitoring. |
| **Miura and Bordner 1983** | Luana Gardens | **Reconnaissance**: Survey of the Luana Gardens Phase II low rent housing project located south of Papa Avenue and Maui High School. Cultural material noted on the surface consistent with post-1960 time period with the survey noting significant areas of disturbance due to ground clearing and 4-wheel drive recreational vehicles. While no historically significant sites were noted on the surface, the authors emphasized the need for subsurface testing due to the sensitivity of the sand dune and correlation to pre-contact traditional Hawaiian burial practices. |
| **Clark 1984** | Luana Gardens | **Reconnaissance and Testing**: Reconnaissance survey at 15 m intervals and testing consisting of six mechanically assisted excavation trenches. Trenches averaged 2.5 m long by 1.5 m wide and ranged in depth from 1.8 to 2.25 m deep. The project area stratigraphy consisted of sand consistent with the Puuone sand units interbedded with alluvial silts with a buried "A" horizon identified at approximately 50 cm below the then ground surface indicating a former stable surface during dune development. Terrigenous clay loam deposits underlie the dune and interbedded sections of the project area profile with waterworn, rounded and subrounded basalt pebbles and coarse gravel in the base layers of the trenches. No surface or subsurface archaeological sites or deposits were identified during the course of the study. |
| **Williams 1988** | Maui Waena School | **Archaeological Testing**: Subsurface testing consisting of 15 mechanically assisted excavation trenches prior to the construction of Maui Waena Middle School (fka Maui Intermediate). The majority were excavated within the dune tops and sides while two were excavated within an old sand borrow pit. No historically significant or culturally sensitive layers or deposits were identified during testing. |

*Table 3-1 (continued). Summary of Previous Archaeological Studies within a 0.5-mile Radius of the Current Project Area (see also Figure 3-7, studies completed within Hale Mahaolu or Kahului Community Park highlighted in green)*

| Author | Locality | Type of Archaeological Study and Summary of Results |
|---|---|---|
| **Yamauchi 1988** | Maui Waena School | **Monitoring**: Monitoring of construction site prep in the northwest and southeast sector of Maui Waena Middle School (Maui Intermediate School), within the previously undisturbed sand dune areas. No historically significant archaeological or cultural remains noted in subsurface contexts. |
| **Rotunno and Cleghorn 1990** | Maui Lani Area | **Reconnaissance**: Surface survey of approximately 1000 acres resulted in the identification of a parallel stone alignment or possible walkway (TS-1) and a stone mound (TS-3). |
| **Kennedy et al. 1992** | Kahului Community Park/Hale Makua | **Inventory Survey**: Systematic survey and subsurface testing consisting of nine mechanically excavated trenches was completed for an extension of the Hale Makua facilities. While no historically significant sites or culturally sensitive deposits were identified as a result of the study, testing reached a minimum depth of 2 m and showed the presence of intact dune deposits within their project area. |
| **Rasmussen and Pantaleo 1993** | Hale Mahaolu | **Inventory Survey**: Pedestrian survey of an approximate 3.5-acre area determined that modern bulldozing and agricultural use of the project area, as well as the construction of neighboring Luana Gardens II, had significantly altered the subsurface conditions of the parcel. No culturally sensitive or historically significant sites or features were identified on the surface. No exploratory subsurface archaeological investigation was conducted for the parcel. |
| **Pantaleo 1995** | Maui Lani Development Area | **Inventory Survey**: A total of 37 localities were sampled for testing with a total of 95 backhoe trenches and one manual trench completed within in Maui Lani Development Parcel 1 A and 10 localities in Development Parcel 1. A total of 6 previously unrecorded human burials were identified during excavations. One burial was situated at Locality 12, one burial was found exposed in a road cut at Locality 21, and four burials were identified outside of the 100-foot preservation buffer of Site 2797. In addition to these burials, scattered surface human bone fragments were identified along the firebreak at Localities 9 and 10. No non-burial related cultural deposits or artifacts were identified in the trenches. |
| **Pantaleo and Sinoto 1995** | Maui Lani Development Area | **Inventory Survey**: Systematic pedestrian survey and subsurface testing consisting of six backhoe trenches were completed for the Binhi At Ani Community Center. In general, the underlying sediments show the presence of a modern A-Horizon followed by loose and lithified dune sands. No historically significant or culturally sensitive deposits were identified as a result of the study. |

*Table 3-1 (continued). Summary of Previous Archaeological Studies within a 0.5-mile Radius of the Current Project Area (see also Figure 3-7, studies completed within Hale Mahaolu or Kahului Community Park highlighted in green)*

| Author | Locality | Type of Archaeological Study and Summary of Results |
|---|---|---|
| **Pantaleo and Sinoto 1996** | Maui Lani Development Area | **Supplemental Inventory Survey**: Intensive subsurface testing of approximately 250 acres. Ninety mechanically assisted exploratory trenches, 2 shovel scrapes, one manually excavated exploratory trench were completed which resulted in the identification of six previously unrecorded human burials (SIHP 50-50-04-4146 and -4147) and four additional human interments in the vicinity of previously recorded SIHP -2797. SIHP -4146 and -4147 were identified at the top of the dunes in the highest locations in the project area. |
| **Pantaleo 1997** | Kahului Area[2] | **Monitoring**: Archaeological observation of storm drain excavations at the intersection of Papa Avenue and Koiula Lane. Examination of the back dirt piles and trench profiles showed the presence of a then recent trash pit in Layers I and II at the southern end of a 20 m long trench. Small mammal bone and large, saw cut mammal bone were noted. The stratigraphy of the trench consisted entirely of Puuone sand ranging from previously disturbed sands at the top of the profile and undisturbed, consolidated sand layers in the lower sections. With the exception of the modern trash deposits, no cultural materials of historic or cultural significance were encountered. |
| **Fredericksen 2001b** | Kahului Area | **Monitoring**: Archaeological monitoring of the excavation of 600 lineal feet for sewer and water line installation. Observed partially intact sand dune deposits observed across approximately 80 m within the western section of the project corridor. Modern refuse (e.g., paper, broken bottle glass, and plastic) noted in the upper stratigraphic layers, no historically significant or culturally sensitive cultural material remains were identified on the surface or within subsurface contexts. |
| **Fredericksen 2001a** | Kahului Community Park/Hale Makua | **Monitoring**: Archaeological observation of track hoe excavation of a 120 m long by 0.9 m deep trench associated with tennis court improvements at Kahului Community Park. Stratigraphy in this section of the park consisted of imported sandy clay loam fill, ranging in thickness from 10-20 cm, followed by undisturbed dune sand in the western section of the trench and banded previously disturbed sand deposits in the remainder of the trench. Aside from fragmented modern bottle glass, PVC fragments, and recent charcoal in the redeposited sand layer, no historically significant or culturally sensitive material remains were encountered. |

[2] Project area location map provided in the report is unclear and not included in Figure 3-7.

*Table 3-1 (continued). Summary of Previous Archaeological Studies within a 0.5-mile Radius of the Current Project Area (see also Figure 3-7, studies completed within Hale Mahaolu or Kahului Community Park highlighted in green)*

| Author | Locality | Type of Archaeological Study and Summary of Results |
|---|---|---|
| **Fredericksen 2002** | Kahului Area | **Monitoring**: Archaeological observation of ground disturbing activities associated with utility installation. While intact dune sand deposits were encountered within 60 cm of the surface and up to 2.1 meters deep, no historically significant or culturally sensitive deposits were identified as a result of the study. |
| **Fredericksen 2003** | Kahului Area | **Monitoring**: Archaeological observation of excavation activities in a confined area on an intermittent bases over a two-month period. Intact sand dune deposits were noted below 50 cm from the ground surface in deeper portions of excavated areas. No historically significant or culturally sensitive layers or deposits were identified. |
| **Fredericksen 2004** | Maui Waena School | **Monitoring**: Archaeological monitoring of excavation activities associated with the installation of a water service lateral, detector, and manhole. Majority of sediment consisted of fill deposits, with intact sand dune deposits encountered in the deeper excavations necessary for installation of the manhole. No historically significant or culturally sensitive cultural material remains identified. |
| **Rotunno-Hazuka and Pantaleo 2004a** | Maui Lani Area | **Inventory Survey**: Systematic and intensive pedestrian survey followed by subsurface testing consisting of three mechanically excavated trenches. While no historically significant sites were identified on the surface or within subsurface contexts, testing showed the project area was situated within dune sand deposits. |
| **Rotunno-Hazuka and Pantaleo 2004b** | Maui Lani Area | **Monitoring**: Monitoring of construction activities within the Bluffs Subdivision and Kamehameha Avenue and Maui Lani Parkway Extensions. Findings within the Bluffs subdivision included the identification of SIHP -5404 consisting of two individual burials (FS #54 and #62). FS #54 was relocated to SIHP #4146 burial preserve within the Maui Lani Golf Course and FS #62 was left in place. Monitoring of roadway corridors resulted in no historically significant or culturally sensitive site identified. |
| **Cordle et al. 2007** | Kahului Area | Monitoring: Intermittent monitoring of grading (top 36 cm) at Maui High School's baseball field in order to re-sod. All activity remained in fill and no cultural material was encountered. Archaeological monitoring of any ground altering activities on this, and adjacent parcels was recommended due to the presence of Pu'uone Sand Dune deposit, which is known to contain human burials. |

*Table 3-1 (continued). Summary of Previous Archaeological Studies within a 0.5-mile Radius of the Current Project Area (see also Figure 3-7, studies completed within Hale Mahaolu or Kahului Community Park highlighted in green)*

| Author | Locality | Type of Archaeological Study and Summary of Results |
|---|---|---|
| **Frey and Fredericksen 2009** | Kahului Area | **Monitoring**: Archaeological monitoring of a sewer line rehabilitation project for 91 residential sewer laterals within Increments 1-4, 6, 7, and 9-11 of Dream City. Monitoring observations documented the presence of previously disturbed sand and sandy loam deposits associated with the installation of the existing utilities. While three of the trenches yielded cut terrestrial faunal remains along with various fragments of modern glass and ceramics in unconsolidated sediments, no intact distinctive cultural layers or deposits were noted and no culturally sensitive sites, features, or remains were identified. |
| **Guerriero et al. 2015** | Kahului Area | **Monitoring**: Archaeological observation of ground disturbing work for traffic signal improvements at the intersection of Wakea and Hina Avenues. The underlying stratigraphy consisted of fill over previously disturbed silty sand. A charcoal stained lens was identified near the base of one of the utility trenches and determined to be a result of previous disturbances during utility pole installation. |
| **Hodara and Dega 2015** | Kahului Area | **Inventory Survey**: Systematic subsurface testing of a 12.818-acre area at the built-out location of the former pineapple cannery in Kahului. A total of four backhoe trenches were excavated in the undeveloped/landscaped portions of the study area to a maximum dept of 2.7 m. The underlying stratigraphy consisted entirely of dense sand. No historically or culturally significant historic properties were identified as a result of the study. |
| **Baggs and Dega 2016** | Kahului Area | **Monitoring**: Archaeological observation of ground disturbing activities on Lot F-1 showed that the Puuone sand were present throughout the project area to an approximate depth of 1.7 m (5.5 ft). Though no traditional burials were identified during the course of monitoring, the report noted the identification of a burial (SIHP 50-50-04-07349) within the overall project area during the installation of a water lateral in 2012 (Perzinski and Dega 2012). |

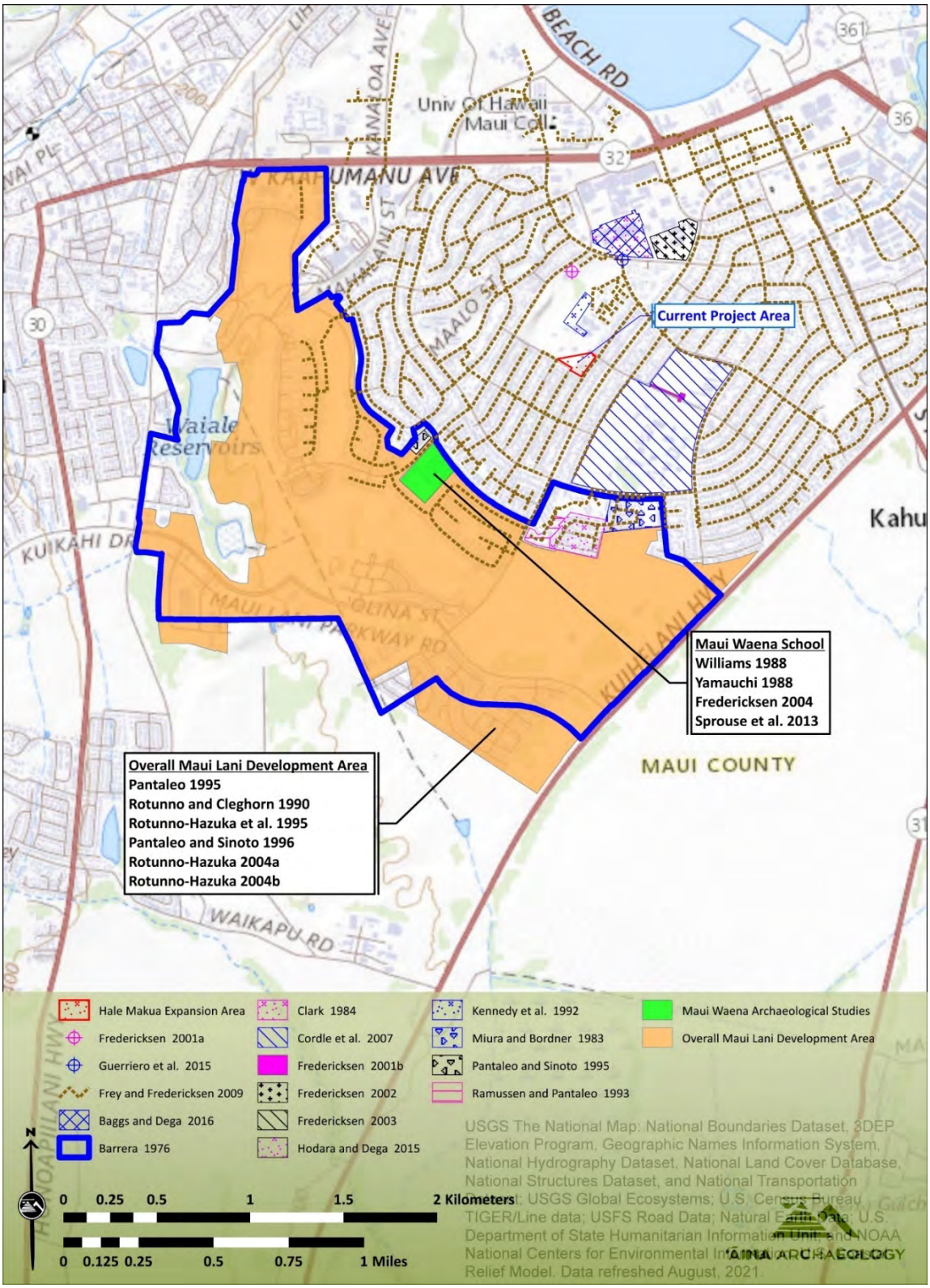


*Figure 3-7. A portion of the USGS National Map, Wailuku Quadrangle (United States Department of the Interior 2019), showing the proposed Hale Makua expansion area shaded in red in relation to archaeological studies completed within a 0.5-mile radius.*

## 3.5 PREVIOUSLY IDENTIFIED HISTORIC PROPERTIES WITHIN A ONE-MILE RADIUS OF THE CURRENT PROJECT AREA

Due to the cultural sensitivity of traditional Hawaiian burial interments, the following provides a brief overview of identified historic properties within a 0.5 to 1.0-mile radius of the current project area, with information regarding known burial distribution described in general terms and a detailed table for non-burial related historic properties provided below (Table 3-2, see also Figure 3-8):

- Minimum of 125 traditional Hawaiian burial interments within a one-mile radius, the distribution of which is suggestive of a north south trend along a possible former dune line (Figure 3-9) (Pantaleo et al. 2007; Rotunno-Hazuka and Pantaleo 2002, 2004b, 2016; Rotunno-Hazuka et al. 2016; Sinoto and Pantaleo 2002)
    - The nearest known traditional Hawaiian burial was identified during parking lot improvements and is located approximately located 200 meters from the proposed project area.
- Historic era transit areas (BPBM[3] TS-1), deposits (PHRI[4] 852-1), and structural remnants (PHRI 852-2) associated with the settlement and use of the Kahului shoreline (Donham 1990; Rotunno and Cleghorn 1990)
- Historic Districts representative of the commercial history and development of Kahului including the Kahului Harbor District (SIHP 50-50-04-029653) and Kahului Historic District (SIHP 50-50-04-02953)

*Table 3-2. Historic Properties[5] Identified within a One-Mile Radius of the Proposed Hale Makua Expansion Area (see Figure 3-8)*

| State Site No | Formal Type | Inferred Function | Age | Overall Condition | Brief Description |
|---|---|---|---|---|---|
| **01607** | District | Kahului Historic District, Commerce | Late 19th-Early 20th Century | -- | Discontinuous historic district comprised of several historic properties including the Kahului Roundhouse, shop, and office; the Kahului School, the Fairgrounds, and the First Hawaiian Bank Building. |
| **02953** | Harbor | Kahului Harbor District, Commerce | Early 1900s | Good | Kahului Harbor consists of the piers, wharves, breakwaters, and associated structures that make up the active harbor facility. It is significant for its role in the development of the town of Kahului from 1901 to 1931. |

[3] BPBM – Bernice Pauahi Bishop Museum temporary field number
[4] PHRI – Paul H. Rosendahl, Ph.D, Inc. temporary field number
[5] Due to cultural sensitivities, this table does not include descriptions of traditional Hawaiian burials identified within the research radius

*Table 3-2. Historic Properties[6] Identified within a One-Mile Radius of the Proposed Hale Makua Expansion Area*

| State Site No | Formal Type | Inferred Function | Age | Overall Condition | Brief Description |
|---|---|---|---|---|---|
| **PHRI -852** | Cultural Material Concentration | Indeterminate | Late Historic to Modern | Remnant | Two distinct concentration of portable cultural material remans consisting of historic period artifacts and faunal remains with scattered charcoal. Some structural remains consisting of concrete and brick were also identified at Feature 2. |
| **BPBM TS-001** | Parallel Alignments | Possible Walkway | Possible Late Historic to Modern | Disturbed | Constructed of compacted sand cobbles in a parallel surface alignment that extended for ~15m. The northern section more intact than southern section. Thought to have been constructed by walk-through from a dirt road that intersected Ka'ahumanu Avenue. |

[6] Due to cultural sensitivities, this table does not include descriptions of traditional Hawaiian burials identified within the research radius

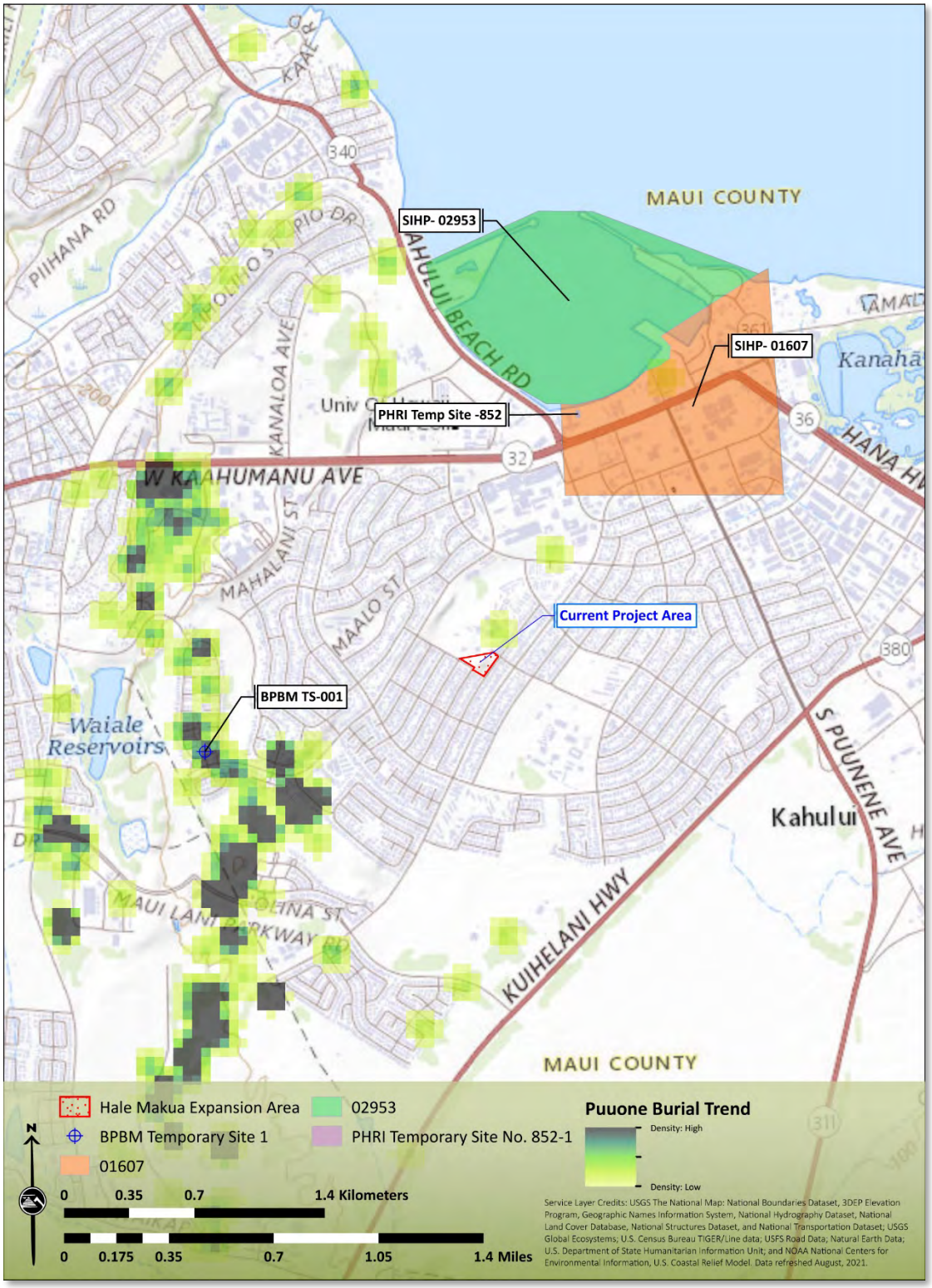


*Figure 3-8. A portion of the USGS National Map, Wailuku Quadrangle (United States Department of the Interior 2019), showing the proposed Hale Makua expansion area shaded in red in relation to the possible burial trend and previously recorded historic properties within a one-mile radius*

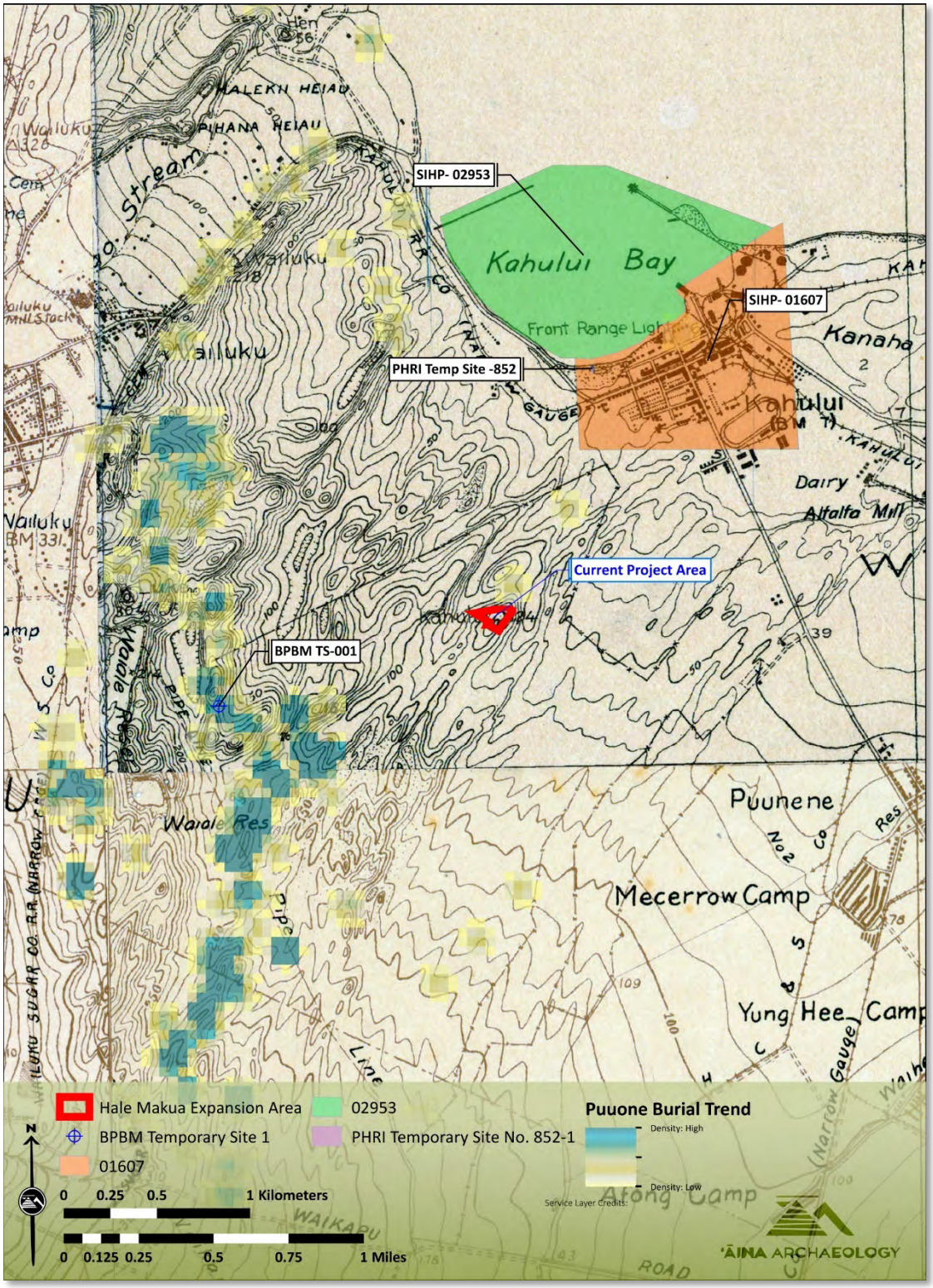


*Figure 3-9. Portions of the 15-minute USGS topographic quadrangles for Wailuku (1924c), Paia (1924b), Maalaea (1924a) and Kihei (1922) showing the current project area (outlined in blue) in relation to the topography and Kahului Town at that time.*

# 4.0 RESULTS OF FIELD INSPECTION

Tanya L. Lee-Greig, M.A. of 'Āina Archaeology completed an archaeological field inspection of the proposed expansion area on November 01, 2021 which consisted of a cursory walk through of the area to assess the current site conditions and understand the potential for encountering historically significant and/or culturally sensitive sites. Overall, the project site is consistent with the previously presented environmental setting (see Section 2.0). Of particular note is the underlying and surrounding soil conditions that show the area being surrounded by intact and partially disturbed sand dune ridges (Figure 4-1 and Figure 4-2) with ground soils, where visible in patches below the monkey pod trees and other open patches, consisting of sand and sandy loam (Figure 4-3 and Figure 4-4).

Relatively low impact park facilities and amenities where also observed within the apparent project footprint. These include disc golf holes (Figure 4-5 and Figure 4-6), storage containers (see Figure 4-1 and Figure 4-2), and a post and pier clubhouse surrounded by chain link fencing (Figure 4-7 and Figure 4-8).

No pre-contact or historic era archaeological sites or structures were identified on the surface; however, the culturally sensitive Pu'uone Sands are present throughout.

*Figure 4-1. Overview of project area, sand ridge (right of frame) and Conex box storage (middle ground), view to west-northwest.*

*Figure 4-2. Close up of Conex box storage area, apparent intact sand dune ridge in background, view to north.*

*Figure 4-3. Exposed sand matrix below a monkey pod canopy in the northwestern corner of the project area, view to west.*

*Figure 4-4. Sand matrix exposed in the chicken scratched areas in the western corner of the project area.*

*Figure 4-5. Disc golf hole example.*

*Figure 4-6. Project area overview showing disc golf hole footprint.*

*Figure 4-7. Front view of clubhouse, view to north-northwest.*

*Figure 4-8. Side view of clubhouse, view to north.*

# 5.0 ARCHAEOLOGICAL CONSIDERATIONS FOR THE PROPOSED HALE MAKUA EXPANSION

The Puʻuone of central Maui are recognized as being highly sensitive in traditional Hawaiian culture as sand environments are known to have been favored areas for funerary practices and burial grounds in pre-contact Hawaiʻi. It is also known that the plains of Kamaʻomaʻo, the traditionally known extent of which includes the project area, is recognized as a place where spirits of the departed are said to roam (see Section 3.1.1). Given what is known regarding the pre-Contact and post-Contact history, and notwithstanding the findings of archaeological studies carried out within a one-half mile radius of the current project area (see Sections 3.1 and 3.4), we understand the sand hills and ridges of the Puuone as being a preferred area for pre-contact traditional Hawaiian funerary practices.

Given the open and relatively undeveloped condition of the proposed project area, as well as the apparent low impact nature of the minimal structures that are present on site, the probability of encountering pre-contact traditional Hawaiian burials during construction of the proposed facility across the approximate 2.8-acre project area is believed to be very high. An intensive archaeological inventory survey (AIS), compliant with HAR 13-276 – Rules Governing Standards for Archaeological Inventory Surveys and Reports is recommended. Due to the highly sensitive nature of the underlying sediments, the preparation of an archaeological inventory survey plan to govern and guide the AIS fieldwork is also recommended, the development of which should occur in consultation with SHPD Archaeology Branch, SHPD Culture and History Branch, Native Hawaiian Organizations and individuals with cultural and genealogical ties to the area, and the Maui/Lānaʻi Islands Burial Council.

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# Appendix A. PREVIOUS SHPD CORRESPONDENCE

# *Appendix D:*
# *Cultural Impact Assessment Report*

Cultural Impact Assessment Report for the Proposed Hale Makua Health Services Rehabilitation Facility, Wailuku Ahupuaʻa, Nā Wai ʻEha – Pūʻali Komohana (Wailuku Moku and Modern Tax District), Mokupuni o Maui
TMK [2] 3-8-007:097 por.

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## Note on Hawaiian language usage

In keeping with other Hawaiian scholars, we do not italicize Hawaiian words. Hawaiian is both the native language of the paeʻāina (archipelago) of Hawaiʻi and an official language of the State of Hawaiʻi. Some authors will leave Hawaiian words italicized if part of a quote; we do not. In the narrative, we use diacritical markings to assist our readers, except in direct quotes, in which we keep the markings used in the original text. We provide translations contextually when appropriate.

## Front Cover Credit

The Wilhelm Group
2021. Image of Hale Makua Expansion.

## Executive Summary

At the request of Kaimana Environmental Solutions, LLC, Honua Consulting, LLC prepared a Cultural Impact Assessment (CIA) for the proposed Hale Makua Health Services (Hale Makua) Rehabilitation Facility project to support an Environmental Assessment completed by Kaimana Environmental Solutions, LLC. The County of Maui (County) owns the subject parcel. The County has expressed its intent to lease the parcel to Hale Makua. The Project Site is a portion of TMK [2] 3-8-007:097, which totals approximately 2.8-acres.

Research in preparation of this report consisted of a thorough search of Hawaiian language documents, including but not limited to the Bishop Museum Mele Index and Bishop Museum archival documents, including the Hawaiian language archival cache. All Hawaiian language documents were reviewed by Hawaiian language experts to search for relevant information to include in the report. Documents considered relevant to this analysis are included herein, and translations are provided when appropriate to the discussion. Summaries of interviews and information on other oral testimonies are also provided herein.

The region is rich with both pre-contact and post-contact histories. Based on the history of archaeological finds in the area, including iwi kūpuna (human remains), the project may encounter and impact pre-contact historic properties. While encountering iwi kūpuna or other archaeological sites may not adversely impact Hawaiian cultural practices per se, it would potentially raise concerns among practitioners who prefer iwi be left alone and not disturbed.

Based on the information gathered and the assessment of the resources conducted, the project may affect cultural resources by encountering iwi kūpuna or other archaeological resources. In order to resolve this, additional archaeological investigation is recommended. This additional investigation requires consultation with the State Historic Preservation Division, which will be led by ʻĀina Archaeology on behalf of the project. Implementing the recommendations from ʻĀina Archaeology's Historic Preservation Review is also urged. Any potential effect to subsurface cultural resources that may be identified through an AIS and/or monitoring would be resolved through the HRS 6E process.

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## Abbreviations and Acronyms

AIS: Archaeological Inventory Survey
AMSL: Above Mean Sea Level
APE: Area of Potential Effect
BMP: Best Management Practice
CIA: Cultural Impact Assessment
CPA: Community Plan Amendment
DAGS: Department of Accounting and General Services
DLNR: Department of Land and Natural Resources
DOFAW: Division of Forestry and Wildlife
EA: Environmental Assessment
FEIS : Final Environmental Impact Statement
Hale Makua: Hale Makua Health Services
HAR: Hawaii Administrative Rules
HC&S: Hawaiian Commercial & Sugar Company
HDOT: Hawaii Department of Transportation
HRS: Hawaii Revised Statutes
HSL: Hawaii State Legislature
NCSS: National Cooperative Soil Series
ROI: Range of Influence
RM: Registered Map
SHPD: State Historic Preservation Division
SIHP: State Inventory of Historic Places
SMA: Special Management Area
TMK: Tax Map Key

## 1.0 Project Description and Compliance

At the request of Kaimana Environmental Solutions, LLC, Honua Consulting, LLC prepared a Cultural Impact Assessment (CIA) for the proposed Hale Makua Health Services (Hale Makua) Rehabilitation Facility project to support an Environmental Assessment completed by Kaimana Environmental Solutions, LLC. The County of Maui (County) owns the subject parcel. The County has expressed its intent to lease the parcel to Hale Makua. One TMK makes up the Project Site, which totals approximately 2.8-acres.

### 1.1 Project Description

The Project Site is located on the northeast side of Maui within Kahului (Figure 1) and includes an approximately 2.8-acre portion of County owned Tax Map Key (TMK) parcel (2) 3-8-007: 097. The Project Site is currently used as a ball field that is managed by the County of Maui Department of Parks and Recreation. The Project Site is bordered to the north by the Kahului Community Center and Park, to the northeast by the existing Hale Makua Kahului facility, and to the east, south and west by single family residences and public roadways.

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Figure 1. Proposed Site Plan (Kaimana Environmental Solutions, LLC)

The proposed project includes expansion of the existing Hale Makua Health Services Kahului care facility, that would include lease of adjacent County land and construction of a new Rehabilitation Facility. The proposed Rehabilitation Facility would include an approximately 76,200 square foot two-story commercial building, as well as associated parking area. Figure 3 shows the proposed Rehabilitation Facility site plan. The proposed facility would provide services such as physical, occupational and speech therapy, as well as home health and nursing services to the Kahului community. The proposed Rehabilitation Facility is part of the Hale Makua Master Plan, which also includes renovations to the existing aging Hale Makua facilities in Kahului and Wailuku.

## 1.2 Regulatory Background

Articles IX and XII of the State Constitution, other state laws, and the courts of the state require government agencies to protect and preserve cultural beliefs, practices, and resources of Native Hawaiians and other ethnic groups. To assist decision makers in the protection of cultural resources, Chapter 343, HRS and Hawaiʻi Administrative Rules (HAR) § 11-200 rules for the environmental impact assessment process require project proponents to assess proposed actions for their potential impacts to cultural properties, practices, and beliefs.

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

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

## 1.3 Compliance

The State and its agencies have an affirmative obligation to preserve and protect the reasonable exercise of customarily and traditionally exercised rights of Native Hawaiians to the extent feasible.[1] State law further recognizes that the cultural landscapes provide living and valuable cultural resources where Native Hawaiians have and continue to exercise traditional and customary practices, including but not limited to hunting, fishing, gathering, and religious practices. In *Ka Paʻakai*, the Hawaiʻi Supreme Court provided government agencies an analytical framework to ensure the protection and preservation of traditional and customary Native Hawaiian rights while reasonably accommodating competing private development interests. This is accomplished through:

1) The identification of valued cultural, historical, or natural resources in the project area, including the extent to which traditional and customary Native Hawaiian rights are exercised in the project area.

[1] Article XII, Section 7 of the Hawaiʻi State Constitution, Ka Paʻakai O Ka ʻĀina v. Land Use Commission, 94 Haw. 31 [2000] (Ka Paʻakai), Act 50 HSL 2000.

2) The extent to which those resources—including traditional and customary Native Hawaiian rights—will be affected or impaired by the proposed action; and

3) The feasible action, if any, to be taken to reasonably protect Native Hawaiian rights if they are found to exist.

The CIA is presently being prepared under HRS Chapter 343 and Act 50 HSL 2000. The appropriate information has been collected concerning the ahupuaʻa of Honouliuli, focusing on areas near or adjacent to the project area, and a thorough analysis of this project and potential impacts to cultural resources, historical resources, and archaeological sites is included in this assessment.

The present analyses of archival documents, oral traditions (including oli or chants, mele or songs, hula or dance, haʻi moʻolelo or storytelling, or kākāʻōlelo or oration), and Hawaiian language sources including books, manuscripts, and newspaper articles, are focused on identifying recorded cultural and archaeological resources present on the landscape, including: Hawaiian and non-Hawaiian place names; landscape features (ridges, gulches, cinder cones); archaeological features (kuleana parcel walls, house platforms, shrines, heiau (places of worship), etc.); culturally significant areas (viewsheds, unmodified areas where gathering practices and/or rituals were performed); and significant biocultural resources. Oral histories, including interviews with cultural and lineal descendants, are instrumental in procuring information about the project area's transformation through time and changing uses. Oral histories from previous studies were researched and relevant information from these resources were integrated into the document.

The Range of Influence (ROI) for impacts to cultural resources and historic properties includes the project area and localized surroundings. This CIA also reviews some of the resources primarily covered by the EA and SHPD Review. It primarily researches and reviews the range of biocultural resources identified through historical documents, traditional knowledge, information found in the Hawaiian language historical cache, and oral histories and knowledge collected from cultural practitioners and experts.

## 2.0 Methodology

The following section provides detail on the due diligence and research conducted to identify the information utilized in this assessment.

### 2.1 Overall Approach

The approach to developing the CIA is as follows:

I. Gather Best Information Available

   A. Gather historic cultural information from stories and other oral histories about the affected area to provide cultural foundation for the report;
   B. Inventory as much information as can be identified about as many known cultural, historic, and natural resources, including previous archaeological inventory surveys, CIAs, etc. that may have been completed for the possible range of areas;
   C. Update the information with interviews with cultural or lineal descendants or other knowledgeable cultural practitioners.

II. Identification of Potential Impacts to Cultural Resources

III. Develop Reasonable Mitigation Measures to Reduce Potential Impacts

   A. Involve the community and cultural experts in developing culturally appropriate mitigation measures;
   B. Develop specific Best Management Practices (BMPs), if any are required, for conducting the project in a culturally appropriate and/or sensitive manner as to mitigation and/or reduce any impacts to cultural practices and/or resources.

While numerous studies have been conducted on this area, not all have effectively utilized Hawaiian language resources and Hawaiian knowledge about this area. This appears to have impacted modern understanding of this location, as many of the relevant documents are testimonies given by Kānaka ʻŌiwi[2] (Native Hawaiians) who lived on this land have been excluded from past studies. Therefore, efforts to identify and include historic accounts, including those from Hawaiian language resources, were included in this methodology.

[2] Interchangeable synonyms include Kanaka Hawaiʻi, Kanaka Maoli, Hawaiian and Native Hawaiian. While "Native Hawaiian" is defined by federal and state law as having fifty percent or higher blood quantum tracing back to the aboriginal inhabitants of the Hawaiian Islands at the point of initial western contact (1778), within a cultural context, Native Hawaiian and all related synonyms refer to the descendants of the aboriginal people of the Hawaiian Islands and their culture, beliefs, and practices "mai ka pō mai" (from the ancient past) to the present.

While hundreds of place names and primary source historical accounts (from both Hawaiian and English language narratives) are cited on the following pages, it is impossible to tell the whole story of these lands in any given manuscript. A range of history, spanning the generations, has been covered. Importantly, the resources herein are a means of connecting people with the history of their communities—that they are part of that history. Knowledge of place will, in turn, promote appreciation for place and encourage acts of stewardship for the valued resources that we pass on to the future.

While conducting the research, primary references searched for information included, but were not limited to[3]: land use records, including the Hawaiian L.C.A. records from the Māhele ʻĀina (Land Division) of 1848; the Boundary Commission Testimonies and Survey records of the Kingdom and Territory of Hawaiʻi; and historical texts authored or compiled by: David Malo (1987); Samuel M. Kamakau (1964, 1991, 1992); records of the American Board of Commissioners of Foreign Missions (A.B.C.F.M.) (1820–1860); Charles Wilkes (1845); Alexander & Preston (1892–1894); Abraham Fornander (1916–1919); George Bowser (1880); and many other native and foreign writers. The study also includes several native accounts from Hawaiian language newspapers (primarily compiled and translated from Hawaiian to English by K. Maly), and historical records authored by nineteenth century visitors, and residents of the region.

Historical and archival resources were located in the collections of the Hawaiʻi State Archives, Survey Division, Land Management Division, Survey Division, and Bureau of Conveyances; the Bishop Museum Library and Archives; the Hawaiian Historical Society and the Hawaiian Mission Childrenʻs Society Library; University of Hawaiʻi-Hilo Moʻokini Library; the National Archives and Records Administration (NARA), Maryland; the Library of Congress, Washington D.C.; the National Oceanic and Atmospheric Administration National Library, Maryland; the Smithsonian Institution Natural History and National Anthropological Archives libraries, Washington, D.C.; the Houghton Library at Harvard; the United States Geological Survey (USGS) Library, Denver; the Paniolo Preservation Society and Parker Ranch collections; private family collections; and in the collection of Kumu Pono Associates LLC. This information is generally cited in categories by chronological order of the period depicted in the narratives.

M. Puakea Nogelmeier (2010) discusses the adverse impacts of methodology that fails to properly research and consider Hawaiian language resources. He strongly cautions against a mono-rhetorical approach that marginalizes important native voices and evidence from consideration, specifically in the field of archaeology. For this reason, Honua Consulting consciously employs a poly-rhetorical approach, whereby all data, regardless of language, is researched and considered. To fail to access these millions of pages of information within the

[3] It should be noted that not all resources searched resulted in identification of materials that were used for this report. We reference the collections of materials searched to illustration the due diligence completed in preparation of this report.

Hawaiian language cache could arguably be a violation of Act 50, as such an approach would fundamentally fail to gather the best information available, especially considering the voluminous amounts of historical accounts available for native tenants in the Hawaiian language.

Hawaiian culture views natural and cultural resources as largely being one and the same: without the resources provided by nature, cultural resources could and would not be procured. From a Hawaiian perspective, all natural and cultural resources are interrelated, and all natural and cultural resources are culturally significant. Kepā Maly (2001), ethnographer and Hawaiian language scholar, points out, "In any culturally sensitive discussion on land use in Hawai'i, one must understand that Hawaiian culture evolved in close partnership with its natural environment. Thus, Hawaiian culture does not have a clear dividing line of where culture ends and nature begins" (Maly 2001:1). As a leading researcher and scholars on Hawaiian culture, Maly, along with his wife, Onaona, have conducted numerous ground-breaking studies on cultural histories throughout Hawai'i. A substantial part of the archival research utilized in this study was previously compiled and published by Kepā and Onaona Maly, who have granted their permission to use this important work and are identified properly as associated authors and researchers to this study.

This study also specifically looks to identify intangible resources. Tangible and intangible heritage are inextricably linked (Bouchenaki 2003). Intangible cultural resources, also identified as intangible cultural heritage (ICH), are critical to the perpetuation of cultures globally. International and human rights law professor Federico Lenzerini notes that, "At present, we are aware on a daily basis of the definitive loss—throughout the world—of language, knowledge, knowhow, customs, and ideas, leading to the progressive impoverishment of human society" (Lenzerini 2011:12). He goes on to warn that:

> the rich cultural variety of humanity is progressively and dangerously tending towards uniformity. In cultural terms, uniformity means not only loss of cultural heritage—conceived as the totality of perceptible manifestations of the different human groups and communities that are exteriorized and put at the others' disposal—but also standardization of the different peoples of the world and of their social and cultural identity into a few stereotyped ways of life, of thinking, and of perceiving the world. Diversity of cultures reflects diversity of peoples; this is particularly linked to ICH, because such a heritage represents the living expression of the idiosyncratic traits of the different communities. Preservation of cultural diversity, as emphasized by Article 1 of the UNESCO Universal Declaration on Cultural Diversity, 'is embodied in the uniqueness and plurality of the identities of the groups and societies making up humankind'. Being a 'source of exchange, innovation and creativity', cultural diversity is vital to humanity and is inextricably linked to the safeguarding of ICH. Mutual recognition and respect for cultural diversity—and, *a fortiori*, appropriate safeguarding

> of the ICH of the diverse peoples making up the world—Is essential for promoting harmony in intercultural relations, through fostering better appreciation and understanding of the differences between human communities. [Lenzarini 2011:103]

Therefore, tradition and practice, as elements of Hawaiian ICH, are essential to the protection of Hawaiian rights and the perpetuation of the Hawaiian culture.

It is within this context that traditional or customary practices are studied. The concept of traditional or customary practices can often be a challenging one for people to grasp. Traditional or customary practices can be defined as follows:

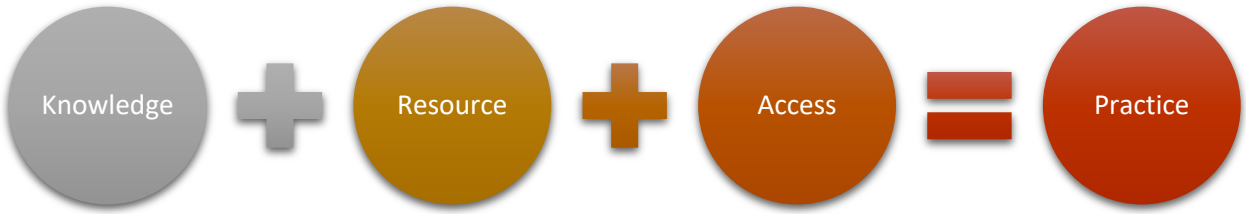


**Figure 2. Diagram of elements that contribute to traditional or customary practices.**

The first element is knowledge. This has been referred to as traditional ecological knowledge (TEK), Indigenous local knowledge (ILK), or ethnoscience. In the context of this study, it is the information, data, knowledge, or expertise Native Hawaiians or local communities possessed or possess about an area's environment. In a traditional context, this would have included information Hawaiians possessed in order to have the skills to utilize the area's resources for a range of purposes, including, but not limited to, travel, food, worship or habitation. This element is largely intangible.

The second element are the resources themselves. These are primarily tangible resources, either archaeological resources (i.e., habitation structures, walls, etc.) or natural resources (i.e., plants, animals, etc.). These can also be places, such as a sacred or culturally important sites or wahi pana. Sometimes these wahi pana are general locations, this does not diminish their importance or value. Nonetheless, it is important to recognize that potential eligibility as a "historic site" on the National Register of Historic Places (NRHP) would require identifiable boundaries of a site.

The third element is access. The first two elements alone are not enough to allow for traditional or customary practices to take place. The practitioners must have access to the resource in order to be able to practice their traditional customs. Access does not just mean the ability to physically access a location, but it also means access to resources. For example, if a particular plant is used for medicinal purposes, there needs to be a sufficient amount of that plant available to practitioners for us. Therefore, an action that would adversely impact

the population of a particular plant with cultural properties would impact practitioners' ability to access that plant. By extension, it would adversely impact the traditional or customary practice.

Traditional or customary practices are, therefore, the combination of knowledge(s), resource(s) and access.

## 2.2 Traditional Knowledge and the Identification of Cultural Resources

The concept of ethnoscience was first established in the 1960s and includes a wide range of subfields, includes, but is not limited to, ethnoecology, ethnobotany, ethnozoology, ethnomedicine and ethnopedology. Traditional Native Hawaiian practitioners were scientists and expert natural resource managers by necessity. Without modern technological conveniences to rely on, Hawaiians developed and maintained prosperous and symbiotic relationships with their natural environments for thousands of years. Their environments were their families, their homes and their laboratories. They knew the names of every wind and every rain. The elements taught and inspired. The ability of indigenous people to combine spirit and science led to the formation unique land based methodologies that spurred unsurpassed innovation. Therefore, identifying significant places requires a baseline understanding of what made places significant for Hawaiians.

Hawaiians were both settlers and explorers. In *Plants in Hawaiian Culture,* Beatrice Krauss explains: "Exploration of the forests revealed trees, the timber of which was valuable for building houses and making canoes. The forests also yielded plants that could be used for making and dying tapa, for medicine, and for a variety of other artifacts" (Krauss 1993:4). Analysis of native plants and resource management practices reveals the depth to which Hawaiians excelled in their environmental science practices:

> [Hawaiians] demonstrated great ability in systematic differentiation, identification, and naming of the plants they cultivated and gathered for use. Their knowledge of the gross morphology of plants, their habits of growth, and the requirements for greatest yields is not excelled by expert agriculturists of more complicated cultures. They worked out the procedures of cultivation for every locality, for all altitudes, for different weather conditions and exposures, and for soils of all types. In their close observations of the plants they grew, they noted and selected mutants (sports) and natural hybrids, and so created varieties of the plants they already had. Thus over the years after their arrival in the Islands, the Hawaiians added hundreds of named varieties of taro, sweet pototoes, sugarcane, and other cultivated plants to those they had brought with them from the central Pacific. [Krauss 1993:3]

Thus, Native Hawaiians reinforced the biodiversity that continues to exist in Hawaiʻi today through their customary traditional natural resource management practices.

The present analyses of archival documents, oral traditions (oli or chants, mele or songs, and/or hula dances and haʻi moʻolelo or storytelling performances), and Hawaiian language sources including books, manuscripts, and newspaper articles, are focused on identifying recorded cultural resources present on the landscape, including: Hawaiian and non-Hawaiian place names; landscape features (ridges, gulches, cinder cones); archaeological features (kuleana parcel walls, house platforms, shrines, heiau [places of worship], etc.); culturally significant areas (viewsheds, unmodified areas where gathering practices and/or rituals were performed); and significant biological, physiological, or natural resources. This research also looks to document the wide range of Hawaiian science that existed within the geographic extent.

## 2.3 Moʻolelo ʻĀina: Native Traditions of the Land

Among the most significant sources of native moʻolelo are the Hawaiian language newspapers which were printed between 1838 and 1948, and the early writings of foreign visitors and residents. Most of the accounts that were submitted to the papers were penned by native residents of areas being described and noted native historians. Over the last 30 years, Kepā Maly has reviewed and compiled an extensive index of articles published in the Hawaiian language newspapers, with particular emphasis on those narratives pertaining to lands, customs, and traditions. Many traditions naming places around Oʻahu are found in these early writings. Many of these accounts describe native practices, the nature of land use at specific locations, and native moʻolelo (history, narrative, story). Thus, we are given a means of understanding how people related to their environment and sustained themselves on the land.

## 2.4 Historic Maps

There are also numerous, informative historic maps for the region. Surveyors of the eighteenth and nineteenth centuries were skilled in traversing land areas and capturing important features and resources throughout Hawaiʻi's rich islands. Historic maps were carefully studied, and the features detailed therein where aggregated and categorized to help identify specific places, names, features, and resources throughout the study area. From these, among other documents, new maps were created that more thoroughly capture the range of resources in the area.

## 2.5 Archaeological and Biological Studies

An archaeological literature review was conducted by ʻĀina Archaeology, LLC. The information from that review was combined with the information from this assessment and included in

the EA. A biological assessment was completed by Tetra Tech, Inc., an environmental consulting firm. The information from the biological assessment was incorporated into this assessment.

Additionally, Honua Consulting consulted a site visit on December 14, 2021. Photos from that site visit are incorporated into this assessment.

## 2.6 Ethnographic Methodology

Information from lineal and cultural descendants is instrumental in procuring information about the project area's transformation over time and its changing uses.

A notice was placed in the *Ka Wai Ola*, published by the Office of Hawaiian Affairs (OHA), in the month of November 2021. Additionally, individuals with cultural or historic knowledge of the area were approached for interviews. Foster Among, Clare Apana, Johanna Kamaunu, and Vernon Kalanikau responded to the request for interviews.

Hale Mākua has a community advisory committee managed by Karey Kapoi Consulting. Ms. Kapoi helped to provide opportunities for interviews to steering committee members. The following individuals, who are on the steering committee, participated in interviews coordinated by Ms. Kapoi: Kahele Dukelow, Kauanoe Batangan, Koren Takayama, and Ray Shimabuku. Tammy Apana scheduled an interview but was unreachable at the agreed to time of the interview and did not reschedule.

The EA will provide an overview of cultural and historic resources in the project area using thorough literature review, community and cultural practitioner consultation, and project-specific surveys.

Environmental factors potentially influencing the distribution of historic properties will also be evaluated in the EA. The resulting data will be analyzed to develop a general settlement pattern model for the area that helps estimate the likely types and distribution of historic properties. The potential significance and required treatment of expected historic properties will also be summarized. The goal of this work is to develop recommendations to assist with future infrastructure planning that minimizes adverse effects upon historic properties.

### 2.6.1 Public Notice

The public was provided opportunity to participate in the ethnographic studies. Notice about the CIA was mentioned during presentations to the neighborhood board, additionally a notice was placed in the *Ka Wai Ola* newspaper.

#### *2.6.1.1 Ka Wai Ola*

In an effort to provide notice to practitioners and the general public as to the opportunity to participate in the cultural impact assessment, a public notice was placed in the Office of Hawaiian Affairs *Ka Wai Ola* for November 2021. Figure 3 shows a copy of this notice.

## Cultural Impact Assessment Notice: Kahului

Honua Consulting, LLC, on behalf of Kaimana Environmental Solutions, LLC, is conducting a Cultural Impact Assessment (CIA) for the Hale Makua Health Services Rehabilitation Facility, Kahului, Wailuku, Maui Island, TMK [2] 3-8-007:097 (2.8 acres) Hale Makua is proposing to construct a new rehabilitation facility. The CIA team is seeking consultation with practitioners, Native Hawaiian Organizations, stakeholders, and other individuals. Specifically, consultation is sought on a) identification of an appropriate geographic extent of study, b) historic or existing cultural resources that may be impacted by the proposed project, c) historic or existing traditional practices and/or beliefs that may be impacted by the proposed project, and d) identification of individuals or organizations that should be sought out for consultation on the CIA. Individuals or organizations interested in participating can contact the CIA team at community@honuaconsulting.com or (808) 392-1617.

Figure 3. *Ka Wai Ola* Public Notice

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## 3.0 Traditional History of Project Area and Identified Cultural Resources and Practices

The County is the recorded fee owner of the Project Site which encompasses approximately 2.8 acres located within the town of Kahului. The Project Site is situated within the historical moku (district) of Wailuku in the ahupua‘a of Wailuku.

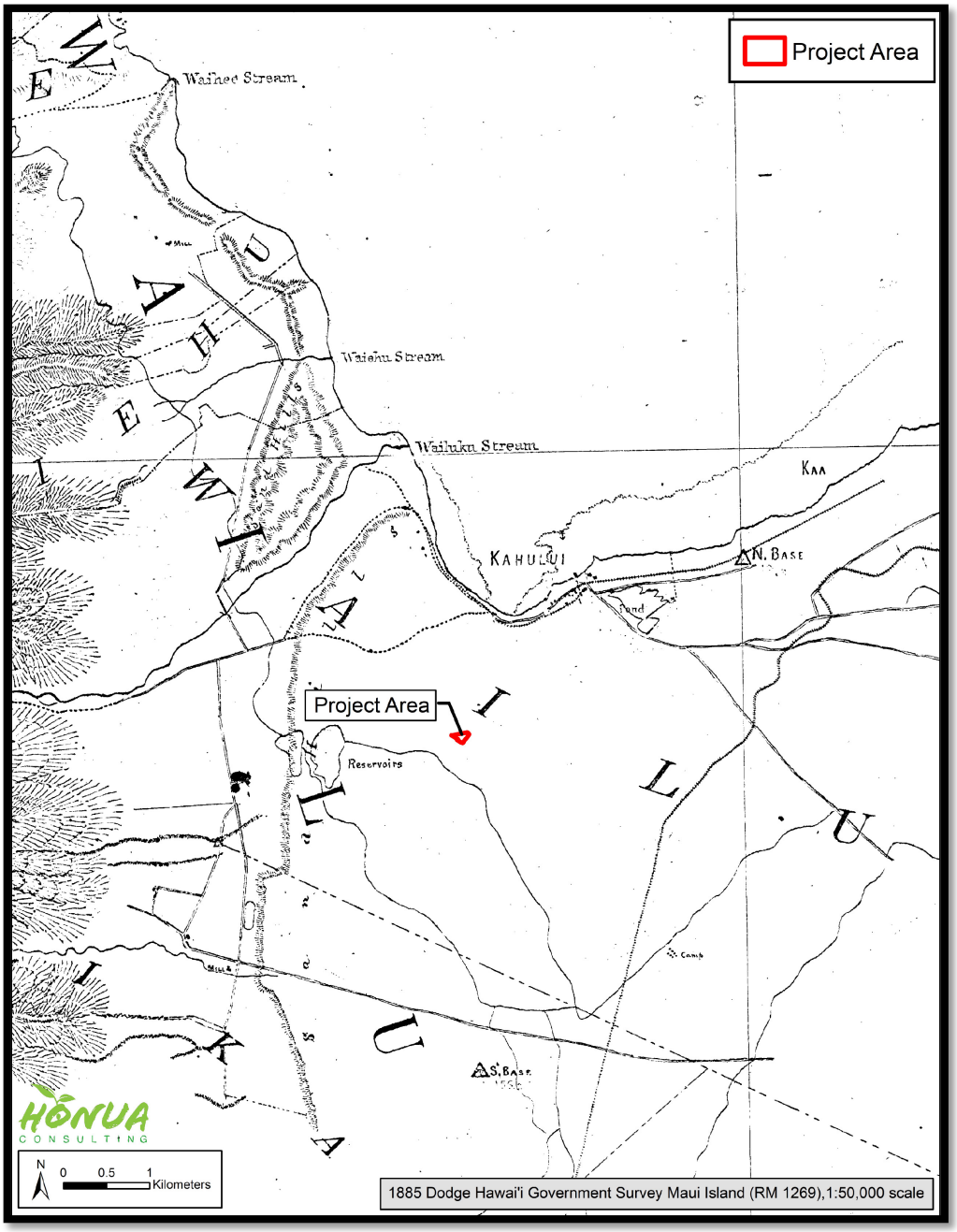



Figure 4. Project Area shown on portion of Registered Map 1269 (Dodge 1885)

Maui has a unique geography; it is considered to be two islands, joined together by an isthmus. Land divisions on Maui are unlike those on other islands (Sterling 1998). Ancient names for Maui include Ihikapalaumaewa and Kulua (Sterling 1998: 2). Since Kahului, and thereby the project area, is located on the isthmus, it is important to understand the unique geopolitical construct of Maui's landscape.

> The division into district of the islands of the Maui group has not simplicity observed in the other islands. The configuration of the island of Maui, which is really a double island made up of two distinct mountain masses joined by a low flat isthmus, is probably the explanation for the group number of districts on that island, namely Kaanapali and Lahaina in West Maui, and the districts of Hamakua Poko, Hamakua Loa, Koolau, Hana, Kipahulu, Kaupo, Kahikinui, Honuaula and Kula in East Maui. The *ahupuaa* of Kahakuloa in Kaanapali and the *ahupuaas*[4] [sic] of Olowalu and Ukemehame in Lahaina were at times termed *kalanas* [sic]. The *ahupuaas* [sic] of Waihee and Waiehu were independent of any *moku* and are listed in the *Book of the Mahele* as being in "Puali Komohana," i.e., West Isthmus. The large *ahupuaas* [sic] of Wailuku of Waikapu, which appropriated almost the whole of the isthmus, belonged to no district and in the *Mahele* were said to be in Na Poko, Na Poko in this case meaning a smaller division of the island. C. J. Lyons says "with reference to the ahupuaas of Waihee, Waiehu, Wailuku and Waikapu, on the map it was necessary to form a new district and call it Wailuku, Nawaieha, 'the four waters,' being too cumbersome and ill understood'' (Sterling 1998: 3).

There is some uncertainty regarding the meaning of "Kahului." Pukui, Elbert and Mookini define the name as "the winning" (1974: 67). Hului is also a type of bag fish net, so considering Kahului's known history as a place with abundant fishing, it is possible the name references this bag net or a fishing technique. Hului is also the term for pulling together the ends of a fish net when the net is full, so it is possible the term is Ka-hului, "the hului."

Wailuku is widely agreed to mean the "waters of destruction." While many associate the term with the Battle of Kapaniwai, scholars believe the term to have an older origin. One moʻolelo (story) recounts a battle in Wailuku between kanaka (humans) and pueo (owls). While such tales seem far-fetched, this moʻolelo is not unique to Maui as a similar moʻolelo of a great battle between kanaka and pueo is found on Oʻahu. In the Wailuku tale, published in the Hawaiian newspaper *Ke Au Okoa* in 1871, the story speaks of how many humans and chiefs

[4] In the Hawaiian language, the plural form of words is not created by adding an "s" to the end of the word, hence "[sic]" has been added where "s" was added to Hawaiian words. Words are instead made plural through the use of the kahakō and/or the plural definite article, for example, the plural form of the word he haumana (a student, singular) is nā haumāna (the students, plural).

were killed, including Kapoi and his wife (Uaua 1871: 3). Clark provides an interpretation of this story:

> In 1871 the Hawaiian newspaper *Ke Au ʻOkoʻa* told a legend involving a man named Kapoi who lived with his wife at Kaimuheʻe, just above the two waters Kanahā and Mauoni. One day Kapoi's wife went out to gather *ʻūhini* (grasshoppers) and found an owl's nest with seven eggs. Thinking they were duck's eggs, she took them and gave them to Kapoi. He realized what they were, but refused to give them back to the owl who appeared and requested for their return. Kapoi then smashed the eggs against the stone wall surrounding the house. Infuriated over the senseless loss, ʻAʻapueo, the mother owl, and her mate, Pueokaia, gathered owls from all the islands. All of the men and chiefs of the area, including Kapoi and his wife, were destroyed. The place *mauka* of the ponds where the cruel breaking of ʻAʻapueo's eggs was avenged was called Wailuku, "water (of) destruction" (Clark 1980: 8-9).

In this moʻolelo, the place name Kaimuhee is found: "I ka wa e noho alii ana o Kanenenuiakawaikalu no Maui, ma Wailuku kona wahi noho mau, e noho ana kekahi kanaka kaulana o ia wahi, o Kapoi me kana wahine, ma Kaimuhee, mauka ae o na wai elua, o Kanaha me Mauoni, he mau loko kaulana ia no Wailuku…" (Uaua 1871: 1). This specifies that Kapoi and his wife lived in Kaimuhee, mauka (uplands) from the famed ponds of Wailuku, Kanahā and Mauʻoni.

The following research and analyses appropriately study the history and cultural resources of Kahului and Wailuku, focusing on the project area and the surrounding environment.

### 3.1 Existing Conditions

W.D. Alexander wrote in 1891 that the establishment of the district of Wailuku was a post-foreign contact construct: "On Maui the lands of Waikapu and Wailuku appropriated almost the whole of the isthmus so as to cut off half of the lands in the distrct of Kula from access to the sea. These two ahupuaʻa(s), together with Waiehu and Waiheʻe, which were independent, belonging to no Moku, were called Na Poko, and have been formed into a district in modern times" (Sterling 1998: 63; see also Van Dyke 2008: 178). F.S. Dodge would refer to the area as an ʻili kupono (Figure 3). Moffet and Fitzgerald note about Dodge's 1885 map of the island: "In addition to the standard colors of yellow for Crown and green for government lands, Dodge employed several other colors to cope with the land complexities of Maui. For example, an unusual land in Hawaiʻi is the *ʻili kupono* of Wailuku, shown in pink and covering the north half of the isthmus that connects the two halves of the island. An *ʻili kupono* was an *ʻili* that was independent of any ahupuaʻa. Wailuku was purchased by Claus Spreckels in 1882 and formed

a major component of his sugar empire in Hawai‘i” (Moffat and Fitzgerald 1987: 47). It is unclear when the area became known as its own district, but it occurred some time between the creation of Dodge’s map in 1885 and the passage of the County Act by the Territorial Government in 1905 when the Act named Wailuku to the County seat of Maui.[5]

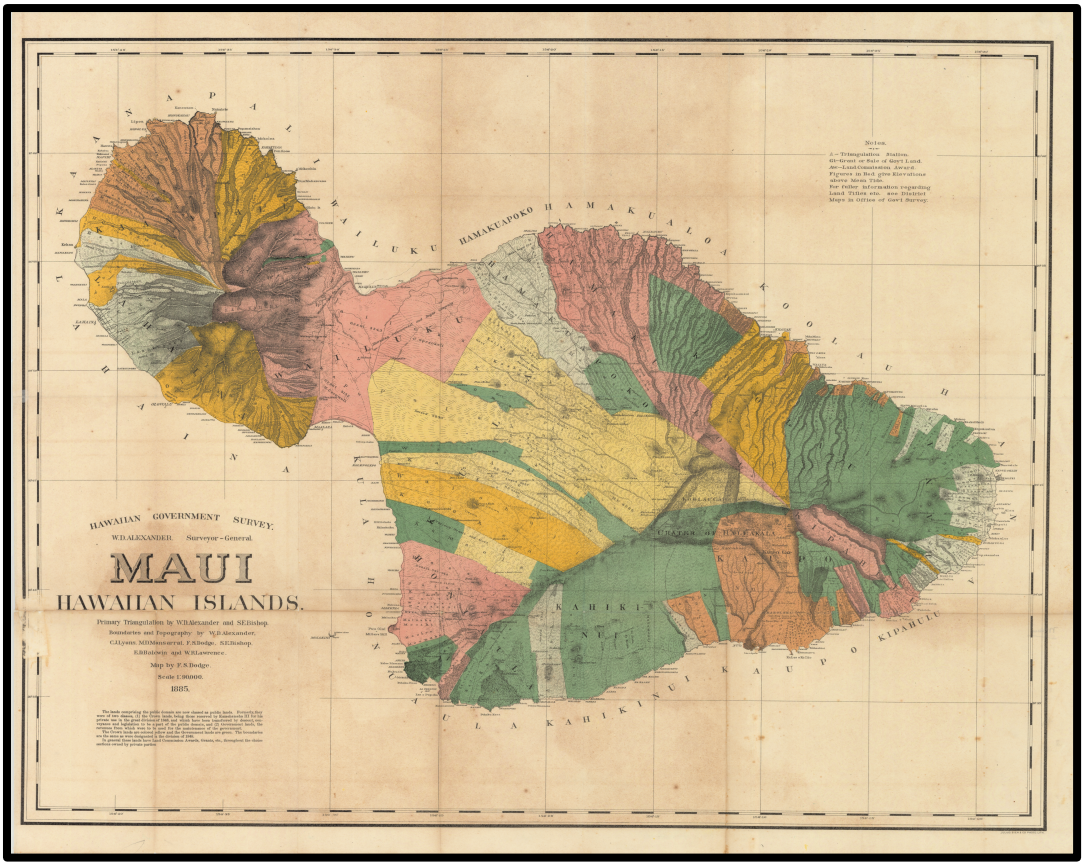



Figure 5. Map of Maui by W.D. Alexander and F.S. Dodge (1885)

### 3.1.1 Cultural History of Kahului

Smaller land areas like Kahului were largely impacted by activities that took place within their larger ahupua‘a and moku. Kahului was no exception. To fully appreciate the cultural history of Kahului, it is necessary to understand the context of the larger moku. Fornander notes that Hawaiians settled within the Wailuku moku as early as the 9-10th century: “Among other southern families of note who arrived at the Hawaiian group during this migratory period, though now it is impossible to place them in their proper order, the legend mentions *Kalana-nuunui-kua-mamao*, and *Humu*, and *Kamaunua-niho* who came from Kahiki (the southern groups), and landed at Kahahawai in Waihee, Maui” (Fornander 1878: 43).

[5] The National Register of Historic Places Inventory – Nomination Form for the Wailuku Civic Center Historic District: https://npgallery.nps.gov/GetAsset/053a8c8a-3956-4c7d-831a-0c3e0a737037

It seems best to begin a genealogy of Maui's chiefs with Moʻoinanea. Moʻoinanea appears in numerous moʻolelo throughout Hawaiian history. She is considered "the matriarch of all moʻo [(lizard)] gods and goddesses" (Pukui and Elbert 1971: 394). Accounts detail her arrival from Kahiki "with the Kū and Hina family of gods" and that she was "the ancestor of the ʻUlu / Hemo linage of Maui" (Klieger 1998: 8). It is explained:

> One of [Moʻoinanea's] descendants was Kelea (Keleanuinohoʻanaʻapiʻapi), a Maui chief and famous surfer of married Kalamakua, a prominent chief on Oʻahu. Maui was not yet a unified kingdom at the time, but soon the moʻo would be evoked for the unification of the island, and then the entire archipelago. Kelea was the daughter of Kahekili I, the alii nui of the kingdom of West Maui, and his wife Haukanuimakamaka. The moʻo lineage was most likely introduced through Kelea's mother. Kelea's paternal grandfather and great uncle were Kakaʻe and Kalaʻalaneo, alii nui of the Wailuku line who ruled West Maui and Lanai from Lele/Lahaina in the sixteenth century (Klieger 1998: 8).

After Kahekili I passed, Kelea's brother, Kawaokaohele, gained control over his kingdom. Kawaokaohele was a popular aliʻi (chief) and the reign is known for its prosperity. Most importantly, it was during the reign of Kawaokaohele that East Maui (i.e., Hana) recognized the Wailuku aliʻi as being mōʻī (King) of Maui (Klieger 1998: 8-9).

Kawaokaohele's son, Piʻilani, is widely acknowledged to this day to be the greatest aliʻi in Maui's history. He ruled all of Maui from Lahaina, which would eventually become the political center of the island and later the unified Hawaiian Kingdom. Piʻilani is known for creating a trail that circumnavigated the entire island (Klieger 1998: 9). Piʻilani married his first cousin, Laieloheloheikawai, daughter of Kelea. Piʻilani and Laieloheloheikawai had at least four children: daughter Kihawahine Mokuhinia Kalamaula Kalaaiheana, daughter Piʻikea, son Lono-a-Piʻilani[6] and son Kiha-a-Piʻilani. These children, being the result of a piʻo union (marriage between two close relatives, sometimes a brother and sister), had a very strong lineage.

Upon her death, it is believed that Kihawahine transformed into a moʻo and became a guardian of sacred places on Maui, most notably fishponds, some of which bear her names. Mary Kawena Pukui said that her home was Mauʻoni fishpond, located in Kahului (Klieger 1998: 9). Yet, it is also said that Kihawahine possessed the ability to travel between islands and fishponds (Klieger 1998: 9). Many fishponds to this day are associated with a moʻowahine

[6] Children often bore the name of an ancestor, so names such as Lono-a-Piʻilani mean "Lono of Piʻilani." Whenever historical figures' names have this element, the name has been broken up with dashes in this report to help the reader follow geneaologies and familial relationships.

(female lizard deity) that protects the pond. It is likely that this continued existence of moʻo deities originated with Kihawahine.

Historians estimate that Piʻilani ruled in the 16th century. It is important to note that Hawaiian chiefs demonstrated considerable savvy in politics. Chiefs commonly intermarried for political reasons. Piʻikea-a-Piʻilani, daughter of Piʻilani, married Umi-a-Liloa, the King of Hawaiʻi Island. When Piʻilani died, the Maui Kingdom went to his oldest son Lono-a-Piʻilani. For many years, Lono-a-Piʻilani and his younger brother Kiha-a-Piʻilani (brothers to Piʻikea) co-existed peacefully. Eventually, Lono-a-Piʻilani and Kiha-a-Piʻilani had a falling out and the latter feared his brother, the King, would try to kill him, so Kiha-a-Piʻilani fled and lived on Lānaʻi. He eventually returned and stayed in the southern parts of Maui, as to not be found by his brother. His identity was eventually discovered, and he traveled to Hawaiʻi Island to stay with his sister, Piʻikea-a-Piʻilani and her husband, ʻUmi-a-Liloa (Kamakau 1992: 23-27). Kiha-a-Piʻilani joined with ʻUmi-a-Liloa, and together they planned to invade Maui. Lono-a-Piʻilani resided in Wailuku during this time.

Kiha-a-Piʻilani and ʻUmi-a-Liloa successfully invaded and conquered East Maui. Before they could reach Lono-a-Piʻilani in Wailuku, Lono-a-Piʻilani died. A prophet told Kiha-a-Piʻilani that the body of Lono-a-Piʻilani was "in Wailuku in a land called Paʻuniu" (Kamakau 1992: 31). Despite a wide search throughout Wailuku, the bones of Lono-a-Piʻilani were never found by Kiha-a-Piʻilani.

Kiha-a-Piʻilani ruled Maui in the 17th century. During ʻUmi-a-Liloa's reign of Hawaiʻi Island, the two kingdoms remained close and peaceful thanks to the intermarrying of the chiefly families. It would be this history of strategically intermarrying that would help to engender the eventual unification of the islands. Kiha-a-Piʻilani's descendant, Kekaulike, would become the King of Maui in the 18th century.

As Kekaulike ruled on Maui, Keawe ruled on Hawaiʻi Island. Keawe was a famed ruler of Hawaiʻi Island (Kamakau 1992: 64). Keawe's half sister was Ka-lani-kau-lele-ia-iwi, whose husband was Ka-uaua-nui-a-Mahi and to them was born Alapaʻi-nui-a-Kauaua (Alapaʻi) (Kamakau 1992: 64). Kamakau (1992) notes that Keawe enjoyed travel and would travel to the other islands, including Maui. When Keawe died, he left Kohala and Kona to his son Keʻeaumoku and Kaʻu to his son Kalaninuiʻiamamao (Kamakau 1992: 64-65).

Alapaʻi also lived on Maui during this time, moving there after Hilo chiefs killed his father, Ka-uaua-nui-a-Mahi. Alapaʻi's half-sister Kekuʻiapoiwanui-a-Kalaninuikauleleiaiwi (Kekuʻiapoiwanui) was the wife of Kekaulike (Kamakau 1992: 65). After Keawe's death, Alapaʻi returned to Hawaiʻi Island. He first waged war against Keʻeaumoku and gained control of Kohala and Kona. Kekaulike did not approve of this and took his own warriors to fight with

Alapaʻi on Hawaiʻi Island. Kekaulike was unsuccessful in this battle and he slaughtered numerous commoners during his campaign in Kohala (Kamakau 1992: 65-66). Alapaʻi then unsuccessfully launched a campaign against Kekaulike on Maui.

Kekaulike had four biological children with his wife Kekuʻiapoiwanui: Kalola (wahine (female)), Kamehamehanui (kāne (male)), Kahekili II (kāne), and Kahuʻaimokuakama (wahine). Kalola bore children with three different men: Kalanikauōkikilokalaniakua (wahine) with her brother Kamehamehanui, Kīwalaʻo (kāne) through her union with Kalaniʻopuʻu, and Kekuʻaipoiwa Liliha (wahine) from her union with Keōua. Kalanikauōkikilokalaniakua had many kapu on her due to her being the result of a nīʻau piʻo union between siblings, which Hawaiians believed gave a child a sacred status. Kalaniʻopuʻu and Keōua are two sons of Keawe, both of which Alapaʻi brought up as leaders in his government.

Keōua had many wives. In addition to Kalola, he also married Kekuʻaipoiwa, daughter of Kekela and Haʻae (not to be confused with Kekuʻaipoiwa Liliha, daughter of Kalola, or Kekuʻaipoiwanui, wife of Kekaulike). Keōua and Kekuʻaipoiwa would become the parents of Kamehameha I (kāne), who was born as Alapaʻi launched his attack against Kekaulike on Maui.

As Kekaulike ruled Maui, Alapaʻi ruled over Hawaiʻi Island. Alapaʻi was a peaceful and prosperous chief and additional war between the two kingdoms was avoided for a period of time. On Maui, Wailuku had been the central location of power since the time of Piʻilani. Kekaulike moved it to Kaupō, likely in preparation of attacks on Hawaiʻi Island. Kekaulike fell ill and never returned to Hawaiʻi Island. Kekaulike turned over Maui to his son, Kamehamehanui (not to be confused with Kamehameha I).

In anticipation of an attack from Alapai's forces, the weakened Kekaulike directed his family and governing officials to return to Wailuku, to Halekiʻi, "the royal residence of the Maui ruling line near Wailuku" (Kirch 2012: 240). There Kekaulike died and after his death, "fearing the arrival of Alapaʻi bent on war, the chiefs cut the flesh from the bones of Ke-kau-like in order to lighten the load in carrying the body to ʻIao" (Kamakau 1992: 69).

Alapaʻi arrived on Maui as anticipated. Yet, when Alapaʻi heard of Kekaulike's death and of Kamehamehanui's rule, he relinquished his planned attack on the island and rather opted for peace between the kingdoms.

Kahekili II, the second son of Kekaulike, would become one of Maui's most famed aliʻi. He was known to be a ferocious warrior and a staunch follower of the Hawaiian religious beliefs and protocols. He kept individuals for sacrifice at a place called Puaʻanui, near the site of the

Wailuku mill (Thrum 1917: 60). It was during Kahekili II's reign that the great battle at Kakanilua occurred.

Joseph Mokuohai Poepoe wrote of this great battle in Hawaiian language newspapers in 1905:

> As the Alapa[7] and Piipii proceded to the plain of Kamaomao [from Kihei-puko'a] they met with no hindrance until they reached the southeastern side of a place called Kalua, close to the village of Wailuku.
>
> When the Alapa arrived there, the warriors of Kahekili concentrated upon them from many points, like sandcrabs running over the sand.
>
> A bitter fight was fought by the Alapa and Piipii armies of Kalaniopuu against the well trained warriors of Maui and those of Oahu under Kahahana...
>
> Kalaniopuu received the news on the evening of the day of the terrible battle. This battle in which the Alapa and Piipii were destroyed was called Ahulau ka Piipii i Kakanilua (completely slaughtered were the Piipii at Kakanilua) (Sterling 1998: 88, citing Poepoe 1905).

Keku'aipoiwa Liliha (daughter of Keōua and Kalola) and her half-brother Kīwala'ō married and this nī'au pi'o union resulted in the birth of Keōpuōlani (wahine). Due to the half-sibling relationship between her parents and her royal lineage, Keōpuōlani was a chiefess of substantial status and rank. While Kamehameha I would eventually take many wives, none held as high a sacred status as Keōpuōlani and she would become known as Kamehameha's sacred wife. It is through their children, Liholiho (kāne), Kauikeaouli (kāne), and Nahi'ena'ena (wahine), that the Kamehameha Dynasty was established.

The Wailuku district was generally abundant with resources, both from the moutains and the sea, yet its name implies a history of conflict also impacted the area. Wailuku, as previously mentioned, literally translates to "water of destruction" and while some attribute the name to the historic battle instigated by Kamehameha I that took place in this area, the name reaches further back prior to Kamehameha's reign.

[7] "Alapa" in this case references the famed warrior company of Kalani'opu'u. The spelling of the term with diacriticals is 'ālapa.

Figure 6. Historic photo of Wailuku from the Hawai‘i State Archives. PP-50-9-018. n.d.

Wailuku would become an important political hub. Kahekili kept a home in Wailuku, known as Lanikeha, which was a name often used for the residences of high chiefs (Pukui and Elbert 1971: 178; Malo 1951: 104). Literally meaning “lofty heaven,” it referenced the legendary part of heaven. It is possible Kahekili kept a second home in Wailuku. One account from Ka Na‘i Aupuni mentions another home called Kalani-hale: “The people of Hawaii lamented greatly. Kalani‘opuu grieved over the destruction of his ‘Alapa and Piipii warriors. At that time Kahekili was living in his house, Lanikeha, in Wailuku. Kiwala‘o donned his royal regalia; Kameeiamoku held his spittoon and Kamanawa carried his kahili. The delegate from Hawaii went up to Wailuku, for at that time Kahekil was living in his house named Kalani-hale” (Sterling 1998: 89).[8]

### 3.1.2 Post-Contact Wailuku

[8] The original text of this account implies the home was in the mauka (mountain or inland) part of Wailuku: “Ua pii aku la nohoi ka elele o Hawaii no uka o Wailuku, a, aia ia wa, e noho ana no o Kahekili iloko o kona hale i heaia ma ka inoa o ‘Kalani-hale’” (Poepoe 1905).

When foreigners arrived, Hawaiians resided throughout Wailuku. The first foreigners established in Wailuku in 1832 under Jonathan S. Green (U.S. Department of the Interior 1986). It is said that "[v]ery little development occurred, however, until after the Wailuku Sugar Company commenced its operations in 1862" (U.S. Department of the Interior 1986). In 1870, Samuel Thomas Alexander and Henry Perrine Baldwin (Alexander & Baldwin) planted their first sugarcane crop on their planation; this would eventually become the foundation of Maui Agricultural Company (HC&S 2017).

Wailuku was significantly impacted by both foreign contact and the Māhele, which made the establishment of sugar operations and plantations possible. Although listed among the Crown Lands,[9] significant acreage from these Crown Lands would be transferred to Claus Spreckels through Government Grant 3343 (Van Dyke 2008: 178); this Grant included all of Kahului. Through this land transfer, Wailuku and Kahului became a central hub of Hawaiʻi's sugar industry. Claus Spreckels acquired a total of 40,000 acres in East Maui: 16,000 acres in Waikapu and 24,000 acres in Wailuku. Spreckels developed a particularly close relationship with King David Kalākaua, who executed a number of questionable transactions that would significantly benefit Spreckels (Wilcox 1996: 61). These resouces allowed Spreckles to form Hawaiian Commercial Company in 1878, the predecessor to Hawaiian Commercial & Sugar Company (HC&S), which was officially incorporated and renamed in 1882 (HC&S 2017).

Historic accounts detail Spreckels' activities:

> Claus Spreckels & Co.'s Sugar Mill and Plantation, Wailuku and Waikapu Common, seven miles from Wailuku; Kahului Road; post office address, Kahului. Owns 30,000 acres; 3,000 acres under cultivation; 25,000 acres available for sugar planting; the balance is pasture, etc. sole right of 32 streams for irrigating purposes; said right obtained direct from the Crown; estimated yield for season of 1880, 3,000 tons of sugar. The cane will average six tons to the acre. Number of men employed, 350; horses and mules employed, 70 head.
>
> The ploughing on the whole is done by steam ploughs, and the cane is transported by the aid of portable railways to the mill. The capacity of the mill will be about twenty tons per diem; the mill will have five crushers in two sets, one of three, and one of two. The mill buildings are now in course of construction, and it is expected that grinding may be commenced about November next. Mr. Spreckels has his own landing and storehouse at Kahului,

[9] Wailuku, not yet being its own autonomous moku, is listed under Napoko, with Wailuku being the name of the land area (Van Dyke 2008: 178).

and the sugar is brought down to the landing by Captain Hobron's Wailuku and Hamakua Railway. Messrs. J. Horner & Co. plant 600 acres, all under cultivation, on shares with this company. Mr. Spreckels calculates to import, inside of four years, 40,000 tons of sugar per annum from his Hawaiian estates (Bowser 1880: 432).

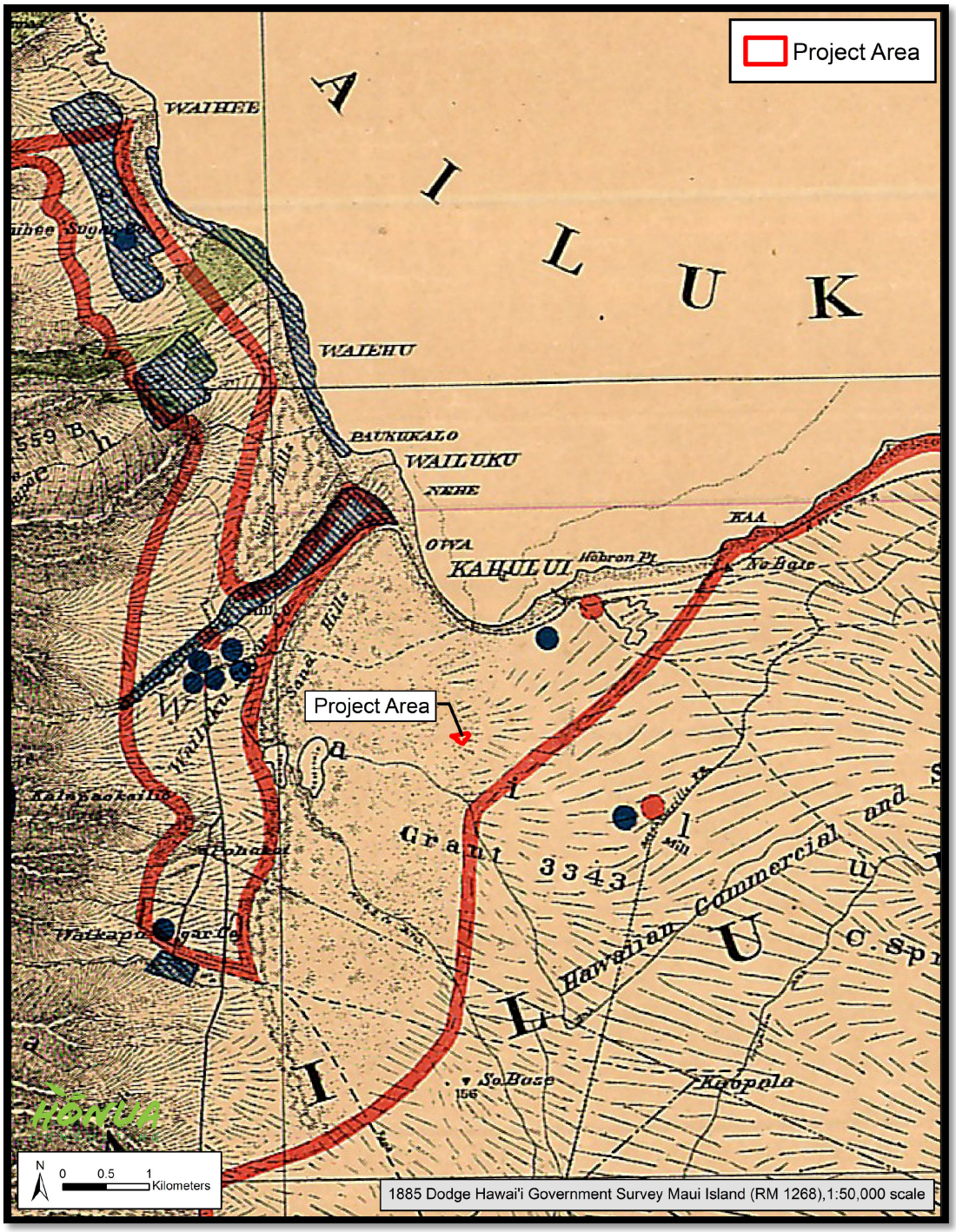



Figure 7. Portion RM 1268 by W.D. Alexander and F.S. Dodge showing Project Area (1885)

By 1862, Wailuku Sugar Company was officially organized in 1875, the company officially incorporated (Wilcox 1996: 122). In 1863, Thomas Hogan built the first Western structure in Kahului: a warehouse near the beach (Clark 1980: 7); other Western structures followed in Kahului. The conversion from traditional Hawaiian agriculture, which was particularly abundant on Maui, to Western irrigation practices had long-term adverse effects on the

cultural practices and ecosystem services enjoyed on the island. Unlike traditional Hawaiian practices which required loʻi (pond fields) and other stream diversion activities to have a hoʻi (return flow to the stream of origin), sugar irrigation activities did not return water from perennial streams to the source. Rather, these modern irrigation practices diverted water without returning it, adversely impacting landowners downstream, particularly native tenants. Sugar also consumed an unprecendented amount of water from these water sources.

Hawaiʻi's rich watershed systems are dependant upon healthy streamflow. Among the many benefits are healthy crops and healthy fisheries (Gingerich et al. 2007; Field et al. 2008). The radical changes in lifestyle and economy that accompanied foreign contact resulted in many Hawaiians becoming displaced from their family and ancestral lands. In 1876, the United States and the Hawaiian Kingdom signed the Hawaiian Reciprocity Treaty, which allowed sugar from Hawaiʻi to be imported into the United States duty-free. This made the sugar industry in Hawaiʻi far more economically viable than it had been prior to the execution of the Treaty. Sugar grew significantly on Maui as a result. A small landing was built in 1879 to service the growing sugar industry and Kahului Railroad Company incorporated in 1881 and established its headquarters near Kahului Bay. This was the first railroad company in Hawaiʻi and the first route ran from Kahului to Wailuku. The company was founded by Captain Thomas Hobron, a sea captain who came to Hawaiʻi and decided to stay and become a merchant in the islands. Hobron Point is named for him (Clark 1980: 7).

Sources note that Maui had telegraph-telephone service as early as 1877. The line ran between Napili and Wailuku. Within a few years, a more sophisticated line was set up for central Maui that included Kahului. Maui Telephone Company began in 1889, taking over the system (Ramil 1984: 6). In 1898, Alexander & Baldwin gained control of HC&S (HC&S 2017).

As Maui's sugar industry grew, so did the infrastructure needed to cultivate and export the sugar. Immigrant workers were brought to Maui from Asia and the Pacific. Plantation camps popped up throughout Wailuku and Kahului. The railroad infrastructure that carried crops to mills then to Kahului Harbor also grew. By the late 1800s, a second crop was introduced for cultivation and export on Maui: pineapple. Pineapple plantations steadily grew across Maui for several decades. The small landing at Kahului Bay transformed into a modern commercial harbor in 1900 when a plague outbreak led to the controlled, intentional burning of the town as a means of killing all the rats that were spreading the infestation. By 1910, the traditional Kahului Bay became home to a fully modernized harbor, as the Kahului Railroad Company extensively altered the area to suit its commercial needs (Clark 1980: 7). Some of these changes can be seen in Figure

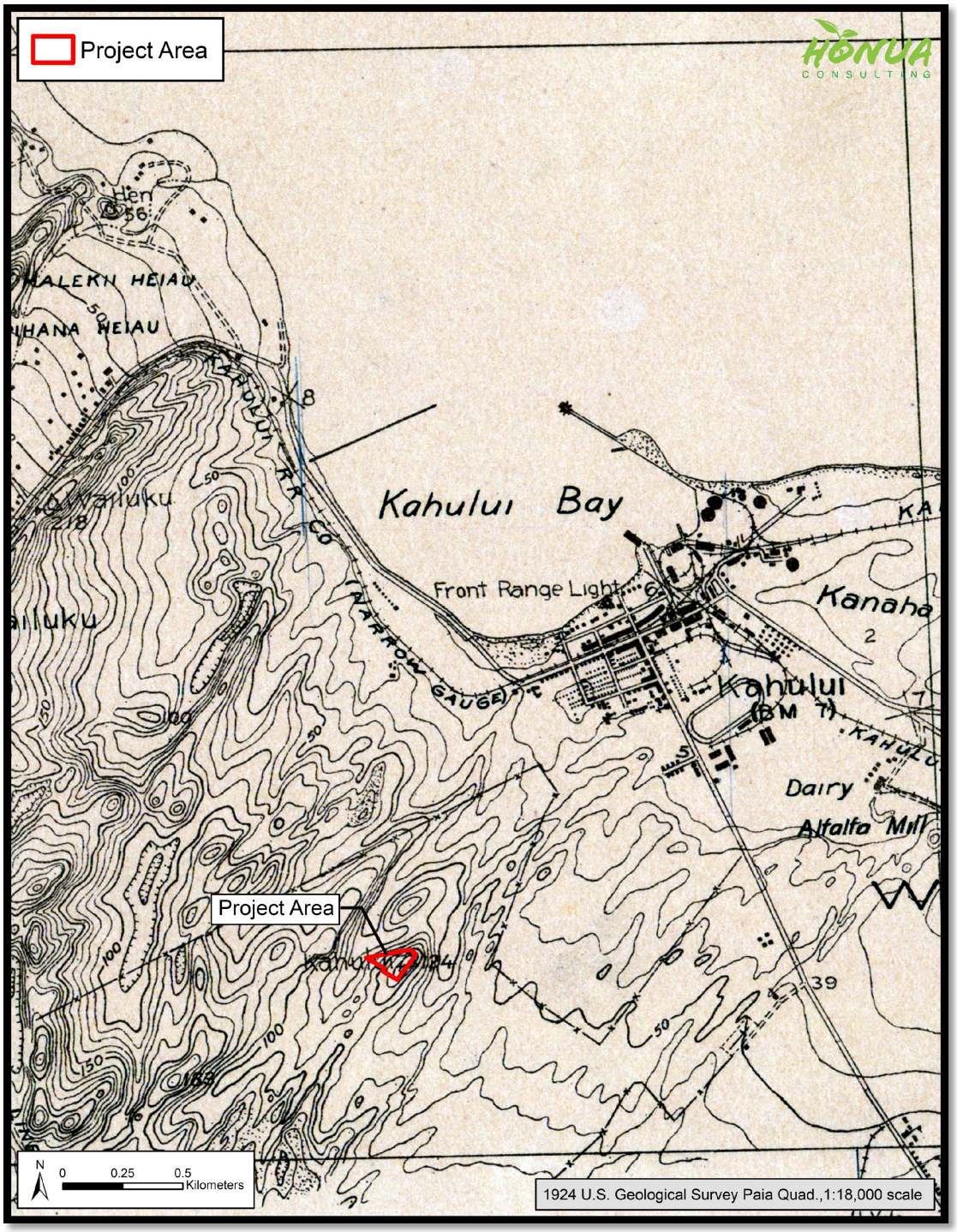



Figure 8. Portion of 1924 USGS Map showing early 20th century changes to area.

*The Maui News* was established in 190 and within the year, encouraged local Hawaiians "to give your children the best English education possible" (Ramil 1984: 7). At the time, the island's residents were primarly divided among three political parties: Republicans, which

were led by plantation owners and managers, the Home Rule Party, led primarily by Hawaiians, and the Democratic Party (Ramil 1984). *The Maui News*, largely controlled by Republicans, weighed heavily into politics, making statements like: "Let [Hawaiians] have time to grasp the two great thoughts, first that all hopes of a restoration of the monarchy is gone forever, and secondly, that in order to have any weight in the management of the affairs of the Islands, [they] must forget that they are Hawaiians and remember only that they are Americans, and then their adjustment in the body politic will come easily and naturally" (Ramil 1984: 8). Despite their rhetoric and efforts, the Republican Party failed to elect many delegates to the First Territorial Legislature; the Home Rule Party won six out of nine available seats.

**Figure 9. Kahului Landing Prior to Creation of Kahului Harbor, Hawaii State Archives Call No. PPWD-5-3-019 (n.d. ca. late 1800s)**

The Home Rule Party was unable to hold onto power. The Hawaiian led group continuously pushed to maintain elements of the sovereign kingdom, which led to regular conflict with foreign plantation owners. It was said that "The Home Rulers also opened themselves to criticism by their insistence of using the Hawaiian language in their legislative proceedings, in violation of the Organic Act which required the use of the English language" (Ramil 1984: 11). The publication also commented on foreign control of Maui lands: "It is monotonous untruth

that the native Hawaiians have been cheated of their lands by the missionaries or the sugar planters or any body else. ...On Maui, the bulk of the sugar plantations were formerly arid lands that nobody wanted, and have been made valuable only by outlay of vast sums for irrigating ditches and pumps" (Ramil 1984: 8).

During the First Territorial Legislature, a county bill was passed, only to be vetoed by the Governor. The 1901 effort would have changed the name of Maui Island to Liliuokalani and would have named Lahaina as the center of the county government (Ramil 1984: 10). Wailuku would nonetheless become the County seat of power when the County Act passed in 1903.

During World War II, the U.S. Military took over a substantial part of Maui for training and defense. Kahului was shelled by a Japanese submarine on January 1, 1942 (Clark 1980: 7; Pignataro 2013). Maui would shortly therefore become home to the 4th Marine Division, known as the "Maui Marines." The U.S. Marines built a camp and living facility for 18,000 troops in Wailuku (NOAA n.d.). The Navy would also take over land to build two naval air stations: NAS Puʻunēnē, now known as Maui Airport, and NAS Kahului, which would become known as Naska, and they were built in 1942 and 1943, respectively (NOAA n.d.). Clark identifies Naska as "the site of Kahului Airport and a small industrial-commerical complex. Some of the old World War II structures can still be found in the area, including the now empty Naska Swimming Pool" (Clark 1980: 9).

Post-World War II demands of the "baby boomer" generation helped to turn Maui towards the tourism industry. As in many places, when soliders began to arrive home from the war, there was an increased need for single-family homes and suitable communities. The plantation camps of the past were undesirable for Maui's growing middle class, as was work on the plantation.

HC&S merged with Maui Agricultural Company in 1948, creating the largest sugar producer in the United States (HC&S 2017). In 1949, the Kahului Development Company received approval for a new development in the town (Ramil 1984: 128); the development would break ground by the end of the year. In 1950, HC&S introduced Tournahaulers to Hawaiʻi, using them to replace the aging railroad system as a means of transporting sugar (HC&S 2017). The first traffic lights installed on Maui were placed in Kahului in 1951 (Ramil 1984: 144). This provides a sense of how large and industrialized the town of Kahului had become. HC&S also diversified significantly by this time and developed a plan to transform Kahului from a plantation town into a modern city. They sought to develop their cast holdings of sugar plantation lands adjacent to Kahului Harbor into a city, which they called "Dream City." The project was successful, and this effort served as the foundation of much of Kahului today.

Evidence shows that the project area was briefly inhabited during the post-contact history, but these structures are not extant. Loko iʻa, which typically includes the boundaries of the pond

itself and the surrounding ecosystem, could have possibly included the project area. Kanahā and Mauʻoni were spring-fed ponds, so there was no known stream flow or in-take from a stream source required for these ponds. Therefore, the extensive growth of Kahului around the pond, with the exceptions of activities that filled or dredged the pond, would have had negligible impacts upon the ponds.

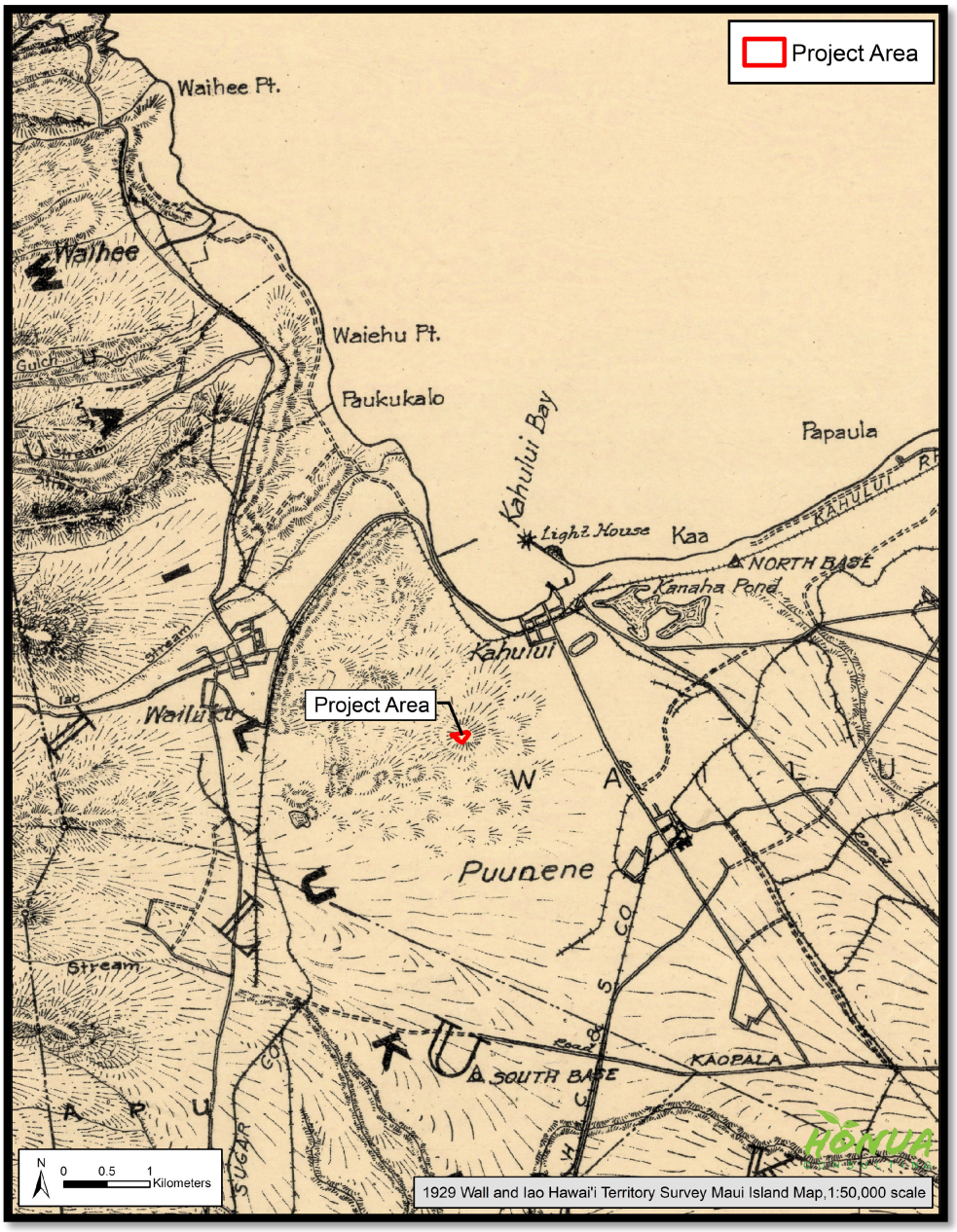



Figure 10. 1929 Territory Survey Map showing Project Area

## 3.2 Background—Traditional Names

Background research for the literature review was conducted using materials obtained from the State Historic Preservation Division (SHPD) library in Kapolei and the Honua Consulting LLC. report library. On-line materials consulted included the Ulukau Electronic Hawaiian Database (www.ulukau.com), Papakilo Database (www.papakilodatabase.com), the State Library on-line (http://www.librarieshawaii.org/ Serials/databases.html), and Waihona ʻĀina Māhele database (http://www.waihona.com). Hawaiian terms and place names were translated using the on-line Hawaiian dictionaries (Nā Puke Wehewehe ʻŌlelo Hawaiʻi) (www.wehewehe.com), *Place Names of Hawaiʻi* (Pukui et al. 1974), and *Hawaiʻi Place Names* (Clark 2001). Historic maps were obtained from the State Archives, State of Hawaiʻi Land Survey Division website (http://ags.hawaii.gov/survey/map-search/), UH-Mānoa Maps, Aerial Photographs, and GIS (MAGIS) website (http://guides.library.manoa.hawaii.edu/magis). Maps were geo-referenced for this report using ArcGIS 10.3. GIS is not 100% precise and historic maps were created with inherent flaws; therefore, geo-referenced maps should be understood to have some built-in inaccuracy.

### 3.2.1 Inoa ʻĀina (Place Names) and Moʻolelo

Native Hawaiians named and identified their places and ecosystems. Hawaiian place names are known in the area. Place names in the vicinity of the project area, a description of the locations, their English translations, and sources of information.

Honua Consulting developed a list of place names, which includes, but is not limited to, the following places and terms to help guide research and analyses.

**Table 1. Place Names Associated with Kahului and Wailuku (near project area)**

| Toponym | Type | District | Definition |
|---|---|---|---|
| Kahului[10] | Town and Bay | Wailuku | Possibly "the winning" or "the fish net" |
| Wailuku | Ahupuaʻa | Wailuku | Waters of destruction |
| Kanahā[11] | Loko iʻa (fishpond) | Wailuku | The shattered |
| Mauʻoni | Loko iʻa | Wailuku | Unknown |
| Lahikeha | Hale (building) | Wailuku | Lofty heaven |
| Kalialinui | Stream | Wailuku | Large medicinal tree |

[10] Kahului shares its name with a bay and land section south of Kailua-Kona on Hawaiʻi Island.

[11] Kanahā is also the name of a stream in Lahaina, Maui and the name of an island located in Moakea, Molokaʻi. It is part of the State Seabird Sanctuary. It was created by the posterosional eruption that created Mokuhoʻoniki Island and, through erosion, divided into its own island. It is also the name of a channel and reef in Hāʻena, Kauaʻi.

| Toponym | Type | District | Definition |
|---|---|---|---|
| Ka‘a[12] | Beach and coastal area | Wailuku | Rolling |
| Paia | Village and Bay | Paia | Noisy |
| Makawela | Bay | Wailuku | Burning eyes |
| Kaimuhee | Place name | Kahului, near Kanahā and Mau‘oni | Possibly “ocean of cuttlefish (mūhe‘e)” |

### 3.2.2 Cultural Resources

‘Āina Archaeology completed a literature review and field inspection for the Project Area. Based on the historic of sites in the area, an Archaeological Inventory Survey is recommended to minimize any potential impact to subsurface cultural resources. The Historic Preservation Review recommends:

> Given the clear and extensive presence of Puuone Sands within the open and relatively undeveloped proposed project area, as well as the apparent low impact nature of the minimal structures that are present on site, the probability of encountering pre-contact traditional Hawaiian burials during construction of the proposed facility across the approximate 2.8-acre project area is believed to be very high.
>
> An intensive archaeological inventory survey (AIS), compliant with HAR 13- 276 – Rules Governing Standards for Archaeological Inventory Surveys and Reports is recommended. Due to the highly sensitive nature of the underlying sediments, preparation of an archaeological inventory survey plan (AISP) to govern and guide the AIS fieldwork is also recommended. The development of the AISP should occur in consultation with SHPD Archaeology Branch, SHPD Culture and History Branch, Native Hawaiian Organizations and individuals with cultural and genealogical ties to the area, and the Maui/Lāna‘i Islands Burial Council (‘Āina Archaeology 2021:ii).

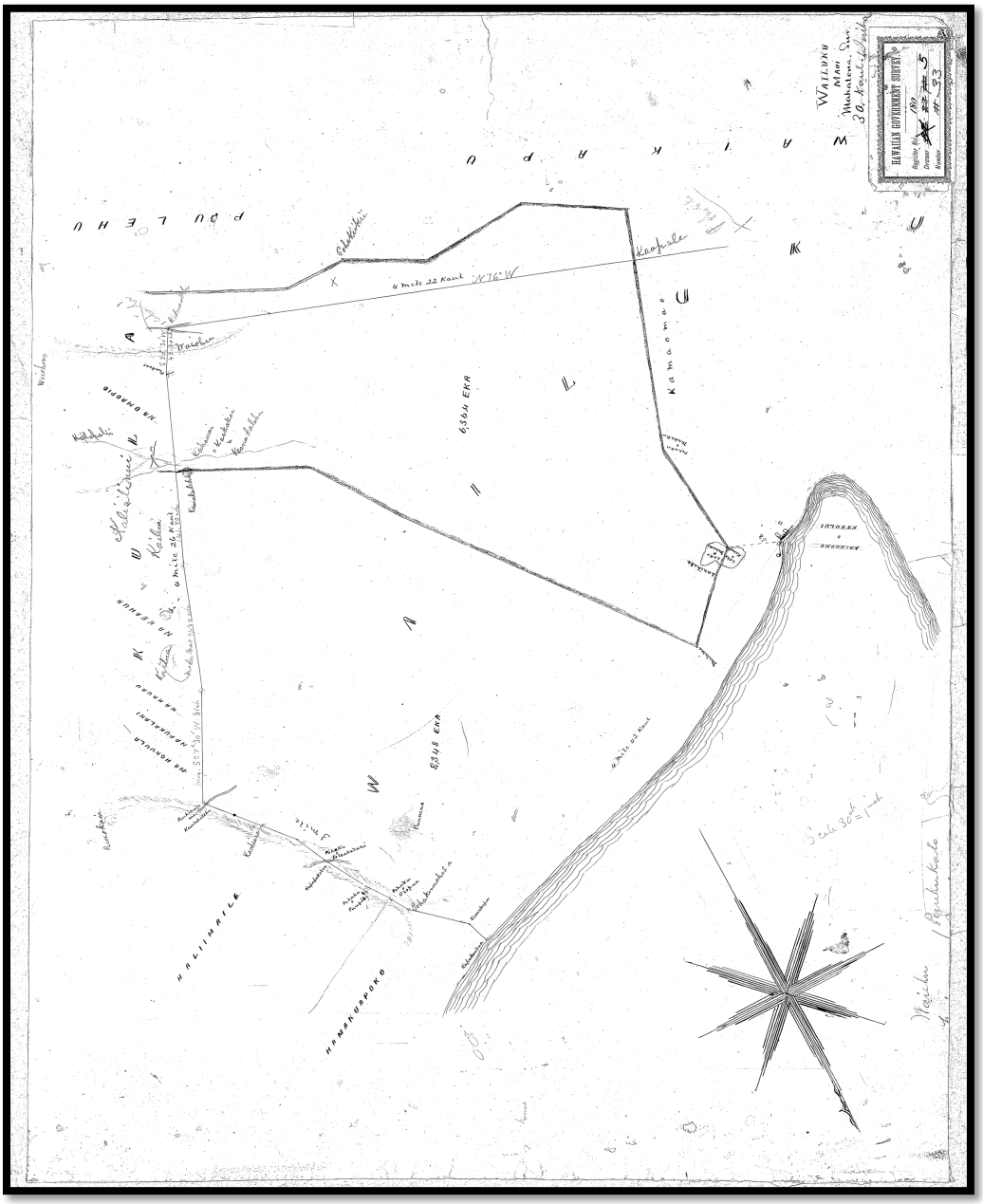
### 3.2.3 Native Informants

The narratives cited in this collection were excerpted from the testimonies given by native residents, or those given by surveyors who recorded the boundaries based on the testimony of native guides and their own field work. The testimonies include descriptions of several ahupua‘a extending from ocean fisheries to plateau lands and mountain peaks. They also

[12] Not to be confused with Ka‘ā, a wahi pana on Lāna‘i, meaning the burning or the rock.

describe a wide range of traditional practices, travel, land use, resource collection, bird catching, and changes in the landscape witnessed during their lifetime.

In the 1871 testimonies and survey for Wailuku, Pu‘uhīnale upper boundaries of Wailuku and Kahului (**Figure 11**). Also of interest are the proceedings from Kalialinui, which document a dispute regarding the boundaries of Kamaikaaloa’s Kalialinui and the Crown Land of Wailuku.


HALIIMAILE
HAMAKUAPOKO
KALIALINUI
KAMAOLE
WAILUKU
Kaopale
Pauka
Kalihi
Kalua
Kaiwi
Kaiwi
Kaiwi

As a result of the dispute, significant testimonies from elder native informants were recorded. The original Hawaiian texts are given in their entirety below with excerpts translated by Maly situated on the right of the original text to highlight pertinent sections.

**Kalialinui Ahupuaa**
**District of Kula, Island of Maui**
**Boundary Commission**
**Maui, Volume 1, pages 2-12**

Wailuku, Maui
Febuari 21st, 1871
Keena Hookolokolo a ke Komisina o na palena aina ma Wailuku o ka Mokupuni o Maui o ko Hawaii Pae Aina

Ma ka hihia e pili ana i ka hooponopono ana i na palena o ka aina o Wailuku ame Kalialinui ma Wailuku, Moku o Maui Hawaii Pae Aina

#### *3.2.3.1 Na Komisina o na Aina Lei Alii vs. Campbell & Turton*

Ua waihoia mai imua o ke Komisina Palena Aina o ka Mokupuni o Maui o ko Hawaii Pae Aina [page 2] he palapala nonoi na na Komisina o na Aina Lei Alii ma ka la 22, o Dekamaba o ka M.H. Hookahi Tausani Ewalu Haneri ame Kanahiku.

Honolulu, Decemaba 19, 1870

I ka mea Hanohano
P. Nahaolelua
Kiaaina o Maui

Aloha oe
E ke Komisina o na palena aina o ka Mokupuni o Maui. Ua Kauohaia mai au e na Komisina o na Aina Lei Alii e waiho ‘ku i palapala nonoi no ka hooponoponoana ina palena o ka Aina Lei Alii i kapaia o Wailuku e waiho la ma ka Apana o Wailuku, Mokupuni o Maui.

O na palena a makou i manao nui ai e hooponoponoia oia no na palena mawaena o ka Aina i oleloia maluna ame ka aina i kapaia o “Kalialinui.”

I hoomaopopo no Campbell ame Turton a ke makemake nei na Komisina i na Aina Lei Alii e kauoha ‘ku ia laua

Eia mai me keia palapala ke ana o ka Aina o Wailuku e like me ka mea i maopopo i na Komisina Lei Alii i ku like me ke Kanawai, a mai poina oe i ka hoolaha mai ia makou i ka manawa ame kahi e hoolohe ai.

O wau no,
Kau Kauwa Hoolohe
Jno O. Dominis
Komisina o na Aina Lei Alii a hope luna aina

Ua haiia na aoao elua e pili ana i keia hihia i haiia ae la, oia hoi i na Komisina Aina Lei Alii e Kue ana ia Campbell ame Turton ma ka la 21, o Febuari M.H. Hookahi Tausani Ewalu Haneri ame Kanahiku kumamakahi ma Wailuku kahi i hoolohe i keia hihia ma ka Mokupuni o Maui o ko Hawaii Pae Aina. Ua hoopukaia e ke Komisina Palena Aina o ka Mokupuni o Maui o ko Hawaii Pae Aina he palapala Kii hoike ia Kaaiaweoweo (K) no ka Mokupuni o Oahu, a ua hoihoiia mai ia [page 3]

Palapala Kii hoike imua o ka Aha ma Wailuku Mokupuni o Maui o ko Hawaii Pae Aina ma ka la 21, o ke malama o Febuari o ka makahiki Hookahi Tausani Ewalu Haneri ame Kanahiku kumamakahi me ka olelo mai, ame ka hai ana mai a ka mea nana i kii i ka mea i hooakakaia e Kii maloko o ua palapala Kii hoike la i ka hope Ilamuku nui o ka Mokupuni o Oahu ame ko Hawaii Pae Aina, aole e hiki pono mai ka hoike no ka pilikia loa i ka mai pela ka mea i maopopo imua o ka Aha.

E like me Kahi ame ka manawa i hoolahaia ai e ke Komisina Palena Aina o ka Mokupuni o Maui o ko Hawaii Pae Aina. Ua hiki mai na aoao elua o keia hihia imua o ka Aha a ua hoopaneeia keia hihia a hiki i ka hora akahi o ke Awakea o keia la ma ka ae ana mai o na Aoao Elua

Ua hiki mai no na aoao elua imua o ka Aha e like me ka manawa i hoopaneeia ma ka hora akahi oia la i oleloia oia hoi na Komisina o na Palena Aina Lei Alii ka aoao hoopii i kue ana ia Campbell ame Turton ka mea i hoopiiia ua ae mai no ka mea i hoopiiia ua loaa ‘ku ia laua ka lono o ka manawa ame kahi e hoolohe ai i keia hihia e like me ke Kanawai.

W. C. Jones ka loio o Campbell ame Turton

R.H. Stanley ka loio o na Komisina o na Aina Lei Alii

Ua waiho mai o W.C. Jones i keia la 21, o Febuari o ka Makahiki o ka haku Hookahi Tausani Ewalu Haneri ame Kanahiku kumamakahi i ke Kii o ka aina o "Kalialinui."

Ua waiho mai o R.H. Stanley i keia la 21, o Febuari o ka makahiki o ka haku Hookahi Tausani Ewalu Haneri ame Kanahiku kumamakahi i ke Kii o ka aina o Wailuku o ka Mokupuni o Maui o ko Hawaii Pae Aina ame ka ana pu.

A noi hou mai R.H. Stanley e hookomoia na Inoa Campbell ame Turton i mau ona no ua aina la i kapaia Kalialinui ma Wailuku, Mokupuni o Maui, H. P. A. A olelo mai o W.C. Jones imua o ka Aha ua makaukau oia e hana i keia hihia, a e nininau kela aoao Ka mea hoopii i Kona mau hoike aka he hoike Ka Ko makou aoao aole nae, oia maanei nei, no ka mea ua loaa loa oia i ka pilikila i ka mai ma Honolulu o ka Mokupuni o Oahu, H. P. A.

Kue mai o R.H. Stanley i ke noi a W.C. Jones, no ka mea he mea pono ole i Ka Aha Ke noho i hoolohe i kekahi aoao apau kana mau hoike e loaa auanei ka manawa o kela aoao e aoao a kuai i kela hoike, ma Honolulu, Mokupuni o Oahu. [page 4]

Olelo mai o R.H. Stanley imua o ka Aha ina e hoopukaia kekahi palapala kii hoike e kekahi mea ua manaoia e ka mea nana i kii ua hoike nei i hooakakaia maloko o ua palapala kii hoike nei, e kakau ma ke kua o ua palapala nei i ke ana o kona hana ana e like me ka mea ana i kauohaia ai e hana i ka makai ai oleia i ka Ilamuku o ko Hawaii Pae Aina.

Waiho hou mai la o W.C. Jones i palapala lawe ike a kela hoike ma Honolulu, Mok. o Oahu, H.P.A. e olelo ana oia no ka hoike nui a lakou i manaonui ai a ua loaa mai ka palapala kii hoike i ka hope makai nui e olelo ana ua mai loa ka mea i kiiia, aole e hiki aku i Lahaina, Mokupuni o Maui, H. P. A. Ke ano nui nae oia palapala he palapala e noi ana imua o ka Aha e hoopanee i keia hihia no ka lawe ana i ka ike a kela hoike ma Honolulu ka Mokupuni o Oahu, H. P. A. e pili ana i ka hihia hooponopono ina palena aina ame ke Ahupuaa o Wailuku ame Kalialinui, ma Wailuku o ka Mokupuni o Maui, H. P. A.

Ku mai o R.H. Stanley a kue mai i keia palapala lawe ika hoike, no ka mea aole hoi i hooakakaia mai ana ka palapala lawe ike hoike, no ka Aha hea la ka ike a kela hoike e waiho mai ai, a imua la o ka Luna Kanawai hea

Na hoike ma ka aoao o na Komisina o na Aina Lei Alii.

Kiha hoohikiia a olelo mai.

Kiha sworn and says:

I Kula kuu wahi i hanau ai ma Kamaole o ka Mokupuni o Maui, H. P. A. Ua noho au me Kamehameha Akahi iloko o ka makahiki 1797.

My birth place was in Kula at Kamaole, Island of Maui, Hawaiian Islands. I lived with Kamehameha First in the year 1797.

Ua ike au i ka aina o Kalialinui, a ua ike no au i ka aina e pili ana ia Kalialinui i oleloia ae la, oia no ka aina o Wailuku, no Kamehameha ia aina. Ua lilo keia wahi ia Kamehameha i ka wa e kaua ana o Kepaniwai, oia ka manawa mua a‘u i ike ai i ua Aina la a hiki wale i keia la. O ko‘u poe Kupuna makuakane Ka Luna Hooponopono o Wailuku, Maui nei. Ina e komo mai kekahi Konohiki iloko o ke Ahupuaa o Wailuku alaila na ku‘u poe Kupuna e Kuhikuhi i na palena o ua Aina la. O ka wa a‘u i ike mua ai i keia aina oia no ka manawa e ola ana o Kamehameha. Aole nae au i lilo i Luna na ke Alii, aka ku‘u poe Kupuna wale no.

I know the land of Kealialinui [Kalialinui], I know the things that have been spoken of, that is for the land of Wailuku, that land is for Kamehameha. This place became Kamehameha’s at the time of the battle of Kepaniwai [ca. 1790], and that was the first time that I saw that land, and to the present day. My grandfather was the one who oversaw the settlements of Wailuku. If a Konohiki came into the ahupuaa of Wailuku, my grandfather was the one who showed him the boundaries of the land. The first time that I saw this land was when Kamehameha was alive. I did not become an overseer for the chief, it was my grandfather.

Ua hele au e nana ina palena o Wailuku me ku‘u mau kupuna, a ua ike hoi au ina palena o Kalialinui e kaawale aku ai o Wailuku.

I went to look at the boundaries of Wailuku with my elders, and I saw the boundary where Kalialinui is separated from Wailuku…

Ua hele au maluna o na palena o na aina o Kalialianui & Wailuku. Ua pinepine ku‘u hele ana maluna o na palena o ua mau aina i haiia la, ua oi aku mamua [illegible] manawa hookahi ku‘u hele ana. Eia na Kanaka i [page 5] hele pu ai me au. O Makalena kekahi, Kuihelani ame Malaihi.

Ua hoomaka mai ka palena o Wailuku mai Kapukaulua mai a hiki i Keone Kapoo, a mai Keone Kapoo

…it begins at the boundary of Wailuku, from Kapukaulua to Keone Kapoo, and from Keone Kapoo to

mai hoi, a hiki i Pohakunahaha, Pohakunahaha...

a mai Pohakunahaha mai holo a hiki i Pohakuolopua, alaila hui o Wailuku me Haliimaile a hiki i Papakaloa, mai Papakaloa mai a hiki i Kauhiana, a mai Kauhiana mai a hiki Puuhinale, he alanui mai laila mai oia Ke Alanui o Hobron, oia ka palena i hui ai o Haliimaile, Kula ame Wailuku. Alaila holo aku la i Kalialinui, o Hokuula mauka, a o Wailuku mai makai ona Aina o Kula keia a‘u e hai nei. Hokuula, Na Pukalani, Na Kuikuiaeo, a o Kailua hoi kekahi inoa ma ka Akau i Kailua pili aku la me Kalialinui a o Wailuku no makai. Alaila ma na Omaopio hiki aku la i Puukoae ma ka hema hui aku la i ke huina Alanui e hiki aku ai i Kealia, Wailuku ame Waikapu.

O Kaluaolohe ka inoa o ka huina o keia mau Alanui. Ilaila hui o Wailuku me Pulehu makai, a hiki aku i Pohaku ame Kaopala. Alaila hui o Wailuku me Waikapu a mai laila holo a hiki i Pohakoi, a mai Pohakoi holo aku la a hiki i Kalapakailio. He aina o Omaomao no Wailuku o Kamaomao, mai Pohakoi mai a hiki i Kalapakailio oia ka palena o Wailuku a hiki aku i Kahului no Wailuku wale no ia mau aina e pili ana me Kapukaulua, mai Kahului a hiki aku i Paukukalo hui maila o Waiehu a no Wailuku no ia mau aina.

Ua ike au he mau loko ia kekahi o Mauoni, ame Kanaha na inoa o ua mau loko ia nei. Aia keia mau loko ia iluna o ka aina o Wailuku o Maui nei. Ua ike maoli au i keia mau Loko ia. He kanaka mau no na Alii. O ke kumu o ku‘u ike ana no Wailuku ia mau lokoia, noho iho la ku‘u kaikuahine me Kuaena. A oia no ka mea nana i malama ia mau loko i haiia ae la malalo o Kamehameha Akahi.

I know the fishponds Mauoni and Kanaha are the names of those ponds. These ponds are upon the land of Wailuku, Maui. I have known these fishponds very well. I was a man for the chief. The reason that I know Wailuku and these ponds is that I stayed with my elder sister and brother. They were the ones who cared for the above mentioned ponds under Kamehameha First.

Pau o Kamehameha Akahi noho iho o Auwae, o Naea mai kona hope ka makua o Emma. A pau oia noho iho la o Keahi. Pau no oia lilo iho la ia P. Nahaolelua ke konohiki i keia manawa.

When Kamehameha First died, they went to Auwae, then Naea was his replacement, the father of Emma. And when he was finished, it went to Keahi. When he was done, it went to P. Nahaolelua, who is the Konohiki at this time.

Ninauia i kela aoao o W. C. Jones ka Loio a olelo mai. Hanau au i Kula. I Hamakua poko au kahi i noho ai, i ka manawa e ana ia ana ka aina o Kalialinui. I laila wau kahi i kuhikuhi pololei ai i ka palena, na Kuihelani au i hoouna mai e hele aku e kuhikuhi i ka palena o Wailuku ame Kalialinui.

Question asked by the side of C.W. Jones, Attorney, and answered: I was born at Kula. I lived in Hamakua poko at the time that the surveying was done at Kalialinui. I pointed out the correct boundaries then. I was sent by Kuihelani to go and point out the boundaries of Wailuku and Kalialinui.

Ua hele pu mai no e Makalena me au. Ua hai mai no na Kanaka kahiko ia‘u ina palena o na Aina i haiia ae la. Ua hele no au maluna oia mau aina a puni ia‘u mamua o ku‘u holo pu ana me Makalena ma e kuhikuhi ai i ka palena aina. Ua hele pinepine no au iluna oia mau aina.

Makalena also came with me. The old people are the ones who told me the boundaries of the said lands. I have been all across the lands, and around them before my traveling with Makalena folks, and shown the boundaries. I have often gone upon the lands…

Ua aoia no hoi au ina [page 6] palena i keia mau aina, mai Hawaii mai a hiki i Kauai. Ua kakauia keia mau mea maloko o ka Buke i ka M.H.1860. Ua hele makou o Kuihelani ame Napela aole no au i hele kaapuni loa i ua aina nei.

Ua aoia au e na poe kahiko i ke kuhikuhi o ka manawa o ka Niaukani. E ola ana no o Kamehameha mua ia manawa ame Kuumiumi ku‘u Kupuna Keoho (K) he kanaka no Kalialinui ame Pulehu. Kamamani, Weka, ame Kuawaeku, na poe i hele pu ai me au ma ia manawa a ia manawa aku. Ua like ka lakou ike me Ka‘u. Aole no lakou i hele a puni kela wahi.

Ua ike makou ia mau loko i Kapaia o Mauoni ame Kanaha. He Alii o Kihapiilani oia ka mea nana i kukulu i ka pa ma kai o na loko ia i hai ia ae la, oia ke Alii o Wailuku, Mok. o Maui. Aole no Ke Kukuluia ana o Ka Pa, oia mau loko he kumu ia e Kaawale ai o Kalialinui ame Ka Aina o Wailuku mai. No ke Alii Ka Aina i kapaia o Kalialinui oia no Ka

…We saw the ponds called Mauoni and Kanaha. The Chief Kihapiilani is the one who made the walls of the ponds spoken of. He was the chief of Wailuku, Is. of Maui; the walls were built for these ponds and are the source that separates Kalialinui and the land of Wailuku. The land called Kealialinui is for the chief, it has been that way from the beginning…

Aina mai Kinohi mai.

Waiho mai o W.C. Jones imua o Ka Aha he kumu ninau a penei. Aole au anei i moe mai ka aina o na Alii mai ke Kuahiwi mai a hiki i Ke Kai.

Kue mai o R.H. Stanley ame ka waiho aku omua o ka Aha i keia ninau a kela aoao ua pono ole, hooholo ia e ka Aha i ka pono ole oia ninau. O ke Konohiki oia ka mea i ka wa Kahiko. O Kahikoku ke Alii o Kula i ku[u] wa uuku. Ua lohe au mai ku‘u poe kupuna o Piikea ke Alii mamua ‘ku o Kahikoku a mamuli hoi o ko‘u ike maoli o mea ke Alii nui o Kahikoku. Haawi aku la o Umi keiki o Liloa ia laua ka malama. Mahope o ka noho ana o Kahikoku i Alii. Lilo iho la o Keaweaheulu kona hope, mahope mai lilo o Aikanaka kona hope a pau hoi oia noho iho o Keohohiwa, a o Keohokalole mai hoi kona hope. O ke Aupuni ka hope loa mai nei, no Kula wale no keia mau Alii.

Eia na Alii o Kalialinui. Keohohiwa ka mua a pau ia noho maila, Kauikeaouli mai, a o Maikaaloa mai a mahope mai hoi o keikimahine o Maikaaloa ka mea i mare ia Panee. Aole i anaia ka aina i ka wa ia Maikaaloa.

Here are the chiefs of Kalialinui. Keohohiwa was the first. When he was finished, then it was Kauikeaouli, and then Ma‘ika‘aloa (Kama‘ika‘aloa), and afterwards, it was the daughter of Ma‘ika‘aloa, who married Pāne‘e. The land was not surveyed in the time of Ma‘ika‘aloa…

Aole mea i hoike mai ia‘u ina palena o Kalialinui. Malihini loa na Alii, aole i ike loa, na kamaaina wale no kai ike i ka palena o keia aina. Aole i hai mai o Keoho ia‘u ina palena o Kalialinui, aka ua hai mai oia ia‘u he loko o Kanaha no ke Ahupuaa o Wailuku, Maui. Ua kaua o Kalalakoa mauka iho o Kanaha no ka manao o ko uka poe i ka ono i ka ia o ka loko o Kanaha ua ike au ia Makaku he Pohaku. [page 8]

Aole ia he hoailona pale. Aole no au i lohe i ka poe kahiko. Ua hoopaneeia ka Aha a hiki i k a la apopo la 22, o Febuari M.H. 1871, o ka hora 10, o ke Ka kahiaka.

Noho hou ka Aha i ka la i hoopaneeia ai oia ka la 22, o Febuari, ua hiki mai no na aoao i elua imua o ka Aha, nonoi o R.H. Stanley e hoohikiia o Malaihi.

Malaihi hoohikiia a olelo mai.

Malaihi, Sworn and States:

I ka wa o Kamehameha mua ku‘u hanau ana. Aia ma Kula, mokupuni o Maui ko‘u wahi e noho nei. Ma Lanai nae ku‘u hanau ana. I Hamakua poko wau kahi i noho ai mamua aku o ka Niaukani. Ua ike au ina aina o Kalialinui mauka mai o Kula.

My birth was during the time of Kamehameha the first. I reside in Kula on the island of Maui. But I was born on Lāna‘i. I lived in Hāmākuapoko before the time of the Nī‘aukani (ca. prior to 1811). I know the lands of Kalialinui, above Kula…

A ua hele no hoi au me kekahi mea ma ka aoao mauka o Hamakuapoko. Eia na kanaka i hele pu ai me a‘u. O Makalena, H. Kuihelani, ame Kiha. Ua hele makou ma ka aoao mauka o Hamakuapoko e pili ana ia Wailuku mai Kapukaulua ka makou wahi i hoomaka mai ai, mai Kapukaulua mai a hiki i Keone Kapoo, a mai
Keone Kapoo mai holo aku a hiki i Hamakuapoko a mai Hamakuapoko aku holo aku la a hiki Pohakunahanaha. Alaila holo aku ma ka aoao o Hamakua ame Wailuku holo hou a hiki Olopua mai laila mai paleia aku la o Hamakuapoko a pili mai o Haliimaile mauka holo hou aku la ka palena o Wailuku me Papakaloa a mai

Papakaloa aku hiki aku i Haliimaile ma ka aoao mauka mai laila mai holo aku la i Kauhiana, a hiki aku la i Haliimaile ame Wailuku. Alaila loaa aku la o Puuhinale a mao mai o Haliimaile hui ae la o Kula me Wailuku kahawai kekahi. Ua koke no i ke alanui o Hopena e pili ana me Hokuula ka aina o Kula mai, Hokuula mai o Kula mauka, a o Wailuku hoi makai a loaa ai o Kalialinui. He kahawai ko ka aina o Kalialinui ame kekahi aoao o ka aina o Kula o Keahua ka inoa o ka aina e pili pu ana me ke kahawai o Kalialinui. He Ahupuaa o Kalialinui ame Keahua. Alaila hui ae la laua a holo mai ia Puukoae oia na aina mauka o Kealialinui ame Omaopio. O Wailuku

From Papakōlea to Hāli‘imaile on the mauka side, from there on to Kauhiana, until reaching Hāli‘imaile and Wailuku. Then there will be Pu‘uhīnale and beyond Hāli‘imaile Kula and Wailuku stream meet as well. It was close to Hopena street adjacent with Hōkū‘ula, the land in Kula; From Hōkū‘ula of upper Kula and to Wailuku returning toward shore there will be Kalialinui. The land of Kalialinui has a kahawai (stream gulch), on one side, on the Kula side of the land is the place called Keāhua. That is the side that adjoins the kahawai of Kalialinui. Kalialinui is an ahupua‘a and so is Keāhua. They meet together and run to Pu‘ukoa‘e, the lands above

hoi makai holo hou aku la a hiki i Pulehunui a hiki aku i ke kai.

Kalialinui and ʻŌmaʻopio. Wailuku is below, running to Pūlehunui, and reaching to the sea…

He huina alanui e pii ana ma Waikapu i Kula. Alaila hiki ae la no i Wailuku. Iho mai makou o Makalena ma a hiki i kai a hai aku la no hoi au ia Makalena mauka iho o Pohakoi, maanei kaʻu wahi ike e pili ana ina palena. O na aina o Pulehunui ame Wailuku. Aia no ma na aoao i Pohakoi. Oia wale iho la no kaʻu mea i ike e pili ana ina palena ame na aina aʻu i hai iho nei imua o ka Aha. I ka wa mamua he mea nui ka pio manu. Eia na mea ko [page 8] Kula poe e hele ai i ka pio manu he Aweoweo he Ilima Elua no maunu, a o ko Wailuku poe kanaka hoi he walahee ka maunu e loaa i ka manu. I Puukoae nae Kahi e hele ai i ke Kapio manu. Ina e hele mai ko Kula poe iluna o Puukoae e Kapio manu ai. Alaila alualu aku la ko Wailuku e Kipaku. Aole e hiki ke kiiia mai ka paakai o Kanaha e ko Kula poe, aole no e hiki i ka Alii ke kii mai!

Ninauia e kela aoao o W.C. Jones ka loio aoao pale.

Ua kuhikuhiia au e na kanaka kahiko ina palena o keia mau aina aʻu e hai ae la. No Kula kuʻu makuakane, kuʻu makuahine no Lanai, kamaaina koʻu 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 kuʻu 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 ku‘u 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 ia‘u oia wale iho la no ka palena o Kalialinui a hiki i Puukoae.

Aole oia i hai mai ia‘u 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 ia‘u ina palena o Wailuku o Maui, Hawaii Pae Aina.

H. Kuihelani hoohikiia a olelo mai.

I Wailuku ku‘u wahi i hanau ai, he kanalima paha o‘u M.H. i noho ai ma keia aina o Wailuku nei a keu aku paha. Ua noho ku‘u 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 ku‘u makuakane ma keia wahi i haiia ae la. He umi paha o‘u 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. Ia‘u ka malama oia kai mai ku‘u makuakane mai oia ka Aina i oleloia iho nei o Pukaulua. Aia no ia ili aina ia‘u 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.

H. Kuihelani, sworn and says:

My birth place is at Wailuku, I have lived on the land of Wailuku for fifty years, a little more perhaps. My father was the konohiki of Wailuku. I was not a konohiki. But, I do know Mauoni and Kanahā. They are fishponds of Wailuku, Island of Maui. When I was little I went with my father to this place spoken of. I was perhaps ten years old at the time. For the King, two fishponds. I went after the time of Kamehameha Third. It was us who cared for those ponds. It was us who took the fish.

When Kamehameha Third died, it went to Kamehameha Fourth; we did not take care of them then. P. Naha‘olelua is the one who cares for these fishponds in the ahupua‘a of Wailuku, Maui. Keāhua is the boundary of Wailuku at the shore. I am the one who has stewardship of sea (fishery); it is from my father; that land mentioned is Pukaulua. I have that land section at this time. The fishery is for the King. People are not allowed to take the fish from within the fishponds, because the harvesting of fish is restricted. Though when the fish overflow from the ponds, then this person and that person can harvest the fish that are on the outside of the ponds. There is also salt there. The

Ua ike au ia Kamaomao, ua koke no ia Pohaku. Ke Ahupuaa o Wailuku, Maui nei o ko Hawaii Pae Aina.

salt is bundled up and taken by the chiefs. I do not know the land of Kalialinui, spoken of. I did not go to take things from Kalialinui. I know of Kamaʻomaʻo, the stone is close to pig-cairn (boundary marker) of Wailuku, Maui of the Hawaiian Islands…

Ninau e kela aoao o W.C. Jones ka loio o ka mea pale.

Ua hoohuliia kanaka i ke kukulu ana i ka pa, mawaho o na loko ia, ma Oopuola. O Kihapiilani ke Alii o Maui ia manawa, nana no i hoohuli na kanaka i ke kukulu ana i ka pa. Ua ike au i ka pohaku o Makaku.

Men were sought out to construct the wall outside of the ponds, at ʻOʻopuola. Kīhāpiʻilani was the Chief of Maui at that time, it was he who sought out the men to build the wall. I know of the stone of Makaku.

O kuʻu lohe he pohaku kela no na uhane e hui ai. Pela mai ka olelo a kekahi poe. Ame Kamaomao kekahi, ua hele makou e ohi i mao no na alii i mea e ala ai na Kapa Aahu o lakou. Aole poe kanaka e ae o no kanaka wale iho la no o Wailuku, Maui, Hawaii Pae Aina.

What I heard was that it is a stone where the spirits gather. That is what some people say. And Kamaʻomaʻo is one also; we used to go gather maʻo [a native hibiscus] for the chiefs, as something with which they would scent their Kapa Clothing. No other people, only the people of Wailuku, Maui, Hawaiian Islands…

Napela hoohikiia a olelo mai.
I Honokowai kuu wahi i hanau ai o ka mokupuni o Maui, H.P.A. Noho au ma Wailuku i ka wa o Kamehameha mua, ma ia wa. Mai laila mai koʻu noho ana ma Wailuku nei a hiki wale i keia wa. Ua ike au ia Kanaha he loko ia aia ma Wailuku, a he loko i-a e ae no kekahi i kapaia o Mauoni, ma ia wahi hookahi no i haiia ae la. Oia kuʻu manawa i ike mua ai i ka wa o Kamehameha mua a hiki wale i keia manawa. Ua hele au ilaila a ua ike maoli au. He Luna holoholona au no ke Aupuni.

Na Kauka Judd wau i hoonoho mai, a o Keoni Ana no kekahi i hoonoho mai iaʻu i Luna holoholona no ke Aupuni. He nui ka i-a maloko oia mau loko ia i kuʻu wa e noho Luna ana. O ke Konohiki o Wailuku ke lawe i ka ia. Aole mea e ae. He

paakai no ko na loko.

Ua ike no au ia Makaku. Aia ia aina i Wailuku nei, Maui. Elua paha mile ke kaawale aku mai Kula aku. [page 11]

Ua kuhikuhiia wau ina palena o Hamakua & Haliimaile. O Kaawa, Kiha, ame Humphreys, oia na mea i hai mai ia‘u ina palena o ua mau aina la. Aia nae ia mau aina iloko o Wailuku, Maui. O Naea ke Alii ia manawa, apau oia noho mai o Namakaeha. A mahope mai hoi o Namakaeha lilo iho la o Keahi ke Konohiki, a keia manawa hoi ka mea Hanohano P. Nahaolelua. He aina o Kamaomao no Wailuku nei, kokoke loa i Makaku, mauka iho oia mau loko i-a o Wailuku, Maui.

Ninauia e ka loio W.C. Jones o ka aoao pale. Aia o Kalialinui ma uka loa aku. Ua lohe au i ka Aina o Kalialinui. A ua ike au ina hale olaila. Aole kamaaina i kuhikuhi mai ia‘u ina palena o Kalialinui. I ka M.H.1846. Ko‘u ike ana.

Hoomaha ka aoao hoopii, oia hoi na Komisina o na Aina Lei Alii.

Ua waiho mai o Makalena ke Ana Aina i ke ana ame ke kii o keia aina o Wailuku ame na kamaaina i hele pu ai me ia eia na inoa o lakou. Kiha, Kuihelani, ame kekahi poe e ae he nui wale. Nolaila ua ae mai na aoao i elua o keia hihia o E. Mayor ka mea nana i ana i ke kii o Kalialinui ame na mea i hoakakaia maloko oia palapala Kii. Ua hoopaneeia ka Aha a hiki i ka hora Elua o ke Awakea o keia la.

Hoike ma ka aoao pale o Campbell ame Turton.

Hikiau hoohikiia a olelo mai.

Ua noho au ma keia wahi, mai ia Kamehameha mua mai (Maui) 94, o‘u makahiki. Ua ike no au ina palena makai nei o Kalialinui. I ka wa i make ai o Kamehameha mua lilo iho ia Kamehameha Elua.

Pii makou o Liholiho ame Auwae i uka nei i ka pana iole. Makai mai o ka palena o Kalialinui e pili ana me

Hikiau Sworn and Stated:

I have lived at this place since the time of Kamehameha the first (on Maui), I am 94 years old. I have seen the boundaries of Kalialinui. When Kamehameha the first died, it was obtained by Kamehameha the second.

We climbed up with Liholiho and ‘Auwae, to shoot ‘iole in the uplands. On the shoreward section, Kalialinui,

Wailuku oia no o Aiuhini. bounds with Wailuku, at Aiuhini...

A moe aku la i Keonekapoo. Oia wale iho la no ka‘u mea i ike. Ua ike au ia Puukoae. Oia ka palena o Kula me Kalialinui. Ua loihi loa o Puukoae mai Aiuhini mai. Aia o Aiuhini ma kai loa. He mau pohaku kekahi ma Aiuhini. Hiki no ia‘u ke kuhikuhi, aka imua o P. Nahaolelua. Auwae ke Konohiki ia manawa o makou i ike ai. Make o Auwae ma Owa Wailuku nei. Aole au i ike i ka palena o Kalialinui.

Noi mai o W.C. Jones imua o ka Aha e waiho hoona ma ia ka Aha, no ka lawe i ka ike a ka makou hoike i manaonui ai ai ma Honolulu, Oahu, aole o makou. Aole o makou hoike e ae e lawe mai ana, oia wale no, ua ae kela aoao. [page 12]

#### *3.2.3.2 Haliimaile Ahupuaa, District of Hamakuapoko, Island of Maui, Boundary Commission, Maui, Volume No. 1, pps. 191-194*

Ahupuaa o Haliimaile ma ka apana o Makawao, Maui
No. 60

Hale Hookolokolo, Wailuku, Maui, Oct. 14, 1880
Ua noho ka Aha o ka Komisina o na Palena Aina o Maui, Molokai, ame Lanai. ma ka Hale Hookolokolo ma Wailuku, Maui, ma ka la 14 o Okatoba M.H.1880, ma ka hora 10 o ke kakahiaka, e like me ka hoolaha ana ma na nupepa ko Hawaii Pae Aina, o ka la 9 o Okatoba M.H.1880. ma ka Helu 41, Buke III a ma ka nupepa Haole “Hawaiian Gazette”, no ka hooponopono ana i na palena o Haliimaile ma Makawao, Maui ko Hawaii Pae Aina, ma ke noi ana mai o S.B. Dole Esquire ma ka Palapala Hoopii i waihoia mai ma ka la 28 o Aperila M.H. 1880.

Ua hoomaopopoia ka Palapala Hoopii. Ua kaheaia ka poe kue i keia nonoi ana mai a S.B. Dole Esquire, aohe poe kue i hele mai.

O W.O. Smith Esquire ka loio a kokua hoi ma ka aoao o ka mea hoopii

Ua nonoi mai ke kokua o ka mea hoopii e hooholo keia Aha i na palena o Haliimaile e like me na palena a W.D. Alexander ka Luna Ana Aina nui o ke Aupuni. A ua ae ka Aha i keia nonoi ana mai.

L. Aholo, Komisina o na Palena Aina ma Maui, Molokai ame Lanai. [page 191]

Notes of Survey of Boundaries of the Ahupuaa of Haliimaile, Maui

Beginning at an Iron stake in the road from Makawao to Kahului at the common corner of the East Maui Plantation of the Hobron Plantation and of Royal Patent 2324:2 to Kekahuna from which the granite post on Piiholo bears S 55° 39' E true, the Boundary runs:

1. N 62° 57' W true (N 71° 20' W magn) 1854 feet to a kukui tree, along land purchased by T.H. Hobron from the Haiku Sugar Co. (according to W.H. Pease's survey corrected); thence
2. N 73° 26' W true (N 82° W magn) 5509 feet; and
3. N 38° 12' W true (N 46° W magn) 1202 feet along the same to a corner of Alexander and Baldwin's purchase from Haiku Sugar Co. (which is 158 feet S 36° 45' E true from a granite post by the road to Kahului); thence
4. N 51° 24' W true 10939 feet along Alexander & Baldwin Purchase to the boundary of land sold by the Haiku Sugar Co. to a company of 28 natives; thence
5. S 51° 15' W true (S 43° W magn) 1619 feet along land sold to natives, to iron pin; thence
6. N 89° 45' w (S 81° 15' west magn) 300 feet along land sold to natives to the rock called Olopua in a ravine, which forms the Boundary between this land and Wailuku; thence
7. S 26º 40' E true (S 35 1/2° E magn) along said ravine 1304 feet along Wailuku to a place called Puupili; thence
8. S 21° 17 E true (S 30° E magn) 1680 feet along ravine to a marked rock called Kaioleakalani about 170 ft above the road to Kahului; thence
9. S 17° 04' E true (S 25 3/4° E magn) 1592 ft to a pile of stones at Kauhiana or West side of the ravine; thence [page 192]
10. S 22° 15' E true (S 40 3/4° E magn) 1390 ft to a marked rock by the path at Puhinali [Puuhinale]; thence
11. S 35° 07' E true (S 42 1/4° E magn) 3508 ft to a wiliwili tree on West bank of the gulch, which is the corner of Wailuku and the district of Kula. From this point the middle of this gulch is the boundary between Haliimaile & Kula; thence
12. N 70° 03' E true (N 61 1/2° E magn) 330 ft to large marked rock in the wall at the bottom of the ravine; thence
13. S 54° 50' E true [(S 63 1/4° Magn] 558 ft to the junction of two stone walls in the gulch; thence
14. S 57° 29' E true 482 ft along the bottom of the gulch to corner of stone wall; thence
15. S 2° 40' E true 878 feet along bottom of the gulch;
16. S 37° 41' E true 1400 ft along bottom of the gulch;

17. S 50° 12' E true 824 ft along bottom of the gulch;
18. S 47° 33' E true 1108 ft along bottom of the gulch;
19. S 75° 42' E true 958 ft along bottom of the gulch; thence
20. S 64° 43' East true 247 feet along bottom of gulch to the corner of the former Brewer Plantation; thence
21. S 52° 44' E true 1995 ft along the gulch;
22. S 59° 12' E true 1058 ft along the gulch;
23. S 72° 28' E true 1653 ft along the gulch;
24. S 32° 02' E true 2738 ft along the gulch;
25. S 14° 53' E true 2475 ft along the gulch;
26. S 40° 54' E true 506 ft along the gulch to the top of falls in the gulch, which is the corner of the former Brewer Plantation & of the land purchased from Mrs. Haalelea by J. Clark; thence
27. S 81° 52' E true 376 ft along the bottom of the gulch;
28. S 60° 57' E true 528 ft along the same to the boundary of Makawao; thence
29. N 35° 29' E true 521 ft along Grant 216; thence
30. N 14° 33' E true 1678 ft along the same, along <u>an ancient ulumaika course</u>, to an iron stake at the corner of the former Brewer Plantation and of Grants 216 & 499; thence
31. N 53° 49' E true (N 46 E magn) 4200 f along Grants 499 & 216; thence
32. N 53° 28' E true 1248 ft along Grant 641 to East Maui Plantation; thence
33. N 43° 15' E Magnetic 1627 ft along Grant 64; [page 193]
34. N 52° 30' E magnetic 1455 ft along Grant 64 to S.W. bank of the <u>Maliko</u> gulch; thence
35. N 36° E magnetic 980 ft along Grant 64, down the pali to the bottom of the deep gulch, separating this land from <u>Haiku</u>;
36. Thence the boundary follows down to centre of the Maliko gulch in a North-Westerly direction to the upper Southeast corner of <u>Hamakuapoko</u>;
37. Beginning again at the starting point of this description at the iron stake in the Makawao corner near a School house, run N 60° 07' E true (N 51° 21' E magn) 2655 ft along Grant 2342 to Kekahuna & Grant 187 to John Richardson, & thence
38. N 69° 33' East true (N 58 1/2° magnc) 1002 ft to the bottom of Maliko gulch to the southeast upper corner of Hamakuapoko mentioned above.

Total area = 4230 Acres, more or less.
Makawao, June 21, 1879
W.D. Alexander, Surveyor

L. Aholo
Commissioner of Bounds for the Islands of Maui

Molokai & Lanai.
Lahaina, Oct. 16, 1880

#### *3.2.3.3 Wailuku Ahupuaa (Aina Lei Alii) District of Wailuku, Island of Maui, Boundary Commission, Maui, Volume 1, p. 13, No. 1, Maui, Palena Aina a ke Komisina, Palapala keia o na palena o ke Ahupuaa o Wailuku o Maui*

Ma ka noi ana mai a ke Komisina o na Aina Lei Alii (Jno O. Dominis) kiaaina o Oahu, a ma ka mana hoi i haawiia mai ia‘u ma ke kanawai i Luna Komisina no na palena aina o Maui, a ma keia ke hooholo nei au ina palena o ke Ahupuaa o Wailuku ma ka Apana o Wailuku o ka Mokupuni o Maui, ke hoakakaia aku nei malalo penei.

Ua haawi malalo o ku‘u lima ma Lahaina i keia la Elua o Maraki o ka M.H. 1871

P. Nahaolelua, Komisina o na Palena Aina o ka mokupuni o Maui

Eia na palena o Wailuku i anaia e J.W. Makalena. E hoomaka ana ma ke kihi Akau loa o Wailuku ma kahi i kapaia Kapukaulua, ma ka Puupohaku iwaena o ke one 3 4/10 kaulahao mai ke kai. A mailaila ka moe ana ae o ka Hao Kuhikuhi o ke panana i kahi oioi loa o Puukoae i Kahakuloa
Akau 66° 30’ Komohana ame kahi oioi loa o Piiholo i Makawao
Hema 63° 30’ Hikina a holo
Hema 17° 30’ Hikina 16 1/10 kaulahao i kahi i kapaia o Keonekapoo
Hema 48° Hikina 46 9/10 kaulahao i ka Poopohaku i ka nuku o kahawai, a holo ma ke kahawai
Hema 34° Hikina 14 2/10 kaulahao ma Hamakuapoko ai Haliimaile, i ka pohaku i kapaia o Olopua
Hema 35° Hikina 20 kaulahao i ka pohaku o Puuiki
Hema 29° Hikina 35 4/10 kaulahao i ka pohaku i kapaia Kaioleokalani kokoke i ke alanui ma Kapapakaloa
Hema 25° Hikina 25 kaulahao iluna o kahonua
Akau 41° Hikina 73 9/10 kaulahao ma ka honua a hiki i ke kumu Wiliwili ka palena o Wailuku me Kula ma ke Ahupuaa o Nahokuula [Hokuula] kahi i kapaia o Puahinale me Kaulehulehu, alaila holo ma Kula
Hema 27° 30’ Komohana 81 kaulahao ma Hokuula, Napukalani, na Kauau a hiki i Keahua ma ke kumu laau Akoko i ka puupohaku
Hema 20° 15’ Komohana 91 8/10 kaulahao ma Keahua na Omaopio i ka puupohaku i ka laau Akoko alaila holo
Hema 23° Hikina 141 8/10 kaulahao ma na Omaopio ma ka lihi makai o ka Mahina Palaoa o Kekipi ma a hiki i kapohaku i kapaia o Puukoae

Hema 30° 30' Komohana 43 3/10 kaulahao ma Omaopio a hiki i ka huinao na alanui o Wailuku me Waikapu e pii ai i uka o Kula ma Pulehu i kai mai o Waihonu ka huina alanui keia i oleloia e na Luna Hoona ma ka lakou olelo hooholo no ka palena mawaena o Wailuku me Waikapu, alaila holo pololei e like me ka lakou hooholo ana
Akau 76° Komohana hiki i kahi i kapaia o Pohakoi
Akau 85° Komohana 80 7/10 kaulahao
Hema 86° 15' Komohana 16 8/10 kaulahao hiki i ke kumu o ka Lapaokailio pili keia mau aoao me Waikapu.

#### *3.2.3.4 Wailuku Ahupuaa, District of Wailuku, Island of Maui, Boundary Commission, Maui, Volume No. 1, pps. 216-219, Ahupuaa o Wailuku, No. 65*

Hale Hookolokolo Wailuku, Maui, Sept. 21, 1882
Ua noho ka Aha Komisina o na mokupuni o Maui, Molokai a me Lanai, ma ka Hale Hookolokolo ma Wailuku Maui, ma ka la 21st. o Dekatemaba, M.H. 1882, ma ka hora 10 o ke kakahiaka, e like me ka Hoolahaia ana ma na nupepa "Ka Elele Poakolu" a me na nupepa haole "The P.C. Advertiser".

Ua hiki mai o F.F. Porter, ma ka aoao o Claus Spreckles ka mea hoopii. A o Meekapu nona iho. O M.D. Monsarrat ma ka aoao o na Aina Lei Alii a ma ka aoao o na Kahu o ka Waiwai o ka Moi Lunalilo.

Hookakaia ka Palapala Hoopii, a ninauia ka poe kue. Aohe poe i hiki mai.

Hookaka mai o Meekapu i kekahi mau mea, a pau kana ua laweia mai o M.D. Monsarrat i Hoike a Hoohikiia a hai mai.

He Ana Aina kau hana, nau i ana ke Ahupuaa o Wailuku nei. Aole au i hele a puni o Wailuku nei, aka, ua lawe au i na palena i apono mua ia, ma ka hooponoponoia ana o na palena o Hamakuapoko, Pulehunui e pili ana me Wailuku nei. A ua hooponoponoia e au na palena e pili la me Waiehu, mai loko mai o na palena i hooholo mua ia.

Hoike mai la o M.D. Monsarrat no ka aoao o na Kahu Waiwai o ka Moi Lunalilo, a me na Komisina o na Aina Lei Alii, ua ae lakou i keia mau palena, ma keia palapala ana o M.D. Monsarrat. Aole mea kue. [page 216]

Survey of the Ahupuaa of Wailuku, Maui

Beginning at a red wood post and hill of stones on the sea shore adjoining the

land of Hamakuapoko at the place called Kapukaulua. From which post the Government survey station on Puunene bears S 8° 15' W true and running.

1. S 9° 39' E true 1062 feet along Hamakuapoko to Keonekapoo
2. S 40° 7' E true 3018 feet along Hamakuapoko to a pile of stones at Nukukahawai;
3. S 22° 3' E true 934 feet to a large rock called Olopua which forms the corner of Wailuku, Haliimaile and Hamakuapoko; thence
4. S 26° 40' E true (South 35 1/2° East Magn) 1304 feet along Haliimaile to Puupili; thence
5. S 21° 17' E true (S 30 E magnc) 1680 feet along the ravine to marked rock called Kaioleakalani, about 170 feet S of the way to Kahului; thence
6. S 17° 4' E true (S 25 3/4 E magn) 1592 feet to a pile of stones at Kauhiana, on West side of the ravine; thence
7. S 32° 18' E true (S 40 3/4 E magnc) 1390 feet to a marked rock by the path at Puhinali;
8. S 35° 7' E true (S 42 1/4 E magn) 3508 feet to a wiliwili tree on West bank of the gulch, which is the corner of Wailuku, Haliimaile and the District of Kula; thence
9. S 36° 27' W true 5346 feet along Kula;
10. S 29° 21' W true 6059 feet along Kula;
11. S 28° 36' W true 932 feet along Kula to a concrete post marked with a cross at the north West corner of Kalialinui and Wailuku; From which the government survey station on Puu o Koha bears S 38° 25' E true; thence
12. S 28° 36' W true 8376 feet along Kalialinui to lots of large rock called Puukoae; thence
13. S 36° 41' W true 3060.5 feet along Kalialinui to a granite post at the corner of Kalialinui, Wailuku and Pulehunui; thence when the government Survey Station on Puu Hele bears South 82° 6' W true; thence
14. N 64° 5' W true 36030 feet along Pulehunui and Waikapu to Pohakoi, a marked rock a short distance West of road to Waikapu; thence
15. N 13° 45' W true (N 85° West magn) 5326.2 feet along Waikapu up ridge;
16. N 82° 30 W true (S 86° 15' W magn) 408.8 feet along [page 217] Waikapu to a stone post on the crest of the ridge known as Kalapakailio;
17. Thence along up the center of this ridge along Waikapu always following the water shed to the ridge forming the head of Olowalu Valley;
18. Thence following said ridge dividing this from Olowalu Valley;
19. Thence around by the ridge forming the head of Wailuku Valley to the head of the land of the land of Waihee;
20. Thence along the dividing ridge between the Wailuku and Waihee Valleys to the head of Waiehu; Thence
21. S 70° 39' E true 3366 feet along Waiehu down ridge;

22. N 80° 36' E true 2161.5 feet along same to junction of ridge called Kahoolewa;
23. N 63° 36' E true 6385.5 feet along same;
24. N 85° 6' E true 3445.3 feet along same to end of ridge; thence
25. N 89° 51' E true 1039.5 feet along same to black rock marked thus [arrow to right] at edge of gulch; thence
26. N 71° 21' E true 427.7 feet along Waiehu along edge of gulch;
27. N 16° 51' E true 569.6 feet along same to point near a large block stone marked [arrow to right];
28. N 66° 36' E true 803.9 feet along same;
29. N 46° 6' E true 937.2 feet along Waiehu;
30. N 46° 21' E true 1029.6 feet along Waiehu;
31. N 49° 36' E true 1025 feet along Waiehu to stone marked thus [arrow to right];
32. N 20° 30' W true 128 feet along Waiehu;
33. N 22° 15' E true 244 feet along Waiehu;
34. N 11° 44' W true 310 feet along Waiehu;
35. N 57° 50' E true 264 feet along Waiehu;
36. S 44° 30' E true 753 feet along Waiehu along stone wall;
37. N 73° 00' E true 674 along Waiehu along stone wall to tall stone marked [arrow to right] bears S 70° 21' W true 1458.6 feet; thence
38. S 66° 6' E true 1607.8 feet crossing the Government road to stone marked [arrow to right] at sand hills; thence
39. N 77° 52' E true 1589.3 feet along Waiehu across sandy hollow to stone marked [arrow to right]; thence
40. N 65° 45' E true 1083.7 feet along Waiehu to a stone marked [arrow to right] at sea shore; [page 218]
41. Thence along sea shore to initial point.

Area 24000 acres more or less.

Notes from various Boundary Certificates and Government Survey Maps by M.D. Monsarrat, Surveyor

Honolulu July 22nd, 1882
S. Aholo, Commissioner of Boundries for the island of Maui, Molokai and Lanai.
Lahaina, Maui
September 25, 1882

#### *3.2.3.5 Ka Moolelo o Kihapiilani (The Tradition of Kihapiʻilani)*

In 1884, native historian Moses Manu, a contributor to accounts published by Abraham Fornander (1918 & 1996), published *"Ka Moolelo o Kihapiilani"* in *Ku Okoa* (January 12 to August 23, 1884). A part of the account includes reference to Kihapiʻilani's rise to rule over Maui and construction of the great fishpond complex of Kanahā in Kahului. The following excerpt, translated by Maly, is a synopsis of Manu's narratives:

> ...Upon securing his rule over Maui, Kihapiʻilani determined that he was going to build a *heiau,* a house for the gods... Kihapiʻilani then called upon the chiefs and commoners alike, having them gather the *ʻalā makahinu* (dense basalt stones) to build an *alanu* (trail).
>
> The trail began at the stream of Kawaipapa and Pihehe and entered the *hala* forest of Kahalaowaka. From that place, it went to the forest of ʻAkialaʻa at Honomāʻele... The trail was also set out at Kaupō, from the stream (gulch) of Manawainui to Kumunui. That was the extent of the work of the king and the people. He then began the paving in the forest of ʻOʻopuloa [i.e., ʻOʻopuola], at Koʻolau, extending from Kawahinepeʻe to Kaloa, then on to Pāpaʻaʻea, and on to Kaʻohekanu at Hāmākua Loa...
>
> Now when the King (Kihapiʻilani) completed his work in this area, he moved and lived at Kahului, where he began the collection of stones for the *kuapā* (fishpond walls) of Mauoni and Kanahā. He is the one who caused the water in those two ponds to be separated and given two names. The *kuapā* is still there to this day, but a large portion of it has been lost, covered under the sands flying in the winds. When this work was completed, Kihapiʻilani then departed for Waiehu and ʻĀʻāpueo... (Manu in *Nupepa Ku Okoa,* August 23, 1884: 4; Maly and Maly 2003: 81)

### 3.2.4 Biocultural Resources

Biological resources are of great importance to Hawaiians. They are critical to traditional or customary practices. Therefore, this CIA incorporates the results from the biological assessment conducted for the EA and identifies the extent to which these resources are also important to traditional or customary practices.

Tetra Tech, Inc. (Tetra Tech) completed a biological survey of the 2.8-acre study area (Tetra Tech 2021: 1). Biological resources identified that may have cultural use or value are discussed below.

#### *3.2.4.1 Water Resources*

According to the report biological assessment:

> The Study Area is within the ʻIao watershed (CWRM 2008). Wetlands, streams, ditches, and other features identified in the vicinity by the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) data (NWI 2020), the U.S. Geological Survey (USGS) topographic and National Hydrography Dataset (NHD 2020), and the State of Hawaiʻi Division of Aquatic Resources (DAR) dataset (DAR 2008)… The closest identified waterbody from these datasets is a pool roughly 0.8 miles to the northeast. Kahului Harbor is located roughly 0.9 miles to the north of the Study Area (see Figure 2). Kanahā Pond State Wildlife Santuary is roughly 1.4 miles to the northeast of the Study Area (Tetra Tech 2021: 3).

It is not anticipated that the project will adversely impact the ʻIao watershed or any of the traditional activities, particularly those associated with traditional farming, that occur in the area.

The project area is approximately 0.9 miles away from the Kahului Harbor (Tetra Tech 2021: 3) and is not anticipated to adversely impact coastal or marine resources.

#### 3.2.4.1.1 Kanahā and Mauʻoni Loko Iʻa

Northeast of the project area lies the Kanahā Pond Wildlife Santuary. The biological assessment identifies its as a wildlife sanctuary (Tetra Tech 2021: 3), but the site was traditional a significant cultural site and resources.

This sanctuary was originally the site of the famed loko iʻa of Kahului: Kanahā and Mauʻoni. Accounts differ as to the origin of the ponds, but the ponds were most likely built during ancient times and rededicated more contemporaneously. One account explains: “The fishponds date back for many centuries and were rededicated under Kiha-a-Piilani and Umi-a-liloa who was his brother-in-law, in the middle 1500s. During the reign of King Ke-kau-li-ke, who died in 1736, the twin ponds of Kanaha and Mauʻoni were again repaired along their walls” (Ashdown 1976: 5). Aliʻi used the ponds to raise fish for consumption and the ponds were of great significance to the people of the land.

Moʻolelo recount the features surrounding the loko iʻa. In one story about Kiha-a-Piilani, Manu wrote: “When the chief left Waiehu, this man went ahead and the chief behind and this is how they were as far as Wailuku, down to the sea of Pohaku and up to sand ridge called Makanipalua. In no time their feet tread the soft sounding sands of Kahului. There dawn broke over them and the sky glowed. The houses of Kahului were left behind them in the dark. They approached Kanaha and Mauoni. It was fully light when they reached the boundary of Kanaha.

They rested there for a while and washed their faces with water" (Maly and Maly 2006: 19, citing Manu 1884).

The pond was still in operation as of 1837, when the village of Kahului included 26 hale pili (traditional house thatched with pili (*Heteropogon contortus*)[13] grass). There was another reference to the ponds in the Hawaiian language newspapers in 1865 which read: "Wailuku, the district to whom the Hekuawa trees belong and the best of sugar growing lands. Therefore, O ye who dwell near the fish ponds of Kanaha and Mauoni and who pull up the taro plants of Kahului" (see Sterling 1998: 74)[14]. The ponds, like most loko iʻa, consist of brackish water and are fed by a fresh water spring, which resulted in the ponds having good quality. Today, the pond ecosystem consists of over 240[15] acres of wildlife habitat.

The ponds became part of the Naval Air Station, Kahului during World War II. Kanahā Pond was designated as a wildlife refuge in 1952. It was returned to the Territory of Hawaiʻi in 1956 and fell under the control of the Hawaii Department of Transportation (HDOT) in 1969 thorugh Executive Order No. 2427. In 1971, the National Parks Service declared the area a National Natural History Landmark. In 1996, a Memorandum of Understanding codified the site to be managed for the protection of wildlife and endangered birds by the State of Hawaiʻi DLNR Division of Foresty and Wildlife (DOFAW).

Today, it is referred to as the Kanahā Pond Wildlife Sanctuary (KPWS). A review plan by the U.S. Army Corps of Engineers (USACE), Honolulu District, explained that KPWS "consists of a series of brackish ponds and associated wetlands on 23 (sic) acres of land located within the isthmus area of Maui between the town of Kahului and the main airport" (USACE 2012). The plan further explained:

> When Kahului Harbor was dredged around 1910, a portion of Kanaha pond in the vicinity of the junction of Kahului's Main Street and Haleakala Highway was filled with material dredged from the harbor. During the partial filling of the pond, the existing overflow drainage ditch was replaced with a new channel, with control gates and an outfall to the ocean. The U.S. Navy also altered the land within KPWS considerably during construction of the Naval Air Station Kahului (NASKA) in the 1940s. During and after World War II, numerous munitions

[13] The presence of hale pili implies that pili grass was present in the area. Pili grass was commonly found throughout Hawaiʻi and it is "known in many warm regions, formerly used for thatching houses in Hawaiʻi; sometimes added to the hula altar to Laka, for knowledge to pili or cling" (Pukui and Elbert 1971).

[14] The original text reads: "O Wailuku. O ka apana nona ka Hekuawa o ka helu akahi o na apana mahi ko, nolaila, ua loko e pili ana o Kanaha la a me Mauoni, e na keiki e huki ana i ka ia huki kolo [kalo] o Kahului, ala mai a lawe i Ke Au Okoa" (Nailili 1865: 2).

[15] The U.S. Army Corps of Engineers identified the Sanctuary as being 237 acres in 2012. In 2014, DLNR added a 7.97-acre parcel to the sanctuary.

bunkers and fill-based access roadways were constructed within the KPWS. As a result of these activities, the northeastern portion of the original pond was filled between 1930 and 1954.

In addition to the physical alteration of the ponds during construction of Kahului Harbor and NASKA, the A&B and airport drainage culverts were constructed along the east and west sides of KPWS in the 1970s and 1980s. These large concrete drainage culverts divert storm water runoff, keeping it from entering the ponds and consequently changing the overall amount of water recharge to and circulation within the ponds (USACE 2012).

While these important loko iʻa are in the larger region, the proximity to the project area such that the project would have the potential to impact these properties or their resources.

#### *3.2.4.2 Flora Resources*

The biological assessment identified a total of 44 plant species within the Study Area (Tetra Tech 2021: 6). Only one species, hala (Pandanus tectorius), was native (**Figure 12**).

**Figure 12. Image of the hala tree. Photo by Maui Cultual Lands. n.d.**

The hala was identified during the site visit by Honua Consulting on December 14, 2021 (**Figure 13**).

**Figure 13. Photo by Honua Consulting, LLC, taken December 14, 2021, showing hala on property. Recent severe weather knocked over a nearby niu (coconut) tree.**

It is commonly found throughout the islands, but the abundance of the species has been greatly reduced by development and human activity. It holds important cultural significance, and it often used in both traditional and customary practices. It is widely utilized in traditional practices by Hawaiians.

The project should make every effort to preserve the hala trees on the property area to the extent possible and should further expand the number of species on the property. Ideally, a landscape plan that focuses on the hala and add into the plan its companion plants would best preserve this cultural resource and associated traditional and customary practices. The companion plants of the hala are ʻūlei, ʻākia, ʻilima, maʻo, loulu, naupaka kahakai, ʻōhiʻa and native ferns (University of Hawaii 2009).

**Figure 14. Hawaiian woman washing lauhala on Maui (Photo Ray Jerome Baker, ca. 1915, Hawai'i State Archives, reference number)**

The introduced kiawe (*Propsopis pallida*) are also found along the edges of the Study Area (Tetra Tech 2021: 6). Kiawe is both introduced and highly invasive, but Hawaiians and other ethnic groups have innovative ways of utilizing this wood for cooking and other similar purposes. It is not believed that the kiawe in this area is used for such purposes or that removal of this vegeation would have any impact on these customary practices.

#### *3.2.4.3 Fauna Resources*

The biological assessment identified nine birds in the Study Area (Tetra Tech 2021: 8). None are native or have any cultural use.

### 3.2.5 Intangible Cultural Resources

It is important to note that Honua Consulting's unique methodology divides cultural resources into two categories: biocultural resources and built environment resources. We define biocultural resources as elements that exist naturally in Hawai'i without human contact. These resources and their significance can be shown, proven, and observed through oral histories and literature. We define built environment resources as elements that exist through human interaction with biocultural resources whose existence and history can be defined, examined, and proven through anthropological and archaeological observation. Utilizing this methodology is critical in the preparation of a CIA as many resources, such as those related to akua (Hawaiian gods), do not necessarily result in material evidence, but nonetheless are significant to members of the Native Hawaiian community.

Hawaiian culture views natural and cultural resources as being one and the same: without the resources provided by nature, cultural resources could and would not be procured. From a Hawaiian perspective, all natural and cultural resources are interrelated, and all natural and cultural resources are culturally significant. Kepā Maly, ethnographer and Hawaiian language scholar, points out, "In any culturally sensitive discussion on land use in Hawaii, one must understand that Hawaiian culture evolved in close partnership with its natural environment. Thus, Hawaiian culture does not have a clear dividing line of where culture ends and nature begins" (Maly 2001: 1).

#### *3.2.5.1 'Ōlelo No'eau*

'Ōlelo no'eau are another source of cultural information about the area. 'Ōlelo no'eau literally means "wise saying" and they encompass a wide variety of literary techniques and multiple layers of meaning common in the Hawaiian language. Considered to be the highest form of cultural expression in old Hawai'i, 'ōlelo no'eau facilitate understanding the everyday thoughts, customs, and lives of those that created them.

The 'ōlelo no'eau presented here relate to Kahului, and its larger ahupua'a, namely Wailuku. These 'ōlelo no'eau are found in Pukui's *'Ōlelo No'eau: Hawaiian Proverbs & Poetical Sayings* (1983). The number preceding each saying is provided.

1711 Ke inu aku la paha a'u 'Ālapa i ka wai o Wailuku.
*My 'Ālapa warriors must now be drinking the water of Wailuku.*
Said when an expected success has turned into a failure. This was a remark made by Kalaniōpu'u to his wife Kalola and son Kiwala'ō, in the belief that his selected warriors, the 'Ālapa, were winning in their battle against Kahekili. Instead they were utterly destroyed.

1722 Ke kai holu o Kahului.
*The swaying sea of Kahului.*

Refers to Kahului, Maui.

2300 Na wai ʻehā.
*The four wai.*
A poetic term for these places on Maui: Wailuku, Waiehu, Waiheʻe, Waikapū, each of which has a flowing water (wai).

2351 Nūnū lawe leka o Kahului.
*Letter-carrying pigeon of Kahului.*
In 1893 carrier pigeons arrived at Kahului, Maui. One was brought to Honolulu and released with a ltter tied to its neck. It flew back to Kahului. This was of such great interest to the people that a song was written and a quilt design made to commermorate the event.

2578 Pākāhi ka nehu a Kapiʻioho.
*The nehu of Kapiʻioho are divided, one to a person.*
Kapiʻioho, ruler of Molokaʻi, had two ponds, Mauʻoni and Kanaha, built on his land at Kahului, Maui. The men who were brought from Molokaʻi and Oʻahu to build the ponds were fed on food brought over from Molokaʻi. The drain on that island was often so great that the men were reduced to eating nehu fish, freshwater ʻōpae and poi. The saying is used when poi is plentiful but fish is scarce and has to be carefully rationed.

2647 Pili ka hanu o Wailuku.
*Wailuku holds its breath.*
Said of one who is speechless or petrified with either fear or extreme cold. There is a play on luku (destruction). Refers to Wailuku, Maui.

2912 Wailuku i ka malu he kauwa.
*Wailuku in the shelter of the valleys.*
Wailuku, Maui, reposes in the shelter of the clouds and the valley.

#### *3.2.5.2 Mele*

Honua Consulting completed searches of mele written about the ahupuaʻa of Kahului.[16] Maui historian Inez Ashdown wrote in 1976 about the importance of mele:

> The natives of Hawaiʻi Neʻi saw the Creator in everything and the Haku Mele or Music Masters delighted in presenting the chants and songs, mele and oli, to inspire the people. Such mele tell of God's assistant spirits which, to the

[16] It should be noted that there are numerous mele about the larger Wailuku area that have not been included in this assessment as they did not yield information closely associated with the project area.

> imaginative natives, represented the winds, rains, and so on. Each spirit of creation was depicted as male or female and was given a personality and a name indicative of purpose. Hence the name of the volcanic action creating and cleansing the earth. She is beautiful, alluring, desirable. She also is unpredictable because she is tempermental and usually full of fiery emotions. She is an old woman asking help when she lies to test mortals, and woe betide anyone who is rude or inconsiderate of this form of an older person to whom respect and Aloha must be given (Ashdown 1976: 3).

The following mele was written by Palani Vaughan in honor of the first passenger train service in Hawaiʻi, which was between the town of Kahului and city of Wailuku on Maui on July 29, 1879. Railroad building in Hawaiʻi was the result of the encouragement by King David Kalākaua (Vaughn 2015).

**Kaʻa Ahi Kahului – by Palani Vaughn**

| | |
|---|---|
| Eia ka moʻolelo pōkole | Here is the short story |
| No ke kaʻa ahi mua o Hawaiʻi Nei | About the first train in Hawaiʻi |
| Chūkū-chūkū maila, chūkū-chūkū maila | Choo-choo, choo-choo |
| Koʻehu (kuehu) aku ma ke alahao | Stirring dust along the tracks |
| | |
| Hūlō, Hūlō, no Ka Lani e | Hurrah! Hurrah! for the chief |
| No Ka Lani ʻO Kalākaua | For the chief, Kalākaua |
| Ke mea i kākau kona inoa | The one who signed his name |
| Ma ka Palapala no ka chūkū-chūkū | On the Act for the Railroad |
| | |
| Lohe mai e nā keiki hānau o ka ʻāina | Listen, oh children of the land |
| Lohe mai i ka moʻolelo chūkū | Listen to the train story |
| A i ko ʻoukou Ka Lani hope | And (hear) about your last King |
| Ka mea i kākau kona inoa | The one who signed his name |
| | |
| Hui: | Chorus: |
| Wū-wū Kaʻa Ahi Kahului | Woo-woo! Kahului Railroad |
| Ke alahao a i Wailuku | Tracks all the way to Wailuku |
| Wū-wū Kaʻa Ahi Kahului | Woo-woo! Kahului Railroad |
| Chūkū-chūkū mua o Hawaiʻi | The first train of Hawaiʻi |

The following mele for Queen Emma Naʻea Rooke was composed as a greeting for her on the occasion of her trip to Maui in 1882. As her ship entered Kahului Harbor, lehua blossoms were floated on the water to greet the Queen (Verse 2). Lucy Kamalalehua Peabody, a companion of the queen, says this was written by Sylvester Kalama, who was aboard the ship that took the queen to Maui. Charles E. King credits this mele to Nuʻuanu. After the death of her husband, Alexander Liholiho Kamehameha IV, Emma campaigned for the royal office, losing the election to David Kalākaua. Her campaign headquarters was in Nuʻuanu Valley, and many believe this was used as the composer's name. The Queen was always addressed as Emma or Emalani but was called Kalanikaumaka (the chiefess to whom everyone looks) by her immediate family. Upon the tragic death of her son, Prince Albert in 1862, she asked her people to call her Kaleleokalani, the flight of the heavenly one. When her husband, Kamehameha IV died a year later, she asked that the name be changed to the plural form, Kaleleonālani (Nuʻuanu and Kalama 2015).

**Kaleleonālani (Flight of the Royal Ones) – by Nuʻuanu / Sylvester Kalama**

| | |
|---|---|
| Welo ana e ka hae Hawaiʻi | The Hawaiian flag is waving |
| Hāliʻi lua i ka ʻili kai | Over the surface of the sea |
| E haʻi mai ana i ka lono | Telling the news |
| Ke kuini Emalani ko luna | Queen Emma is on board |
| | |
| Hui: | Chorus: |
| Kaleleonālani kou inoa | Kaleleonālani is your name |
| A he hiwahiwa ʻoe na ka lāhui | You are beloved by the nation |
| A he lani ʻoia la no ʻoukou | She is the chiefess for all of you |
| A he milimili hoʻi na mākou | And cherished by us |
| | |
| A waho o na nalu o Kōlea | Outside the surf of Kōlea |
| ʻIke ʻia i ka nani o Kahului | The beauty of Kahului is seen |
| ʻAʻohe mea nani ʻole o laila | There is not a thing without beauty |
| Ua nuʻa ka lehua ʻau i ke kai | Even lehua blossoms floated out to sea |
| Ui aʻe nei Emalani | A question from Emalani |
| Pehea mai la ʻoukou | How are all of you? |
| Ka manawa kupono kēia | This is a suitable time (to land) |
| E nā hoa hele o ke kai loa | My traveling companions on the high seas |

The following mele was composed by Alice Johnson as a celebration of the beauty and majesty of Maui. The mele features key locations throughout Maui including Kahului and its wharf, ʻĪao, and Haleakalā while praising Maui as the best of the Hawaiian Islands because of the unforgettable beauty it offers (Johnson 1938).

**Aloha ʻIa No ʻO Maui – by Alice Johnson**

| | |
|---|---|
| Aloha ʻia nō ʻo Maui | How we love Maui |
| Nā hono aʻo Piʻilani | Beloved land of Chief Piʻilani |
| Uluwehi i ka pua roselani ē | She is decked with wreaths of roses |
| Nā pua ʻala onaona | And other fragrant flowers |
| | |
| Kaulani ʻoe e Kahului | You are famed Kahului |
| Ke kai holuholu ē | For your rolling waves |
| A me ka uapo hoʻokipa malihini ē | And for your wharf which welcomes visitors |
| I kou ʻāina nani ē | To your beautiful isle |
| | |
| Haʻaheo wale hoʻi ʻoe | Oh, how proud you look |
| Kepaniwai o ʻĪao | O water course of ʻĪao |
| Mākaʻikaʻi mau ʻia ana lā | You are constantly being visisted |
| E nā malihini ē | By many strangers |
| | |
| Kilakila Haleakalā | Majestic is Haleakalā |
| Kuahiwi nani o Maui | Beautiful mountain of Maui |
| Kaulana kona inoa puni Hawaiʻi | Whose name is known throughout Hawaiʻi |
| Ke alanui kīkeʻekeʻe | For its winding road |
| | |
| Haʻina mai ka puana | The end of my song I sing |
| ʻO Maui nō e ka ʻoi | Of Maui, best of the islands |
| Me kona nani hoʻohenoheno | Whose beauty woos us all |
| He nani poina ʻole | Her beauty we cannot forget |

The following mele honors the Inter-Island Steamer, Hualālai, that operated between the islands in the 1930's. This steamer was named for the famous Kona volcano of the same name (Akiu 2015).

**Hualālai – by Roger Akiu**

| | |
|---|---|
| Kaulana e ka holo, e, e, e | Famous is the journey |
| O Hualālai lā | Of Hualālai |
| Mana kai holo holo e | Sailing on the powerful current in the sea |
| Aʻo Kahului lā e | Of Kahului |
| | |
| O ka helena ana ia lā, e, e, e | The appearance |
| A ka wahine uʻi lā e, e, e | Of this beautiful woman |

| | |
|---|---|
| E kilohi iho ʻoe lā e | (I) stare at you, then look down |
| He malino i ke kai | At the calm sea |
| | |
| E kūlana hiehie lā, e, e, e | Distinguished |
| Kō Hualālai lā, e, e, e | Is Hualālai |
| Kohu kakela nui lani ʻike kai | Recognized as the castle of the sea |
| Nani wale ke ʻike aku | Beautiful to see |
| | |
| Haulani ke Hualālai lā, e, e, e | Constantly moving is Hualālai |
| Ke kuini hoi ike kai, e, e, e | The queen of the sea |
| Na ale ka moana kou hoa pili | Friend of the waves |
| ʻAe kohu ai ka helena | Ruler of her travels |
| Haʻina mai ana ka puana, e, e, e | Tell the refrain |
| No Hualālai lā, e, e, e | Of Hualālai |
| Kakela hiehie lani ike kai | Castle of the sea |
| Nani wale ke ike aku | Beautiful to see |

Written by Eddie Kamae and Pilahi Paki then recorded by Eddie Kamae and the Sons of Hawaʻi, this succeeding mele expresses a smell that one who travels on the island of Maui will experience when traveling from Kahului to Lahaina. This scent is caused by the residue of burnt cane that is emptied into the ocean at Launuipoko, the area between the village of Olowalu and Lahaina. To experience this scent is what Hawaiians call Kela Mea Whiffa (Kamae and Paki 1975).

**Kela Mea Whiffa (The Breath of Love) – by Eddie Kamae and Pilahi Paki**

| | |
|---|---|
| Mai Kahului komo Lahaina | From Kahului to Lahaina |
| Ke ala onaona i hanu | The fragrance that one breathes |
| Naue aku au ma Olowalu | As we go along pass Olowalu |
| He noʻe au no ke kanaka | A rare experience awaits all |
| Hale nui me ka ihu pinana | Then, the big house with the smoke stack |
| Ike aku au i ke kapulu | Where activities seldom cease |
| A hanu au i na mea lepo | Sends its natural products |
| Maluhi au kela mea whiffa | To stay at kela mea whiffa |
| | |
| Hui: | Chorus: |
| ʻAuhea e kela mea whiffa | Where is kela mea whiffa |
| Oia hanu a ke aloha | The breath of love |
| Ma ke lauko a kiawe | Between sugar cane and kiawe |
| A malaila kou manaʻo | For this is where you'll find me |
| | Where is kela mea whiffa |

| | |
|---|---|
| ‘Auhea e kela mea whiffa | The breath of love |
| Oia hanu a ke aloha | Between sugar cane and kiawe |
| Ma ke lauko a kiawe me ea | Sugar cane introduced by foreigners |
| Kōpa‘a ka po‘e haole | And grown in abundance |
| Ulu ana a nui hewahewa | Acres and acres of green stuff |
| Mala nui nā lau uliuli | You see all around you |
| Ike ‘oe a mamao | The burning of the cane at the fields |
| Puhipuhi ia nā mala ko | Makes it easier to harvest |
| I maha ho‘i ke ‘ohi | Where are my sweet whiffa |
| ‘Auhea ‘oe mea whiffa | At Launuipoko kela mea whiffa |
| Ma Launiupoko kela mea whiffa | |

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## 4.0 Ethnographic Information

The following section includes ethnographic information gathered for this assessment.

### 4.1 Interviews

In addition to the public notice that was placed in the *Ka Wai Ola* newspaper, interviews were requested with individuals from the area with knowledge about the area's history or cultural resources.

Interviews were scheduled through Karey Kapoi Consulting with Kahele Dukelow, Kauanoe Batangan, Ray Shimabuku, Koren Takayama, and Terry Apana. Matthew Sproat conducted all the interviews via telephone. Terry Apana was not reachable at her scheduled interview time. Ms. Kapoi was unable to reschedule that interview with Ms. Apana.

Additionally, individual emails were sent to Vernon Kalanikau, Foster Ampong, Clare Apana, Noelani Ahia, Johanna Kamaunu, Kaniloa Kamaunu, and Michelle Hoopii inviting these individuals to participate in interviews for this CIA. Clare Apana, Foster Ampong, Johanna Kamaunu, and Vernon Kalanikau responded with interest in participating. Matthew Sproat coordinated and conducted these interviews. Interviews with Mr. Ampong and Mr. Kalnikau, Ms. Apana was contracted by phone twice to schedule an interview. The invitation to participate in the CIA remains open and if Ms. Apana or any other individuals come forward, those interviews will be included in the final CIA. An interview with Ms. Kamaunu is pending and will be included in the final CIA.

Approvals to conduct the interviews and participate in the ethnographic process were collected at the time of interview. The interviews were then summaries by Honua Consulting staff and sent to the participants for their review. If comments or edits were received, they were incorporated into the summaries. If no response was received, the summaries were included in this CIA as prepared by Honua Consulting. Any recommended changes or edits provided by the interviewees prior to the completion of the final EA will be added into the final CIA.

### 4.2 Interview with Kahele Dukelow

**Interviewer:** Mathew Sproat
**Interviewee:** Kahele Dukelow
**Date:** 11/22/2021
**Location:** Telephone

#### Biography

Dean Dukelow is the Dean of Arts and Sciences at UH Maui College. She was born and raised on Maui Island. She currently lives in Kula. Dean Dukelow's association with the project area is through her engagement as a community member and lifelong Maui resident. She is also the Vice Chair of the Maui-Lānaʻi Burial Council, a fluent Hawaiian language speaker, and widely respected practitioner.

#### Overview

Having served in an advisory capacity for the general area, as well as being a lifelong Maui resident and community member, Dean Dukelow brings robust perspective on the cultural background for the project area.

#### General Discussion

The project area is in a county park. Dean Dukelow assumes that the overall area was developed before there were any burial laws. She mentioned that the area's former development had poor cultural planning. The "cultural layer" has been destroyed since at least the 1950s.

#### Cultural Resources

Dean Dukelow made special mention of the nearby sand dune complexes. She suspects that the project area is part of the sand dune complexes or at least very close. When asked about culturally significant Native Hawaiian flora, Dean Dukelow could not mention any specific species since the area has been developed for so long. However, there have been discussions in the past about doing restorative work.

Dean Dukelow also said there were a lot of older maps that people have found over the years that could be referenced for helpful information.

### Traditions and Customs

Dean Dukelow mentioned that the general area was the site of many important battles during the conquest of Kamehameha I.

### Impacts

Dean Dukelow noted that the biggest impact she could envision would be discovering iwi during development. This has happened in the general area before. Moreover, Dean Dukelow noted that the cultural integrity of the area has been eroded from development over the last several decades of development.

### Mitigation Meaures and Recommendations

Dean Dukelow's suggestion for the developer is to examine what cultural items of significance were identified in the area through previous work. This includes burial mapping patterns. There should be an upfront conversation about what they will do if they locate iwi during development.

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### 4.3 Interview with Ray Shimabuku

**Interviewer:** Mathew Sproat
**Interviewee:** Ray Shimabuku
**Date:** 12/08/2021
**Location:** Telephone

#### Biography

Ray Shimabuku is a licensed electrician by trade. He is also a business representative for the local union. He was born and raised on the island of Maui. He has lived on Maui all his life. He currently lives in Kahului.

#### Overview

A member of the Hale Makua steering committee and Kahului resident, Mr. Shimabuku provided helpful insights into the potential cultural uses of the project area.

#### General Discussion

Mr. Shimabuku is associated with the project area through his lifetime of living in the general area. He noted that the project area is located in the middle of a residential area. He noted that there is a lot of concern regarding traffic.

#### Cultural Resources

Mr. Shimabuku was not aware of any cultural resources located in the project area. He noted that the area is sandy, which is usually associated with burials and iwi.

#### Traditions and Customs

Mr. Shimabuku noted that there may be some local people who use the area for cultural practices. He believes there is a building in the project area that is used for hula practices.

#### Impacts

Mr. Shimabuku is not aware of any cultural resources, traditions, or customs that might be impacted in the project area.

#### Mitigation Meaures and Recommendations

Mr. Shimabuku recommends that there is archaeological monitoring in the event that they find artifacts or iwi.

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## 4.4 Interview with Kauanoe Batangan

**Interviewer:** Mathew Sproat
**Interviewee:** Kauanow Batangan
**Date:** 12/07/2021
**Location:** Telephone

### Biography

Mr. Batangan was raised in and currently lives in Kahului.

### Overview

Mr. Batangan was raised in the project area and has been a frequent park user throughout his life. He brings a robust understanding of the current usage of the park and the surrounding project area.

### General Discussion

Mr. Batangan is a park user. He grew up using the park his whole life, including swimming and running. He also described playing soccer games at the field. Mr. Batangan noted that he still uses the park today. The park is situated close to many community establishments.

### Cultural Resources

Mr. Batangan was not aware of any native flora or fauna in the project area. He noted that there may be iwi in the nearby sand dunes that are associated with the general project area. He made special mention that the presence of iwi is purely speculative.

### Traditions and Customs

Mr. Batangan was not aware of any specific traditional or customary practices that are conducted in the park. However, he noted that the community center is used by a lot of community groups, and some of their activities may be cultural.

### Impacts

Mr. Batangan noted that a potential impact could be the uncovering of iwi in the nearby sand dunes that are associated with the project area. When asked, Mr. Batangan was not aware of how a potential expansion beyond the project area would be feasible.

### Mitigation Meaures & Recommendations

Mr. Batangan recommends archaeological monitoring in case something is found. He also recommends an inventory study be designed around highly sensitive areas. Further, Mr. Batangan suggested that the project address any drainage elements in the area.

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## 4.4 Interview with Koren Takayama

**Interviewer:** Mathew Sproat
**Interviewee:** Koren Takayama
**Date:** December 20, 2021
**Location:** Telephone

### Biography

Ms. Takayama is an elementary school teacher at a school close to the project area. She was born and raised on Maui. She currently lives in Kahului near the project area.

### Overview

As a lifelong Maui and Kahului resident, and as an active community member, Ms. Takayama provides insight on whether the project would affect any cultural resources or traditions and customs. She believes the project would be a good addition to their community.

### General Discussion

Ms. Takayama is associated with the project area as a resident and active community member. Her grandmother also grew up in the area. She noted that the geographic area was sandy before modern development.

### Cultural Resources

Ms. Takayama is not aware of any cultural resources in the area, including native flora or fauna.

### Traditions and Customs

Ms. Takayama noted that she has seen people practicing hula in the nearby park.

### Impacts

Ms. Takayama did not believe that any cultural resources or traditions and customs would be impacted by the project.

### Mitigation Meaures & Recommendations

Ms. Takayama believes the project should proceed. She raised a concern that area needs to be safe for kupuna and other users. There is a large homeless problem in the area.

### 4.5 Interview with Vernon Kanilau

**Interviewer:** Mathew Sproat
**Interviewee:** Vernon Kanilau
**Date:** January 15, 2022
**Location:** Telephone

#### Biography

Mr. Kalanikau is the head custodian at Lokelani Intermediate School. He also does screen printing as a family business. He was born in Wailuku, Maui and raised in Kapalua, Happy Valley, and North Kihei, Maui. Since around 1967, Mr. Kalanikau has lived in North Kihei, Maui.

#### Overview

Having lived on Maui his entire life, and as an active resident in the general project area, Mr. Kalanikau brings an understanding of the cultural background of the project area. Namely, Mr. Kalanikau notes that the project area and its general surrounding area have been historically known to have burials.

#### General Discussion

Mr. Kalanikau is associated with the project area through his father, who was a painter for the facility from the late 1970s to 1986. His father painted the inside and outside of the facility by himself. Mr. Kalanikau remembers playing in the project area at this time, including the community center and pool. As such, he utilized the project area as a community member.

#### Cultural Resources

Mr. Kalanikau concurs that the project area and surrounding area are known to have iwi. He recounted that his father's 'ohana lived in Pu'unene. When he was a kid, his father was involved in the process after burials would be found during development. He remembers his family, some of whom were in the contracting business, would often mention when burials were discovered.

Regarding water resources, Mr. Kalanikau does not believe there is much fresh water that runs through the project area. Mr. Kalanikau was also not aware of any native flora or fauna in the project area.

#### Traditions and Customs

Mr. Kalanikau was not aware of any traditions or customs that take place in the project area.

### Impacts

Mr. Kalanikau believes that the project could impact any potential burials or iwi, which are known to exist in the general project area.

### Mitigation Meaures & Recommendations

Mr. Kalanikau recommends that there be archaeological or cultural monitoring present during development since iwi are known to be in the general project area.

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### 4.6 Interview with Foster Ampong

**Interviewer:** Mathew Sproat
**Interviewee:** Foster Ampong
**Date:** January 11, 2022
**Location:** Telephone

#### Biography

Foster Ampong describes his profession as kanaka. He was born in the ahupuaʻa of Wailuku. He was rasied primarily in the Moku of Lahaina. He currently lives in the ahupuaʻa of Waiehu in the moku of Wailuku.

#### Overview

Mr. Ampong provided helpful context on the area's cultural resources, primarily the many burials which are known to exist within the over sand dune complex. He provided several recommendations to reduce impacts.

#### General Discussion

Mr. Ampong is associated with the project area throug his son's attendance of a school in the area. He is also a community member of the area.

#### Cultural Resources

Mr. Ampong noted that the area has been altered in the last centuries from agriculture, development, and settlements. Housing in the area sprang up in the 1900s in several increments. This area is part of a larger sand dune system (Puʻu One), which stretches from the ahupuʻa of Waiheʻe to Maʻalaea and south towards the Makena area. Over the course of a century or so, this area has seen a lot of changes and developments. In the last 20 to 30 years, a big concern of the community has been the disturbance of burials from these developments.

Mr. Ampong wanted to make special mention that it is believed by many that the burials found in the proximity of this area are the fallen warriors of Kakanilua. However, he noted that many of the discoveries in the area are actual, intentional burials of the people of Maui. Mr. Ampong distinguished that the fallen warriors from Hawaiʻi Island would not have been buried in an intentional way. This is important for Mr. Ampong because he noted that there is misinformation that the burials being discovered are from the warriors of Kakanilua, which he finds offensive.

### Traditions and Customs

Mr. Ampong noted that he is aware of some traditions and customs taking place in the broad, surrounding, overall area. However, specific to the project area, he is not aware of the any ongoing traditions or customs due to the developed nature of the area.

### Impacts

Mr. Ampong noted that there is a high degree of likelihood that development in this area will result in the discovery of burials, which he finds unacceptable He noted that any type of development will utlimately lead to some sort of impact. Mr. Ampong noted that he could not speculate on specific anticipated impacts because it is dependent on the type of activity.

### Mitigation Meaures & Recommendations

Mr. Ampong recommended that as this project moves forward, any earth-moving activity has an archaeological monitor present to mitigate the disturbance of burials. Should a burial be inadvertently disturbed or discovered, the iwi kupuna are preserved in place. He noted that people have wrongly assumed in prior projects that there would not be any burials due to development – however Mr. Ampong noted that this is an incorrect assumption.

Mr. Ampong also noted that he opposes using ground-penetrating radar. He believes that this technology is still intrusive. Should the ground-penetrating radar discover anomalies, there may be the necessity (from a court order or the developer's policy) to excavate the anomalies. These anomalies could be burials. Mr. Ampong shared personal experience of the use of ground-penetrating radar on other project and does not believe it is an adequate solution to avoiding the disruption of burials.

Mr. Ampong believes that the project developer should consult with the community and promulgate transparency. Should burials be discovered, there are a body of laws that must be followed.

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## 4.7 Interview with Johanna Kamaunu

**Interviewer:** Matthew Sproat
**Interviewee:** Johanna Kamaunu
**Date:** 1/21/2022
**Location:** via telephone

### Biography

Ms. Kamaunu is an insurance agent with a specialty in bail bonds. She was born in Honolulu and raised in Kāneohe. She currently lives in Waiheʻe, Maui.

### Overview

As an active community member and member of the Maui Burial Council, Ms. Kamaunu brings expertise and experience on the impacts of development on cultural resources, traditions, and customs. She believes that developers should engage and meaningfully consult with residents, particularly lineal descendants of iwi kupuna. She stressed that since it is well known and documented that the general area has iwi, development (such as this project) will undoubtedly impact those iwi.

### General Discussion

Ms. Kamaunu is associated with the project area as a member of the Maui Burial Council. Her family is originally from Maui, specifically the ʻIao Valley, Waiehu, and Waiheʻe where they have land.

### Cultural Resources

Ms. Kamaunu said that there are many resources that contribute to the cultural history and cultural landscape of Maui, overall. The area is more dryland. The absence of native flora or fauna does not necessarily mean the area wasn't productive. She said that in the area, one can expect to find more iwi. Any type of ground disturbance could disturb iwi, according to Ms. Kamaunu. She noted that the County is working on a "sensitive layer map" through the County archaeologist. Ms. Kamaunu noted that previous discoveries are noted on that map, which may produce a clearer picture as to what was recorded in the past. The purpose of the map is to serve as a warning of iwi to developers, according to Ms. Kamaunu. She noted that over the years, each singular disturbance in the general area was not being properly reflected, and as such could not provide an accurate representation of how many iwi were actually in that area. In sum, Ms. Kamaunu cautions that what iwi have been found is just a small fraction of what burials are present.

Regarding water resources, Ms. Kamaunu believes that there was at one time more water resources. She noted that the retention basins affected the water flow. Had the water been allowed to flow more naturally, water in the area would still be running today. She does not believe necessarily that all the water resources have been destroyed or lost in the Kahului area.

Ms. Kamaunu also noted that an important resource is sand. Sand is a valuable resource for construction for golf courses, hotels, and other development. At one time, sand was being moved from this area by the truck loads, according to Ms. Kamaunu.

### Traditions and Customs

Ms. Kamaunu could not identify any individuals or organizations that use the project area for any traditions or customs. She noted though there are many ʻohana groups and special interest groups in the area, as well as hālau, and that those groups should be interviewed or consulted. She did note that there was one cultural group that hosted vigils starting about 15 years ago in the Kahului area.

Regarding stories, Ms. Kamaunu noted that the most historically well known in the general area is the battle of Kakanilua. There were other battle stories as well that Ms. Kamaunu recommended be included in the assessment. These stories inform the names of places; and moreover, these names are important to preserve.

### Impacts

Ms. Kamaunu noted that any ground disturbance will be an impact to the iwi, which she believes is widespread throughout the area. Further, she noted that sand is an important cultural resource which will also be impacted by development.

Ms. Kamaunu also noted that Mahi Pono is coming to farm in the general area. They will of course require water. She noted that their water is being sourced from all over. As such, she believes the water resources in the general area are being impacted.

Ms. Kamaunu said she hopes that the project does not impact any traditions or customs. She noted that the goal of the project of helping the kupuna is a noble goal. However, she expressed that from her experience on the burial council, you cannot assume that any type of development is without its impacts. Specifically, she recounted that in old sugarcane fields, there were pockets of iwi. As such, she believes there are still historical resources in the area that could be impacted.

### Mitigation Meaures & Recommendations

Ms. Kamaunu recommended that any type of change done in the area should strengthen the cultural and historic relationship with the people and residents of the area. She also recommended having a good plan in place, using monitors, and referenced that in previous projects there have been specific machinery and operations. In addition, Ms. Kamaunu noted that on another project, there is a live camera operating and always recording at the project site to ensure protocol is being followed. Finally, Ms. Kamaunu noted that she would like to see a memorial park attached to the project in recognition of the iwi and cultural narrative/history of the area.

### Addendum

Ms. Kamaunu asked that this be included in the interview summary:

"I want to add one more comment to our meeting regarding traditions. Even though I was born and raised in Oahu as a child, with my siblings and friends, we explored our aina in ways that are no different from what children did a hundred years ago, even 200 years ago, and perhaps from the time humanity walked the earth. We have a tradition of exploration whether it born of sea or land it appears inherent, if not an intrinsic part of who we are as kanaka. It was not uncommon to wander miles from home and return home as the sun set. Here in Maui, that tradition is no less evidenced by the recorded accounts of visitors and kanaka alike. Everyone walked. Whether to explore, play, go to work, go to gather and harvest, go to worship, to pray or to enjoy the quiet whispering of peace, calm, and beauty. The practice of walking is cloaked in nature hikes or exercising today. The tradition of walking is diminishing as the open landscape diminishes under changing times and values. I suspect it is not coincidental that lack of aloha, malama, kuleana diminishes with each step not taken in the practice and tradition of our ancestors. Few there are that recognize their activity is the continuation of those traditions. Our people are always finding trails and making new ones as each succumbs to change. The area of this project was well known to the people. It was traversed endlessly until it became developed. It has been written and recorded in our newspapers and in accounts by poe haole in search of artifacts and perfect skull specimen for their collections or as souvenirs. As they wrote all seemed well with the people for no attempts to stop or correct were made. I suspect the witnesses then had similar thoughts that we have today regarding naughty, disrespectful or maha'oi children. Shouldn't educated adults know better? Aren't these not our thoughts, "didn't your mother teach you?" Or, "who is your father, your ohana, or where are you from?"

Same questions in 1862 as today in 2022. Same are the tradition of walking the aina. Do trails exist even though it is built upon or fenced in? Yes. I believe they do. We know about them. And even should the sands of time obliterate or obscure the visible path we are a

voyaging people a curious and determined people. We will forge our own paths in search of our destinations."

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### 4.8 Interview with Clare Apana

Per Ms. Apana's request, she asked that her interview being transcribed verbatim and in its entirety. That transcript is provided herein. Upon review of the transcript, Ms. Apana requested the opportunity to make revisions. The transcript below is provided verbatim from the revised version of the transcript provided by Ms. Apana to Matthew Sproat on January 31, 2022.

**Interviewer:** Matthew Sproat

**Interviewee:** Ms. Clare Apana

**Date:** 1/21/2022

**Location:** Via telephone

Mr. Sproat: What is your profession?

Ms. Apana: I am a retired physical therapist and now I do a lot of advocacy work for kanaka maoli.

Mr. Sproat: Where were you born and raised?

Ms. Apana: I was born and raised in Wailuku, Maui.
Mr. Sproat: And you still live there now?

Ms. Apana: Yes

Mr. Sproat: Do you have association with the project area?

Ms. Apana: I do. In the ahupua'a/ili maps, I live on the border of Kalua and Owa. This project is probably in the vicinity of these two areas also.. There is a lot of connectivity between where I live and the general vicinity of the project The battle of Kakanilua was fought here. The inland sand dunes of Maui, specifically called the sandhills of Wailuku. I was actually born in these sandhills and grew up in these dunes, and still live in the dunes. This area is truly my Pu'uone hanau (sands of my birth). Without the cars, houses and people the dunes have a certain quiet and strength that is healing.

Mr. Sproat: Are you aware of cultural resources in the project area or near the project area?

Ms. Apana: Yes. These sand dunes are protected by the Wailuku Kahului Community Plan as important cultural resources. This is a traditional burial place for Kanaka Maoli (original people or Hawaiian). These sandhills are a sacred land as well as a historical treasure.

In a worldwide scale, people are dying because of sand. Other cultural resources are theory land forests that are part of the shrinking 2% left. Once the forest extended from the mountains to the central area. Water of Wailuku moku is a very precious cultural resource that runs through the dune system. on the way to the ocean. I would expect deep flowing water in this area because of the very large and green trees in the vicinity.

plants that grow on the dryland sandy dunes forest. The dryland forest is very endangered in Hawaiʻi. We are down to 2-3 per cent. This is a specific kind in the sand. We have each kind of plants that grow here as well as dryland forest plants. Some plants that used to be commonly seen here, now as we grow more towards – a community that was rural, growing towards a town – not as big as Honolulu but along that line, these rare plants are medicinal and you can find them on the sand dunes still. So, they become rare plants through attrition of the growing population into residential areas.

Mr. Sproat: Any particular plants you can think of?

Ms. Apana:tatI have gathered and used the Kala plant and uhaloa. Uhaloa sprouts up after a rain and covers the sand , it is beautiful to see the yellow blossoms come out of the parched sand. We see the endangered species, like the Blackburn Sphinx Moth – there are several things that feed that but its favorite is to have the tree tobacco to spawn the eggs on. There are other plants on the sand dunes that will support life for the moth. We have our own variety of crown flower, in that it comes in a big pod, but when it opens there are several stems of flowers inside it.

I have seen the kala plant here, which is very interesting to me being in the sand dunes knowing its history. The kala plant is used medicinally, but also as the forgiveness plant; used in ceremony to make everything go right. It's interesting to me that at this moment I am uncertain if I see it there, but it could be in the park area. But I'm not sure where your project area is. I have seen these on the sand dunes growing and I am not the greatest botanist. But those are plants that I have used from the sand dune area.

Mr. Sproat: What is the likelihood of iwi being in this project area?

Ms. Apana: Probably 100 per cent.It seems backwards to do the AIS and have the actual building and ground disturbance plans not available to me in this interview. I can only conjecture because there is no preservation plan or scope of disturbance at this point for me to look at. From what I can see, you are right on the edge of a dune system. And that dune system has rendered so many disturbed iwi kupuna. It goes all the way down from oceanside and across – well it's 12.5 miles along. It goes down in

Waihee all the way across Wailuku to North Kihei to Maalaea. I would say you've got a 100 per cent chance because what we've seen in other areas like this is you have the higher dunes (more chance of having burials), we've also seen the cultural layers (the most I've seen is 3), where you have different time periods of layers. I'm sure you've seen that you've got burials, then you go deeper (8-10 feet) and there are more burials, and even deeper. Especially with the records of the sand mining that was done in this very dune, the section that is closer to Waikapu and Wailuku. It was sand mined – the records are not as accurately depicted.

Mr. Sproat: Any native fauna?

Ms. Apana: I have seen the Kamehameha Butterfly in this area. I have no idea if its endangered, but it is one of ours. Pueo is not endangered on Maui but it is very sacred. I have seen many pueo and I believe the sand dunes are a nesting area for them; I have disturbed many pueo nests hiking in the sand dunes. There are many nene goose who habitually fly over this area, towards the end of the day. If I sat outside my house, I could be assured that I would see nene goose fly over me at that time. I have seen them walking in that area of the war memorial, which is fairly close to this area, as well as at the graveyard, which is close in the other direction. I have not spent the amount of time to know if they come and frequent this place. I could, if I was to look for it. But I am not focused on that. There are regular things like cardinals, and of course myna birds. I have seen also a red billed tern; I wish I was better able to tell you the name of the species, but I have seen many different species in this area.

Mr. Sproat: Would you know of any traditions or customs within the project area or within the outer lying project area?

Ms. Apana: In the native testimony, in different parcels, I have seen what you would expect. This is the place makahiki was held. A place that there were – in the Waiele area – three different ceremonial areas that were preserved. There was one that was completely obliterated with the edict of Bill Aila. I think there were many ceremonial sites. There were 4 that I know of in the Waikapu area. From the Walker studies, there are heiau we don't find anymore. So I cannot say I have not seen them but I do know that in the area that it was my first place of interest in the sand dunes, was is known as the Safeway shopping center area, across the street from Baldwin high school – that was known as a ceremonial area, and a battle field on the old maps. From what has been found, that has been confirmed by the skeletal remains that have been found there. On the hill, there was 3 distinct heiau that were there. I believe they are still there because that is a burial area. A modern day cemetery on

top of the traditional sand dune burials. I believe that there were probably more that we have not identified.

Mr. Sproat: Is there anything about this project area that is particularly significant you would like to share?

Ms. Apana: I don't think I was finished with cultural practices; I have so many things to say. About the cultural practices: I think the most distinct cultural practice at this time is the protection of iwi kupuna. Whereas that would have been something that everyone did in the history of our people. It is now a traditional and customary practice protected by law. Although it was something that was unheard of, really. No one should think about disturbing someone else's burial. I think in the traditional sense, the respect and sacredness of a burial was something that was innate in our culture. But today, it becomes a cultural practice so to speak, but comes from our tradition and for myself would include myself that my cultural practice is the protection of iwi kupuna; in particular in these sand dunes where I live and am associated with. It has been a way for me to connect back to my roots and my family. For myself, I always felt as a Hawaiian but never really understood what that meant. In doing the advocacy and protection for iwi kupuna, that has become clearer to me in a way of feeling as well as practicing. So this place is definitely in the sand and definitely in the sand dune. If we can stop desecration then we must by all means. We must find a way to bring respect to our kupuna and the places that they were buried. In this place, I look at this as a health center, or is it homes for people?

Mr. Sproat: I'm showing it is a rehabilitation facility.

Ms. Apana: Right, so, I would say that what I have not seen is that, you know, the advocacy for nā iwi kūpuna, goes on to the living. Just as I am living, I am not from the era when Pele was here in our history, I am here now today. But I am a living practitioner and here I am. So are our people. So are our kupuna looking out for our people. I would hope to see that if you keep asking us to give up our burial lands and our sacred places that belong to us for always, it must benefit our people. I see many of these things that go to community fund, or a medical center – those are things for everybody. And still our people do not get served. Something like this – even our burial grounds – there must be something for our people – our people exclusively. A fund that serves the health needs of our people. That is imperative for the sacrifice that is asked of us. I have not seen that and I am hoping that the director is fully aware of the sand dunes and the many iwi kupuna – and how much the Hawaiian people have sacrificed. I would hope that he would take the lead to see that the people like Mauilani and A&B and Schueller Holmes – people who have profited from the desecration of these sand dunes, would make this fund for the healthcare of our

people; exclusively. I believe that is part of my kuleana as a practitioner of nā iwi kūpuna, especially in this area.

Mr. Sproat: Would you know if people are collecting native plants in the project area?

Ms. Apana: Within the sand dunes, yes. I have.

Mr. Sproat: Are there people who are coming to this area to collect crown flower for lei or hula?

Ms. Apana: Not that I have seen. Someday, a chant may be made about this particular flower. And they may use the flower. I don't see them using this particular flower. But that doesn't mean it doesn't happen. What you do see is that in this area it was known for sweet potatoes. And you see the story of Kamehameha's teacher. It was in this area that sweet potatoes were known to grow.

Ms. Apana: I would like to give you a little history in line with being a cultural practitioner. As you probably know, our people are really hurting in this modern world that has come upon our islands. The homelessness, drug users, all those things. We talk about health – I'm a retired physical therapist – the health of our 'āina and the spiritual health of our 'āina – the way I experience this have been told by people who are chiefs. The battle between the families go on. I experience some of this in the advocacy of our iwi kupuna. The advocacy within our own families. I think that it's really important we get it right. I think this center could be a place we get it right, and bring peace and resolution to our people in many levels. I feel very much to be bringing peace to these sand dunes; and the necessity of us to make this peace and bring to rest some of the fighting we had between our families; bring back the life to the 'āina. That is another aspect of mālama iwi kupuna.

Mr. Sproat: Any stories associated with this project area we should be aware of?

Ms. Apana: I would like to tell a story about Kamehameha's teacher. I would also like to tell a modern day story because often in these CIAs, they don't get stories of the living people. This is about Annette Heu and myself. This was in the very beginning when I was called to Safeway because something was terribly amiss about what was being planned there. At the same time, Annette Heu was experiencing the destruction of a ceremonial platform where people in the neighborhood were told "do not ever go there" to that place. Bulldozers came to that place and started her journey to find out, where is this place that I live? Why am I seeing this darkness coming out of the land? And I am called to do something at this place. What I discovered was the history of the place was not easy to find. On the day that Annette Heu and I decided to meet, the wind was just howling, and yet my windows were open and there was no

wind. We had both felt the same things. She had not been able to sleep until she found the history of this battle, and she told it to me, and I understood from growing up in the house I grew up in, why some of the paranormal events happened. It gave me great peace to be in my house. And then to start to mālama the history of this great battle. I would say that is a modern day story because she and I are still fighting for the preservation of the history and the land and I have to say that without Annette I do not think the advocacy for the land would have occurred. You know, people always forget there are living people and our ancestors continue on through us.

Mr. Sproat: Anything else about this project that you would like to share?

Ms. Apana: On the last days of your director's employment with A&B, I had an appointment and asked to be given the chance to take care of the sand dunes in the area. Oddly enough, those are the same sand dunes that are going to be preserved. I think that our kupuna have been working on this for many years; they have finally gotten to the point where we are given the chance actually do the preservation as a burial ground in a traditional way – to further the life and health of our lāhui. I think that there is an extremely good chance to bring a lot of healing and health to our people.

Mr. Sproat: What type of impacts do you think there might be on the cultural resources you have identified?

Ms. Apana: Anytime you disturb the ground, you will impact the iwi kupuna in their burial ground. There is no getting around that. The potential for the loss of the history – simply from building a nursing center – does this look like a traditional burial ground? Is this a place where they lived? Is this a nursing center? The history can live on, but it has to be attended to and told. This can be done, but will it be done? Will these people be remembered, who gave up their place in this burial area? Will they be respected and honored? The mitigation that they have is, well, when we find something, we have an archaeologist doing monitoring. Totally unacceptable. There needs to be… I know who I would use; the people we have used in the last 10 years. They have given their time and skills and protection to our group. They should be consulted.

Mr. Sproat: Would you consider these people to be cultural monitors?

Ms. Apana: They have family connection to here. The western term is they're cultural monitors. I think you would be consulting them as to what would be appropriate.

Mr. Sproat: Would you consider them a cultural monitor while the project is going on to make sure that if they happen to come across iwi kupuna that they will be able to do the right thing?

Ms. Apana: Absolutely. If you're thinking archaeological monitoring is necessary, there should be cultural monitoring. Then there's protocol for work. When you have people working. It's kind of like Haleakalā; they said they trained people and gave them a sense of place – sensitivity training. About ground disturbance: part of consultation is to identify what the ground disturbance is and why it is coming. I have seen 10-foot-deep trenches for utility lines. Is that necessary? These considerations can and should be made with someone who has a sensitivity to iwi kupuna, and an engineering degree. I will recount that I am regretful that the civic center, when I was consulted, I said you should not be digging those retention basins. They said it would be small, this and that. I said, no, you should use semi-permeable concrete in this area. No reason to dig in sand for drainage. Of course, I wasn't listened to. By the time I saw it, there was like half a football field of sand dug out. 'Aʻole. That is not okay. When you dig sand, you must sift sand, to make sure that we did not miss anything. This is really an archaeological practice that has been followed before. Sometimes it's followed. But if you want to give your center the best chance of being formed in the most pono way, you would plan for that. Then maybe you wouldn't want to dig a big retention basin; maybe you would want to do a different method. I know someone who could possibly do that. As a person who is trying to protect and mālama the nā iwi kūpuna, and the sacred place that is the burial ground, has different thoughts about building. It doesn't mean we can't come to agreement. There are so many instances of workmen who have to look the other way. It is unfair to the workmen to make them do that. We have ground penetrating radar to identify and do less harm. So many things that can be done. I am happy that 'Āina Archaeology is doing the archaeology. I am putting my faith in your director. It is impotant that this is done right and the best way we can.

Mr. Sproat: Should the larger land zoning be done by the County, would you feel there would be the same impacts to the cultural resources?

Ms. Apana: The park sits directly on a dune that still exists. I've heard the planning committee talk about thinking about a healing garden, or traditional healing plants. And I think those are beautiful ideas. There are some things that could possibly be restored in the dunes. Sometimes they use the beach naupaka a lot. I do not think that is appropriate in these dunes. I've never seen those when I was growing up. Because of what you're doing, you have the possibility of doing a lot of really good things. You're not looking to make your biggest dollar.

Mr. Sproat: What kind of impact do you think there might be on traditions and customs?

Ms. Apana: If you are able to truly keep always our kupuna in the forefront, knowing that they need to be respected and listened to during this project, I would personally feel

like I had a little bit of success. If our kupuna are treated well in consultation with kanaka, in an open, transparent, and respectful way, I think that will be in keeping with what our kupuna want to see. As far as, if it doesn't go that way, if there is no consultation or prior approval, then I think that we would have failed as practitioners here, and I know that as far as planting, I don't know where your area is. I feel you could probably make it better than it is now. You could never mitigate disturbing a burial ground. That impact will never change.

Mr. Sproat: Should this project proceed, would you have any recommendations for conditions or best management practices?

Ms. Apana: Yes. I think that you should use a soft blade where necessary to do larger clearing. And you should follow the practice of 4 inches at a time. I believe that is what they use – 4 to 5 inches. I think that hand tools, if you are at close to anything, should be used. I believe that you should have a consultation of people with the sensitivity and experience in the sand dunes. I have been on a site where an archaeologist was standing on a burial pit, and I didn't like it, but I couldn't stop that. I think that the people should always be consulting with those who have spiritual and cultural expertise. The archaeologist should not have the final say with the iwi. That is consistent with national archaeology standards, not the State. I believe the respect that is shown to our people, who are alive now, is a reflection of the respect that is shown to our kupuna, who will be impacted by any project that does ground disturbance.

Mr. Sproat: Anything else you would like to share?

Ms. Apana: I would like to share that the time for true consultation, such as in a CIA although it does not have the force of law, is here. If you come to get my consultation, I expect it to be meaningful consultation, especially in these burial grounds of our kanaka maoli. They should be shown the dignity and respect that our consultation deserves, and that it is at the top of the list and at the forefront of how our iwi kupuna are affected by such a project. We should always remember that our kupuna live in history, made history, and live on now in relationship with us who are living today. We are still a living people. That respect and living history we are making now needs to be known by all who are here and will come here, and especially those who are here making something from our ʻāina and our people.

# 5.0 Impact Assessment

## 5.1 Impacts to Flora

There is no endangered flora in the area. The impact to flora was covered in the biological assessment and there are no anticipated impacts to rare floral of cultural significance. Nonetheless, the project should make an effort to plant native fauna in their landscaping in an effort to repopulate the area with indigenous, endemic, and native species within the project area. Additionally, the hala in the Project Area should be preserved and potentially enhanced. Ms. Apana identified that gathering occurs in the project area. She also supported the idea of growing additional plants in the area for gathering.

## 5.2 Impacts to Fauna

There is unlikely to be any impacts to candidate, threatened, or endangered fauna over the course of this project based on the biological assessment.

## 5.3 Impacts to Historic Sites

‘Āina Archaeology, LLC conducted a literature review and field investigation (LRFI) of the project area which assessed previous archaeology and included a 100% pedestrian survey of the project area. Based on this assessment, an AIS is recommended to potentially identify any subsurface cultural resources and minimize any potential impacts to these resources. Consultation with cultural and lineal descendants is recommended for the AIS. The ethnographic data also recommended cultural monitors; that issue would be addressed and resolved through the HRS 6E review process.

## 5.4 Impacts to Intangible Cultural Resources

The Project Area is currently a park, but the larger area is developed. Therefore, the project activities are unlikely to have any impact to intangible cultural resources in the area, although the project should minimize any potential impacts to weavers or other practitioners by protecting and enhancing the hala in the area. Also, as the ethnographic data indicated that the area is potentially used for hula classes, the project should work to ensure these activities are not disrupted due to the project.

## 5.5 Impacts to Cultural Practices

This project is unlikely to have any potential impact to the traditional and customary practices that take place in the surrounding region. In the event that historic resources or iwi kūpuna are discovered during the AIS or during subsequent project work, area cultural descendants and lineal descendants should be engaged to care of the iwi. As noted above, efforts should be made to preserve native plants that may be in the area and to grow additional native plants for cultural use.

## 5.6 Cumulative and Indirect Impacts

There are no anticipated cumulative or indirect cultural impacts to the area.

## 5.7 Mitigation and Best Management Practices

Standard archaeology best practices should be implemented. Compliance with HRS Chapter 6E will require consultation with the State Historic Preservation Division (SHPD), and any additional identification measures, in considered appropriate, should occur based on the consultation with SHPD. In the event of a discovery of cultural resources, cultural practitioners should be consulted as appropriate to ensure the proper treatment of any cultural resources and the allowance of appropriate cultural practices.

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## 6.0 *Ka Pa'akai Analysis*

Based on the guidelines set forth in *Ka Pa'akai*, the Hawai'i Supreme Court provided government agencies an analytical framework to ensure the protection and preservation of traditional and customary Native Hawaiian rights while reasonably accommodating competing private development interests. This is accomplished through:

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

This assessment thoroughly identified valued cultural, historical, and natural resources in the project area and an appropriate, larger geographic extent, including the extent to which traditional and customary Native Hawaiian rights are exercised in the project area. The study concludes that based on the archaeological review conducted and input from ethnographic informants, there is a potential for burials in the area. This potential resource should be addressed and managed through the HRS 6E process.

Potential cultural resources and practices have been discussed in the Impact Assessment in Section 5.0. Also included in the Impact Assessment section is a thorough assessment of the extent to which the identified resources and practices, including traditional and customary Native Hawaiian rights, may potentially be affected or impaired by the proposed action.

Based on this extensive identification effort and thorough analysis, which included interviews with a number of cultural experts and area practitioners, there is a potential for the project to have an effect on cultural resources in the project area, specifically on iwi kūpuna (traditional Hawaiian burials) or other subsurface historic properties. Additional investigation should be conducted to potentially identify iwi or other subsurface cultural resources in the Project Area. Potential effect(s) can be addressed, minimized, and/or mitigated through compliance with the HRS 6E process and in consultation with lineal and cultural descendants.

Additionally, there is a negliable potential for the project to have a direct, adverse impact on known or existing traditional or customary practices in the Project Area. Any potential for an adverse indirect or cumulative impact in the larger geographic extent can be minimized through the conditions and BMPs recommended herein. These conditions and BMPs

constitute feasible action that may be reasonably taken to protect Native Hawaiian rights and cultural rights in the larger geographic extent. Based on the information provided by the ethnographic interviews, should any additional projects take place in the surrounding region, it is recommended that an additional CIA be conducted to further investigate and identify other cultural practices that may take place in those areas.

Additionally, the project is encouraged to integrate native plants, Hawaiian-inspired motifs, and other design elements to honor Maui's unique cultural heritage while focusing on the place-based history of the area. The purpose of these efforts is to honor and respect the culture of the area while utilizing an opportunity to educate residents, patients, and visitors about native culture, history, and flora.

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## 7.0 Conclusion

The Kahului region is rich with both pre-contact and post-contact histories. While the project is unlikely to have any adverse impact on pre-contact historic properties or Hawaiian cultural practices, the project has an opportunity to enrich the area through interpretive botanical, cultural and historical programs. This study looked comprehensively at all historical records for the region and did not identify any current cultural practices or customs that would potentially be impacted by the project activity. This conclusion was supported by the oral histories from the area. Nonetheless, valuable cultural information was provided by area residents and practitioners that can be respectfully utilized to enrich the interpretive, landscaping, and educational elements of the project design.

The State and its agencies have an affirmative obligation to preserve and protect the reasonable exercise of customarily and traditionally exercised rights of Hawaiians to the extent feasible. Part of the manner in which this is implemented is through the completion of thorough and appropriately focused cultural impact assessments, which can effectively research and identify these practices so that they can be appropriated protected. *Ka Pa'akai* calls for a good faith effort on the part of the state to identify cultural resources, including traditional and customary practices, in the area. This CIA conducted an exhaustive and good faith effort to identify such resources and practices.

There are certainly such resources and practices within the larger geographic extent of the Wailuku, and it is possibly that there may be subsurface cultural resources in the Project Area. It will be important to fully investigate these potential resources and address any finds accordingly and in consultation with area practitioners. In the event that resources are identified, cultural practitioners should be given every opportunity to care for these resources in a manner consistent with traditional or customary practices.

The CIA did not identify any ongoing cultural practices in the Project Area, although it is noted that there may be cultural use of the hala and that potential practices, like hula, may take place on the adjacent parcel. Nonetheless, potential effects to known and current cultural practices are negligible due to the absence of ongoing traditional or customary practices in the immediate project area.

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## Appendix I: Glossary of Hawaiian Terms

The following list of terms were used frequently throughout this report. All definitions were compiled using Pukui and Elbert's *Hawaiian Dictionary* (1986).

| | |
|---|---|
| Ahupuaʻa | Land division usually extending from the uplands to the sea, so called because the boundary was marked by a heap (ahu) of stones surmounted by an image of a pig (puaʻa), or because a pig or other tribute was laid on the altar as tax to the chief. |
| ʻĀina | Land, earth. *Lit.* That which feeds. |
| Akua | 1. God, goddess, spirit, ghost. 2. Divine, supernatural, godly. |
| Ala | Path, road, trail. |
| Aliʻi | 1. Chief, chiefess, ruler, monarch. 2. Royal, regal. 3. To act as chief, reign. |
| ʻAumakua | Family or personal gods, deified ancestors who might assume the shape of sharks, owls, hawks, dogs, plants, etc. A symbiotic relationship existed; mortals did not harm or eat them, and the ʻaumakua warned or reprimanded mortals in dreams, visions, and calls. |
| ʻAumākua | Plural of ʻaumakua. |
| ʻAuwai | Irrigation ditch, canal, waterway. |
| Hālau | 1. Long house, as for canoes or hula instruction; meeting house. 2. Large, numerous; much. |
| Hale pili | House thatched with pili grass. |
| Heiau | Pre-Christian place of worship, shrine. Some heiau were elaborately constructed stone platforms, other simple earth terraces. |
| Hoʻi | 1. To leave, go or come back; to cause to come back. 2. To enter, as an institution or last resting place. 3. A parting chant to which hula dancers dance as they leave the audience. 4. Marriage of a chief with the daughter of a brother or sister; to do so (a means of increasing offspring). |
| Hula | A Hawaiian dance form accompanied by chant or song. |
| ʻIli | Land section, next in importance to ahupuaʻa and usually a subdivision of an ahupuaʻa. |
| ʻIli kū | Shorted form of ʻili kūpono. |
| ʻIli kūpono | A nearly independent ʻili land division within an ahupuaʻa, paying tribute to the ruling chief and not to the chief of the ahupuaʻa. Transfer of the ahupuaʻa from one chief to another did not include the ʻili kūpono located within its boundaries. Sometimes shorted to ʻili kū. |

| | |
|---|---|
| Kanaka | Human being, person, individual, party, humankind, population; often used for man. |
| Kānaka | Plural of kanaka. |
| Kāne | Male, husband, male sweetheart, man; brother-in-law of a woman. |
| Kanikau | 1. Dirge, lamentation, chant of mourning, lament. 2. To chant, wail, mourn. |
| Kapu | 1. Taboo, prohibition. 2. Special privilege or exemption from ordinary taboo. 3. Sacredness, prohibited, forbidden, sacred, holy, consecrated. 4. No trespassing, keep out. |
| Kuleana | Right, privilege, concern, responsibility, title, business, property, estate, portion, jurisdiction, authority, liability, interest, claim, ownership, tenure, affair, province. |
| Kupuna | Grandparent, ancestor, relative or close friend of the grandparent's generation, grandaunt, granduncle. |
| Kūpuna | Plural of kupuna. |
| Limu | A general name for all kinds of plants living under water, both fresh and salt, also algae growing in any damp place in the air, as on the ground, on rocks, and on other plants; also mosses, liverworts, lichens. |
| Loʻi | Irrigated terrace, especially for taro, but also for rice and paddy. |
| Loko iʻa | Traditional Hawaiian fishpond. |
| Makai | On the seaside, toward the sea, in the direction of the sea. |
| Mālama | To take care of, tend, attend, care for, preserve, protect, beware, save, maintain. |
| Mauka | Inland, upland, towards the mountain. |
| Mele | 1. Song, anthem, or chant of any kind. 2. Poem, poetry. 3. To sing, chant. |
| Mele mākaʻikaʻi | Travel chant. |
| Mōʻī | King, sovereign, monarch, majesty, ruler, queen. |
| Moku | 1. District, island, islet, section, forest, grove, clump, fragment. 2. To be cut, severed, amputated, broken in two. |
| Moʻo | Lizard, reptile of any kind, dragon, serpent. |
| Moʻolelo | Story, tale, myth, history, tradition, literature, legend, journal, log, yard, fable, essay, chronicle, record, article. |
| Moʻowahine | Female lizard deity. |
| Nīʻaupiʻo | Offspring of the marriage of a high-born brother and sister, or half-brother and half-sister. |
| ʻŌlelo noʻeau | Proverb, wise saying, traditional saying. |
| Oli | Chant that was not danced to, especially with prolonged phrases chanted in one breath, often with a trill at the end of each phrase; to chant thus. |
| Piʻo | Marriage of full brother and sister of nīʻaupiʻo rank, presumably the highest possible rank. Their offspring had the rank of naha, which is less |

| | |
|---|---|
| | than piʻo but probably more than nīʻaupiʻo. Later piʻo included marriage with half-sibling. |
| Pueo | Hawaiian short-eared owl (*Asio flammeus sandwichensis*), regarded often as a benevolent ʻaumakua. |
| ʻŪniki | Graduation exercises, as for hula, lua fighting, and other ancient arts (probably related to niki, to tie, as the knowledge was bound to the student). |
| Wahi pana | A legendary place; a place made special celebrated in stories associated with it. Often sacred. |
| Wahine | Woman, lady, wife; sister-in-law, female cousin-in-law of a man, female. |
| Wao | 1. Realm. 2. A general term for inland region usually forested but not precipitous and often uninhabited. |

# *Appendix E:*
# *Traffic Impact Analysis Report*

# TRAFFIC IMPACT ANALYSIS REPORT HALE MAKUA REHABILITATION FACILITY

KAHULUI, MAUI, HAWAII

## DRAFT

August 10, 2021

Prepared for:

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# TRAFFIC IMPACT ANALYSIS REPORT
# HALE MAKUA REHABILITATION FACILITY

Kahului, Maui, Hawaii

## DRAFT

Prepared for

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August 10, 2021

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# TRAFFIC IMPACT ANALYSIS REPORT

## Hale Makua Rehabilitation Facility 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 Hale Makua Rehabilitation Facility 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 currently vacant parcels of land more specifically identified as TMK: (2) 4-4-013:004-005 & 008. The Project will be bounded by the Laau Street/Hale Makua Driveway to the north, Kaulana Street to the east, and Uhu Street to the south. See Figure 1.1 for Project location.

## 1.2 Project Description

The Project is planned to be an approximately 65,820 square-foot rehabilitation facility with 78 beds, specializing in physical therapy, occupational therapy, speech pathology, and hand therapy. The Project is anticipated to be completed by 2023. See Figure 1.2 for Project Site Plan.

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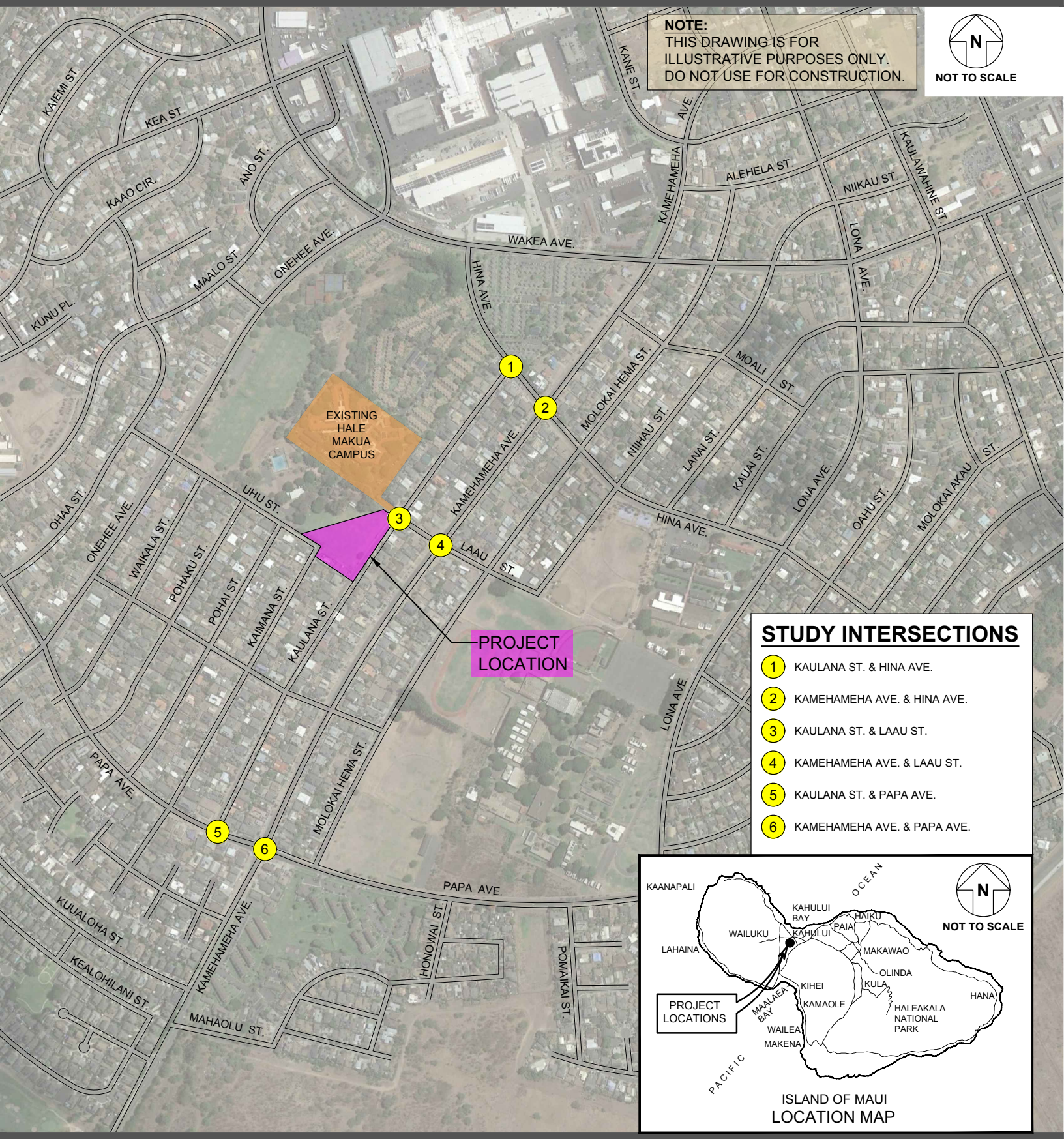
# HALE MAKUA REHABILITATION FACILITY TIAR

AustinTsutsumi & ASSOCIATES, INC.
Engineers & Surveyors




# FIGURE 1.1

LOCATION MAP

# HALE MAKUA REHABILITATION FACILITY TIAR

AustinTsutsumi & ASSOCIATES, INC.
Engineers & Surveyors

**NOTE:**
THIS DRAWING IS FOR ILLUSTRATIVE PURPOSES ONLY.
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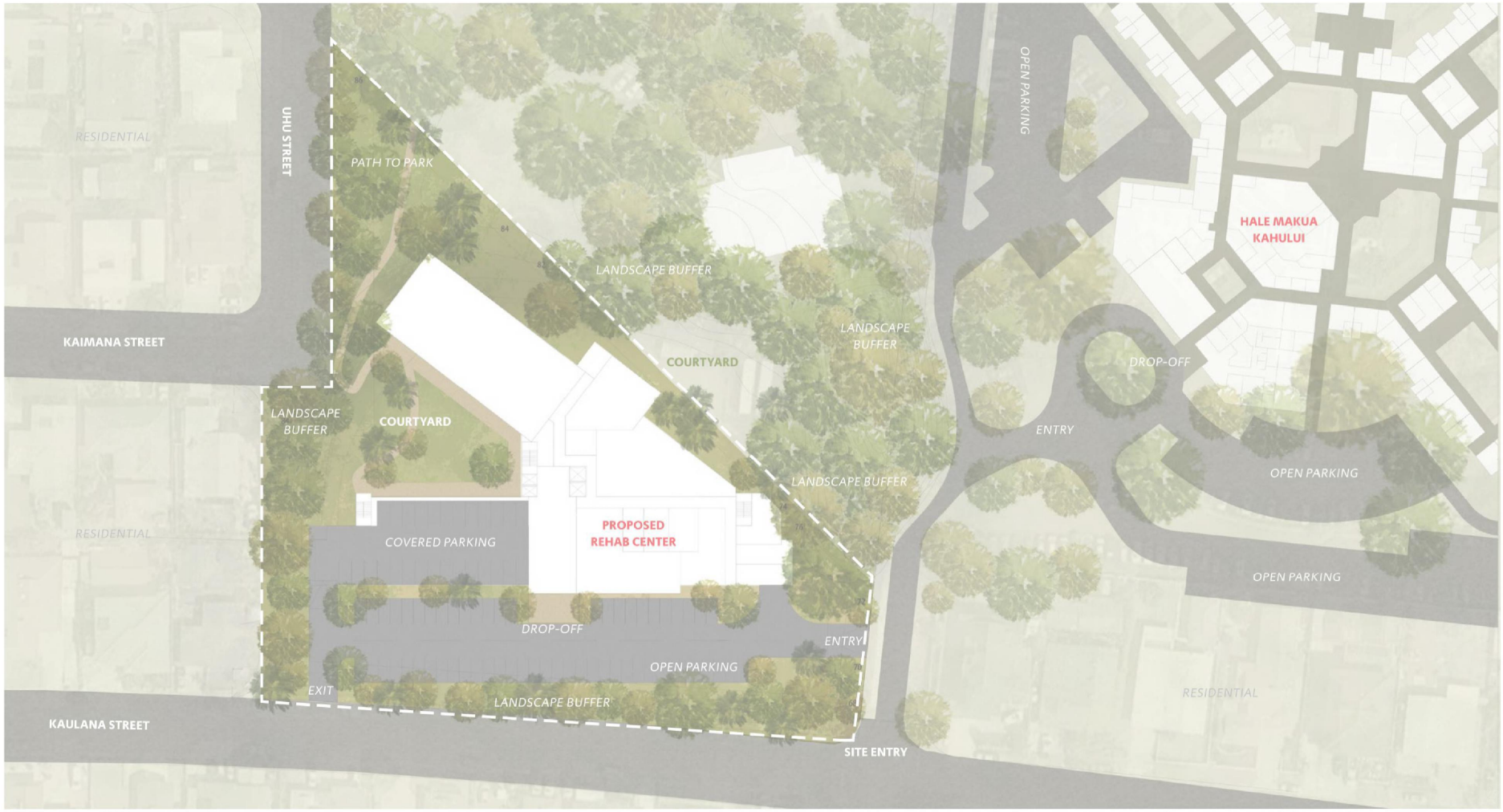


# FIGURE 1.2

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 2023 (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 2023 (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

Intersection analysis within the Project's study area was performed on the following intersections due to their proximity to the Project:

- Kaulana Street/Hina Ave (Unsignalized)
- Kamehameha Avenue/Hina Avenue (Signalized)
- Kaulana Street/Laau Street (Unsignalized)
- Kamehameha Avenue/Laau Street (Unsignalized)
- Kaulana Street/Papa Avenue (Unsignalized)
- Kamehameha Avenue/Papa Avenue (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:

Hina Avenue is generally an east-west, two-way, two-lane, undivided County roadway that begins to the west at its intersection with Wakea Avenue and terminates to the east at its intersection with Ani Street, where it transitions into Hina Place. The posted speed limit along this roadway is 20 mph.

Kamehameha Avenue is generally a north-south, two-way, two-lane, undivided County roadway which provides connectivity between the Wailuku and Kahului areas. Kamehameha Avenue begins to the north with its intersection with Hana Highway near the Kanaha Pond, extends westward and then curves southward where it eventually terminates near Pomaikai Elementary School. The posted speed limit along this roadway is 20 mph.

Kaulana Street is generally a north-south, two-way, two-lane undivided County roadway which begins to the north at a T-intersection with Hina Avenue and extends southward until it terminates at a T-intersection with Papa Avenue. The posted speed limit along this roadway is 20 mph.

Laau Street is generally an east-west, two-way, two-lane, undivided, local roadway that begins to the west at its intersection with Lono Avenue and the Maui High School Main Parking Entrance and terminates to the east at its intersection with Ani Street. The posted speed limit along this roadway is 20 mph.

Papa Avenue begins at its intersection with Kaahumanu Avenue to the north and extends to the south before turning east and terminating at a cul-de-sac east of its intersection with Kuula Street. Papa Avenue is generally a two-lane, undivided residential roadway with a posted speed limit of 30 mph. Papa Avenue provides local access to residences and schools throughout Kahului.

## 3.2 Multimodal Facilities

### 3.2.1 Bicycle and Pedestrian Facilities

The residential area in the vicinity of the Project, also known as “Dream City”, is a relatively older neighborhood. As a result, many of the local streets have relatively narrow walking paths fronting the homes but no bike accommodations. Some of the collector roads have marked bike lanes/paved shoulders for bike use and sidewalks. In the vicinity of the Project, sidewalks are provided along the east side of Kaulana Street, both sides of Hina Avenue and both sides of Papa Avenue. There are no sidewalks along Laau Street.

HDOT completed the Bike Plan Hawaii Master Plan in 2003. The Bike Plan Hawaii Master plan identifies existing and proposed bicycle facilities. Existing paved shoulders are provided at the bike routes described below:

- Kamehameha Avenue between Puunene Avenue and Papa Avenue
- Papa Avenue between Kaahumanu Avenue and Kamehameha Avenue
- Hina Avenue between Wakea Avenue and Papa Avenue

### 3.2.2 Transit Facilities

The Maui Bus system offers several routes that connect the major areas in Maui. The Kahului Loop route provides service to several major generators, including UH Maui College, the Queen Kaahumanu Center, Dairy Road, Maui Marketplace, and Hookele Street. Kahului Loop Route #5 travels counterclockwise along this route, and Route #6 travels clockwise. The Kahului Loop Route also provides connection to the existing Queen Kaahumanu Center Bus Hub, which serves as a transit hub for regional travel to other areas of the island. The nearest transit stops to the Project are located at the Kamehameha Avenue/Laau Street intersection, less than 600 feet away from the Project, and at the Onehee Avenue/Uhu Street intersection, approximately 0.20 miles away from the Project.

## 3.3 Existing Traffic Volumes

Turning movement counts were collected on Wednesday, June 16, 2021. To adjust these counts to pre-COVID-19 levels, traffic volumes were increased to match turning movement counts at the Kamehameha Avenue intersections with Hina Avenue and Papa Avenue which were collected in 2018 and 2019, prior to traffic impacts from COVID-19. Based on the traffic count data, the weekday AM and PM peak hours of traffic were determined to occur generally between 7:00 AM and 8:00 AM and between 4:00 PM to 5:00 PM, respectively. See the traffic count data provided in Appendix A for the existing intersections studied and their corresponding traffic count data.

## 3.4 Existing Observations and Intersection Analysis

Traffic throughout the study network was observed to generally flow smoothly along the corridors, with no significant queues, with the exception of congestion fronting Kahului Elementary School and Maui High School. Synchro analysis shows that all movements throughout the network operate at LOS C or better across both peak hours.

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.

# HALE MAKUA REHABILITATION FACILITY TIAR

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Engineers & Surveyors

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DATE OF COUNTS:
WEDNESDAY, JUNE 16, 2021

AM PEAK HOUR:
7:00 AM - 8:00 AM

PM PEAK HOUR:
4:00 PM - 5:00 PM

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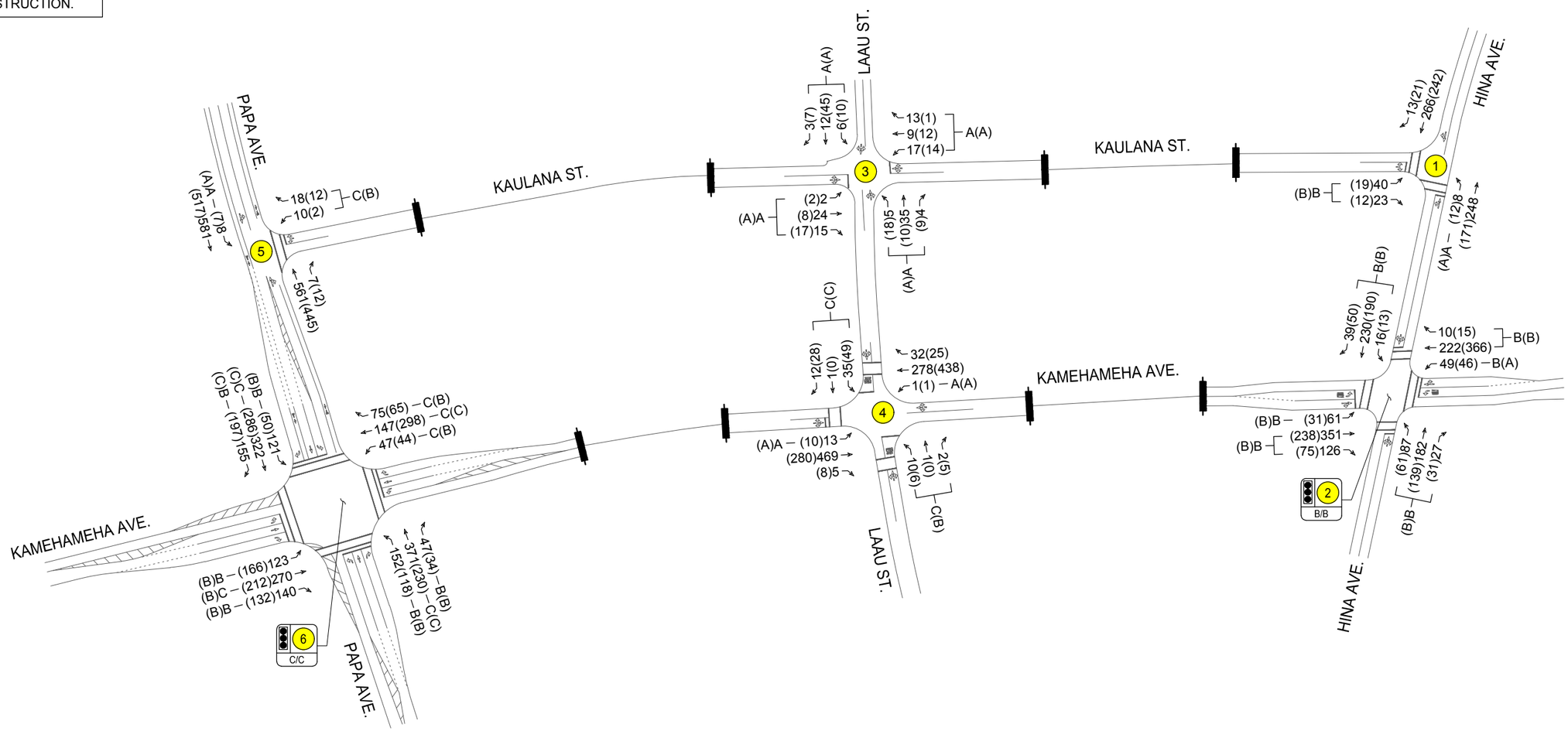


## LEGEND

| | |
|---|---|
| ##(##) | - AM(PM) VEHICLE VOLUMES |
| Y / X/X | - SIGNALIZED INTERSECTION Y, OVERALL AM/PM LOS |
| X | - UNSIGNALIZED INTERSECTION X |
| X(X) | - AM(PM) LOS |

# FIGURE 3.1

EXISTING CONDITIONS

Table 3.1: Existing LOS Summary

| Intersection | Existing Conditions | | | | | |
|---|---|---|---|---|---|---|
| | AM | | | PM | | |
| | HCM Delay | v/c Ratio | LOS | HCM Delay | v/c Ratio | LOS |
| **1: Kaulana St & Hina Ave** | | | | | | |
| NB LT/RT | 12.7 | 0.13 | B | 11.4 | 0.06 | B |
| WB LT | 7.9 | 0.01 | A | 7.9 | 0.01 | A |
| *Overall* | 1.4 | - | - | 0.9 | - | - |
| **2: Kamehameha Ave & Hina Ave** | | | | | | |
| NB LT | 10.4 | 0.13 | B | 10.3 | 0.10 | B |
| NB TH/RT | 18.1 | 0.81 | B | 13.7 | 0.62 | B |
| EB LT/TH/RT | 17.8 | 0.55 | B | 15.4 | 0.53 | B |
| WB LT/TH/RT | 18.4 | 0.61 | B | 15.0 | 0.49 | B |
| SB LT | 12.1 | 0.18 | B | 9.9 | 0.13 | A |
| SB TH/RT | 13.3 | 0.39 | B | 14.4 | 0.72 | B |
| *Overall* | 16.7 | - | B | 14.3 | - | B |
| **3: Laau St & Kaulana St** | | | | | | |
| NB LT/TH/RT | 7.1 | 0.05 | A | 7.0 | 0.03 | A |
| EB LT/TH/RT | 7.2 | 0.03 | A | 7.4 | 0.08 | A |
| WB LT/TH/RT | 7.3 | 0.06 | A | 7.3 | 0.05 | A |
| SB LT/TH/RT | 7.2 | 0.05 | A | 7.4 | 0.03 | A |
| *Overall* | 7.2 | - | A | 7.3 | - | A |
| **4: Kamehameha Ave & Laau St** | | | | | | |
| NB LT | 8.0 | 0.01 | A | 8.4 | 0.01 | A |
| EB LT/TH/RT | 18.5 | 0.16 | C | 18.5 | 0.24 | C |
| WB LT/TH/RT | 18.1 | 0.05 | C | 14.9 | 0.03 | B |
| SB LT | 8.4 | 0.00 | A | 7.9 | 0.00 | A |
| *Overall* | 1.4 | - | - | 2.0 | - | - |
| **5: Papa Ave & Kaulana St** | | | | | | |
| EB LT | 8.8 | 0.01 | A | 8.4 | 0.01 | A |
| SB LT/RT | 18.1 | 0.10 | C | 12.7 | 0.03 | B |
| *Overall* | 0.5 | - | - | 0.2 | - | - |
| **6: Papa Ave & Kamehameha Ave** | | | | | | |
| NB LT | 19.3 | 0.36 | B | 18.2 | 0.50 | B |
| NB TH | 25.2 | 0.74 | C | 19.0 | 0.42 | B |
| NB RT | 19.8 | 0.16 | B | 16.8 | 0.11 | B |
| EB LT | 16.3 | 0.39 | B | 18.4 | 0.16 | B |
| EB TH | 22.4 | 0.71 | C | 25.9 | 0.75 | C |
| EB RT | 17.6 | 0.17 | B | 20.5 | 0.19 | C |
| WB LT | 15.7 | 0.43 | B | 18.6 | 0.40 | B |
| WB TH | 22.7 | 0.77 | C | 21.0 | 0.51 | C |
| WB RT | 16.0 | 0.03 | B | 17.6 | 0.02 | B |
| SB LT | 20.7 | 0.20 | C | 18.3 | 0.12 | B |
| SB TH | 24.7 | 0.52 | C | 26.7 | 0.78 | C |
| SB RT | 21.6 | 0.05 | C | 19.7 | 0.04 | B |
| *Overall* | 21.5 | - | C | 21.9 | - | C |

# 4. BASE YEAR 2023 TRAFFIC CONDITIONS

The Year 2023 was selected to reflect the Project completion year. The Base Year 2023 scenario represents the traffic conditions within the study area without the Project. Traffic projections were formulated by applying a defacto growth rate to the "Existing" conditions volumes as well as trips generated by known future developments in the vicinity of the Project.

## 4.1 Defacto Growth Rate

The Base Year 2023 scenario includes an annual ambient growth forecast by the Maui Regional Travel Demand Model (MRTDM) and other known developments in the vicinity of the Project anticipated to be completed by the Year 2023. Growth rates ranging from 1.17%-1.90% were applied to Papa Avenue, Hina Avenue, and Kamehameha Avenue.

## 4.2 Traffic Forecasts for Known Developments

By the Year 2023, numerous developments are forecast to be completed within the Project study area. The known developments that are projected to be complete by Year 2023 and generate traffic within the Project study area are listed below based on the available information. It should be noted that some projects listed below are likely to be developed after 2023 but were included to estimate a conservative forecast:

**Kahului Developments**

- 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. Primary access will be provided on the south side of the parcel from a right-in right-out (RIRO) access along Haleakala Highway, and secondary access will be provided by a driveway from a shared easement on the east side of the project, which also serves the Courtyard by Marriott Hotel. The SMA permit for the Keolani Triangle Retail Center was approved by the Maui Planning Commission in January 2019.
- 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 parking lot expansion 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, and Skyline Eco-Adventures, consisting of a corporate office building, vehicle maintenance building and baseyard. The remaining land is currently undeveloped, and is projected to consist of 50 percent commercial uses and 50 percent light industrial uses.
- 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, many developments within MBP SPA were constructed. The Maui County Service center is scheduled to open soon.
- 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.

**Wailuku Developments**

- Wailuku Apartments is a proposed 324 multi-family dwelling units upon 14.4 acres of undeveloped land bound by Kuikahi Drive to the north, the proposed Emmanuel Lutheran Pre-School to the south, Waiale Road to the east, and Honoapiilani Highway to the west. Vehicular access is anticipated to be provided by two new project accesses; one along Kuikahi Drive directly across the Kehalani Village Center driveway and one along Waiale Road.
- Kehalani Village Center is proposed to include infill development of the existing retail center in the Kehalani subdivision currently occupied by Longs Drugs, Foodland, Foodland Gas, American Savings Bank, Coffee Bean Tea & Leaf, McDonalds and Fabmac Homes. The Maui County Federal Credit Union is currently being constructed.
- Kehalani Mauka is the proposed expansion of the existing residential subdivision located north of Kuikahi Drive, west of Honoapiilani Highway and east of Wailuku Heights. Kehalani Mauka is partially developed with residential homes and the Puu Kukui Elementary School. Based on the latest projections, approximately 304 single-family homes and 54 multi-family units may be completed by year 2023. The Kehalani Mauka Parkway Loop is also anticipated to be completed by year 2023.
- Waikapu Country Town is a future development is currently going through the entitlement process to obtain permits for construction. For purposes of this TIAR, it is assumed that permit approval and infrastructure construction will be complete by Year 2024 and the initial phase that includes 150 single-family residential units (identified in the project EIS) will be constructed and occupied.
- Ag Subdivision Lots is a proposed five (5) Ag-lot subidivision, adjacent and to the west of the proposed Puunani Homestead project site. Ohana units will be permitted and access to the site will occur temporarily by the existing dirt road easement just north of the Waiolani Subdivision.
- Waikapu Ventures Affordable Housing is a proposed residential subdivision with 68 single-family units and 12 multi-family units on land bound by Emmanuel Lutheran Pre-School to the north, Waiale Elua to the south, Waiale Road to the east, and Honoapiilani Highway to the west. The forecast AM and PM peak hour trips were obtained from the Project's TIAR dated 2018 and added to the roadway network.
- Maui Lani Parkways Phase 4 is a proposed additional 74 single-family units to the existing Maui Lani Parkways Phase 1 and 2 residential subdivision bound by Maui Lani Parkway to the south and The Dunes at Maui Lani Golf Course to the north.

## 4.3 Planned Roadway Improvements

There are no planned roadway improvements in the study area that is anticipated to be complete by 2023.

## 4.4 Base Year 2023 Analysis

Due to background projects and ambient growth, it is anticipated that Kamehameha Avenue will experience an increase in approximately 35-80 vehicles per direction during the AM and PM peak hours. Papa Avenue is anticipated to experience an increase of approximately 20-60 vehicles per direction during the AM and PM peak hours as well. Hina Avenue is anticipated to experience an increase of less than 10 vehicles per direction during the AM and PM peak hours. With the volume increases, all movements are anticipated to continue to operate similarly to Existing conditions, with all movements operating and LOS C or better across all peak hours.

Figure 4.1 illustrates the Base Year 2023 forecast traffic volumes and LOS for all study intersections. Table 4.1 also summarizes the Base Year 2023 LOS at the study intersections. LOS worksheets are provided in Appendix C.

# HALE MAKUA REHABILITATION FACILITY TIAR

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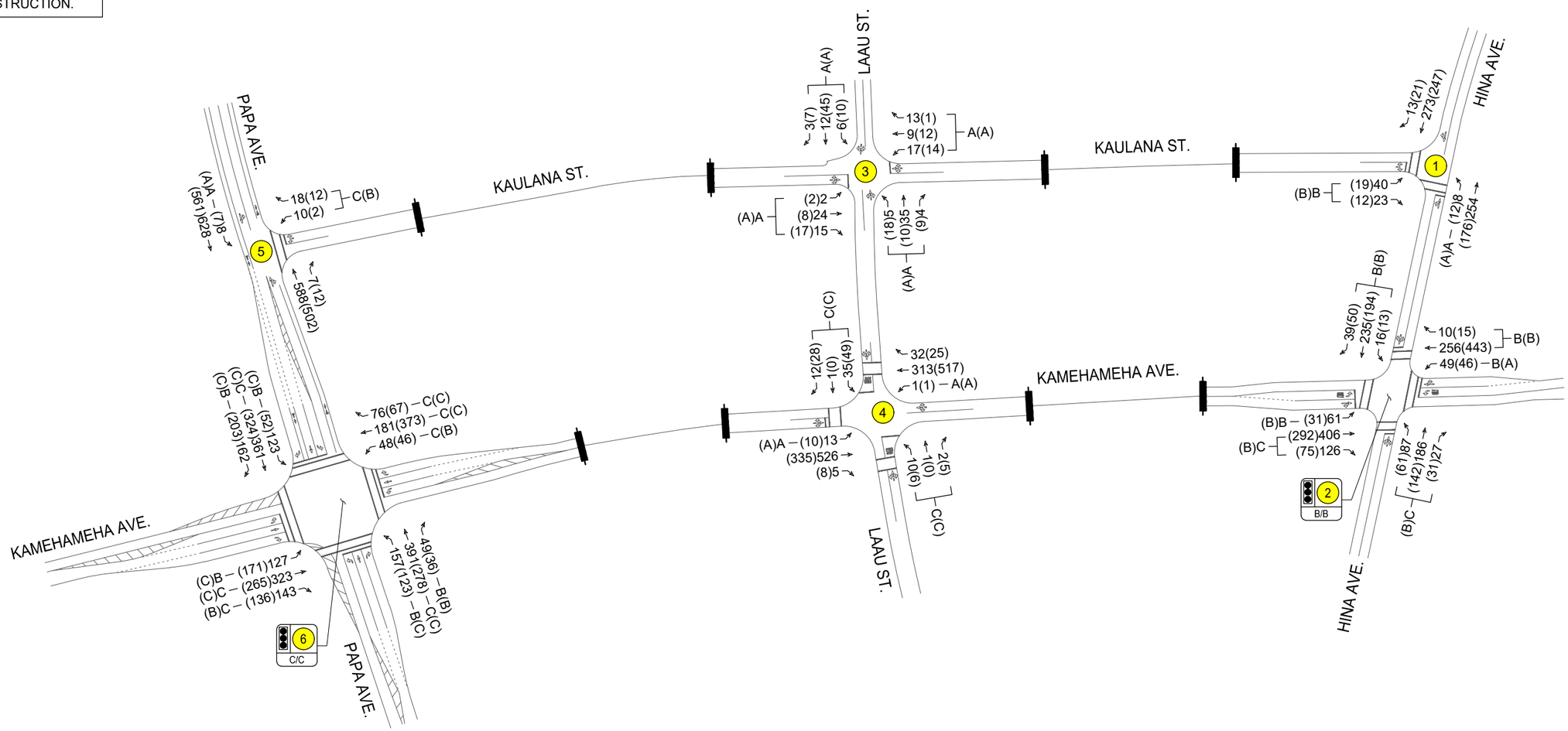


## LEGEND

| | |
|---|---|
| ##(##) | - AM(PM) VEHICLE VOLUMES |
| Y / X/X | - SIGNALIZED INTERSECTION Y, OVERALL AM/PM LOS |
| X | - UNSIGNALIZED INTERSECTION X |
| X(X) | - AM(PM) LOS |

# FIGURE 4.1

BASE YEAR CONDITIONS

Table 4.1: Existing and Base Year LOS Summary

| Intersection | Existing Conditions | | | | | | Base Year Conditions | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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: Kaulana St & Hina Ave** | | | | | | | | | | | | |
| NB LT/RT | 12.7 | 0.13 | B | 11.4 | 0.06 | B | 12.9 | 0.13 | B | 11.4 | 0.06 | B |
| WB LT | 7.9 | 0.01 | A | 7.9 | 0.01 | A | 7.9 | 0.01 | A | 7.9 | 0.01 | A |
| *Overall* | 1.4 | - | - | 0.9 | - | - | 1.4 | - | - | 0.9 | - | - |
| **2: Kamehameha Ave & Hina Ave** | | | | | | | | | | | | |
| NB LT | 10.4 | 0.13 | B | 10.3 | 0.10 | B | 10.4 | 0.14 | B | 10.5 | 0.11 | B |
| NB TH/RT | 18.1 | 0.81 | B | 13.7 | 0.62 | B | 21.1 | 0.84 | C | 13.7 | 0.64 | B |
| EB LT/TH/RT | 17.8 | 0.55 | B | 15.4 | 0.53 | B | 19.2 | 0.56 | B | 17.0 | 0.56 | B |
| WB LT/TH/RT | 18.4 | 0.61 | B | 15.0 | 0.49 | B | 20.0 | 0.63 | C | 16.6 | 0.51 | B |
| SB LT | 12.1 | 0.18 | B | 9.9 | 0.13 | A | 12.8 | 0.19 | B | 9.8 | 0.13 | A |
| SB TH/RT | 13.3 | 0.39 | B | 14.4 | 0.72 | B | 13.5 | 0.42 | B | 14.9 | 0.77 | B |
| *Overall* | 16.7 | - | B | 14.3 | - | B | 18.4 | - | B | 15.0 | - | B |
| **3: Laau St & Kaulana St** | | | | | | | | | | | | |
| NB LT/TH/RT | 7.1 | 0.05 | A | 7.0 | 0.03 | A | 7.1 | 0.05 | A | 7.0 | 0.03 | A |
| EB LT/TH/RT | 7.2 | 0.03 | A | 7.4 | 0.08 | A | 7.2 | 0.03 | A | 7.4 | 0.08 | A |
| WB LT/TH/RT | 7.3 | 0.06 | A | 7.3 | 0.05 | A | 7.3 | 0.06 | A | 7.3 | 0.05 | A |
| SB LT/TH/RT | 7.2 | 0.05 | A | 7.4 | 0.03 | A | 7.2 | 0.05 | A | 7.4 | 0.03 | A |
| *Overall* | 7.2 | - | A | 7.3 | - | A | 7.2 | - | A | 7.3 | - | A |
| **4: Kamehameha Ave & Laau St** | | | | | | | | | | | | |
| NB LT | 8.0 | 0.01 | A | 8.4 | 0.01 | A | 8.1 | 0.01 | A | 8.7 | 0.01 | A |
| EB LT/TH/RT | 18.5 | 0.16 | C | 18.5 | 0.24 | C | 21.1 | 0.19 | C | 22.8 | 0.29 | C |
| WB LT/TH/RT | 18.1 | 0.05 | C | 14.9 | 0.03 | B | 20.4 | 0.06 | C | 17.2 | 0.04 | C |
| SB LT | 8.4 | 0.00 | A | 7.9 | 0.00 | A | 8.6 | 0.00 | A | 8.0 | 0.00 | A |
| *Overall* | 1.4 | - | - | 2.0 | - | - | 1.5 | - | - | 2.0 | - | - |
| **5: Papa Ave & Kaulana St** | | | | | | | | | | | | |
| EB LT | 8.8 | 0.01 | A | 8.4 | 0.01 | A | 8.9 | 0.01 | A | 8.6 | 0.01 | A |
| SB LT/RT | 18.1 | 0.10 | C | 12.7 | 0.03 | B | 19.4 | 0.11 | C | 13.6 | 0.04 | B |
| *Overall* | 0.5 | - | - | 0.2 | - | - | 0.5 | - | - | 0.2 | - | - |
| **6: Papa Ave & Kamehameha Ave** | | | | | | | | | | | | |
| NB LT | 19.3 | 0.36 | B | 18.2 | 0.50 | B | 19.9 | 0.37 | B | 20.2 | 0.57 | C |
| NB TH | 25.2 | 0.74 | C | 19.0 | 0.42 | B | 26.9 | 0.79 | C | 20.6 | 0.48 | C |
| NB RT | 19.8 | 0.16 | B | 16.8 | 0.11 | B | 20.2 | 0.15 | C | 17.7 | 0.11 | B |
| EB LT | 16.3 | 0.39 | B | 18.4 | 0.16 | B | 17.7 | 0.42 | B | 20.6 | 0.18 | C |
| EB TH | 22.4 | 0.71 | C | 25.9 | 0.75 | C | 25.2 | 0.78 | C | 29.5 | 0.79 | C |
| EB RT | 17.6 | 0.17 | B | 20.5 | 0.19 | C | 18.9 | 0.19 | B | 23.0 | 0.23 | C |
| WB LT | 15.7 | 0.43 | B | 18.6 | 0.40 | B | 17.4 | 0.49 | B | 21.0 | 0.44 | C |
| WB TH | 22.7 | 0.77 | C | 21.0 | 0.51 | C | 24.6 | 0.79 | C | 23.9 | 0.58 | C |
| WB RT | 16.0 | 0.03 | B | 17.6 | 0.02 | B | 17.1 | 0.03 | B | 19.3 | 0.02 | B |
| SB LT | 20.7 | 0.20 | C | 18.3 | 0.12 | B | 21.5 | 0.22 | C | 19.3 | 0.13 | B |
| SB TH | 24.7 | 0.52 | C | 26.7 | 0.78 | C | 25.7 | 0.55 | C | 31.3 | 0.84 | C |
| SB RT | 21.6 | 0.05 | C | 19.7 | 0.04 | B | 22.1 | 0.05 | C | 20.6 | 0.04 | C |
| *Overall* | 21.5 | - | C | 21.9 | - | C | 23.3 | - | C | 24.9 | - | C |

# 5. FUTURE YEAR 2023 TRAFFIC CONDITIONS

The Future Year 2023 scenario represents the traffic conditions within the Project study area with the full build-out of the Project.

## 5.1 Background

The Project is planned to be an approximately 65,820 square-foot rehabilitation facility with 78 beds, specializing in physical therapy, occupational therapy, speech pathology, and hand therapy. The Project is anticipated to be completed by 2023.

## 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 independent variables can range from Dwelling Units (DU) for single and multi-family attached homes to Square-foot Gross Floor Area (SF GFA) for commercial development. These trip rates/formulae and their associated directional distributions were used to estimate the increase in vehicular trips generated by the proposed Project.

The ITE 610 Hospital rates were used to generated Project trips. While the Project does not have all the attributes of a hospital, this use was more comparable than other applicable uses such as Nursing Home (ITE 610) and Clinic (ITE 630). The independent variable of SF GFA was used in lieu of beds due to a greater number of data points that were also more closely in line with the relatively small size of this facility. 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 Type (ITE Code) | Independent Variable | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|
| | | % Enter | Trip Rate | % Enter | Trip Rate |
| Hospital (610) | 65.82 kSF GFA | 68% | 0.89 | 32% | 0.97 |

Notes:
1. kSF GFA = 1,000 SF Gross Floor Area

**Table 5.2: Project-Generated Trips**

| Land Use Type (ITE Code) | Independent Variable | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|---|
| | | Enter (vph) | Exit (vph) | Total (vph) | Enter (vph) | Exit (vph) | Total (vph) |
| Hospital (610) | 65.82 kSF GFA | 40 | 19 | 59 | 20 | 44 | 64 |

### 5.2.2 Trip Distribution & Assignment

Since future patients may reside from all areas of Maui, trips generated by the Project were assigned throughout the study area generally based upon existing traffic flows from major arterials and connections to nearby collector roads. Project trips will be restricted to enter at the existing Hale Makua Access Road/Laau Street and restricted to exit via a new driveway about 380 feet southwest of the Kaulana Street/Laau Street intersection. The traffic generated by the Project was added to the forecast Base Year 2023 traffic volumes within the vicinity of the Project to constitute the traffic volumes for the Future Year 2023 traffic conditions. Figure 5.1 illustrates the Project-generated trip distribution.

## 5.3 Future Year 2023 Analysis

The Project is anticipated to generate a total of 59(64) trips during the AM(PM) peak hours. When distributed across the study network, the Project is anticipated to minimally add only 5-8 vehicles per direction along adjacent collector roads. Upon completion of the Project, all study intersections are forecast to operate with similar LOS as Base Year 2023 traffic conditions, with all movements operating acceptably at LOS D or better across both peak hours.

At the new entering and exiting driveway intersections, all movements are anticipated to operate at LOS A across both peak hours.

See Figure 5.2 for the Future Year 2023 with Project traffic volumes and LOS. Table 5.3 summarizes the Existing, Base Year 2023, and Future Year 2023 with Project LOS at the study intersections. LOS worksheets are provided in Appendix C.

# HALE MAKUA REHABILITATION FACILITY TIAR

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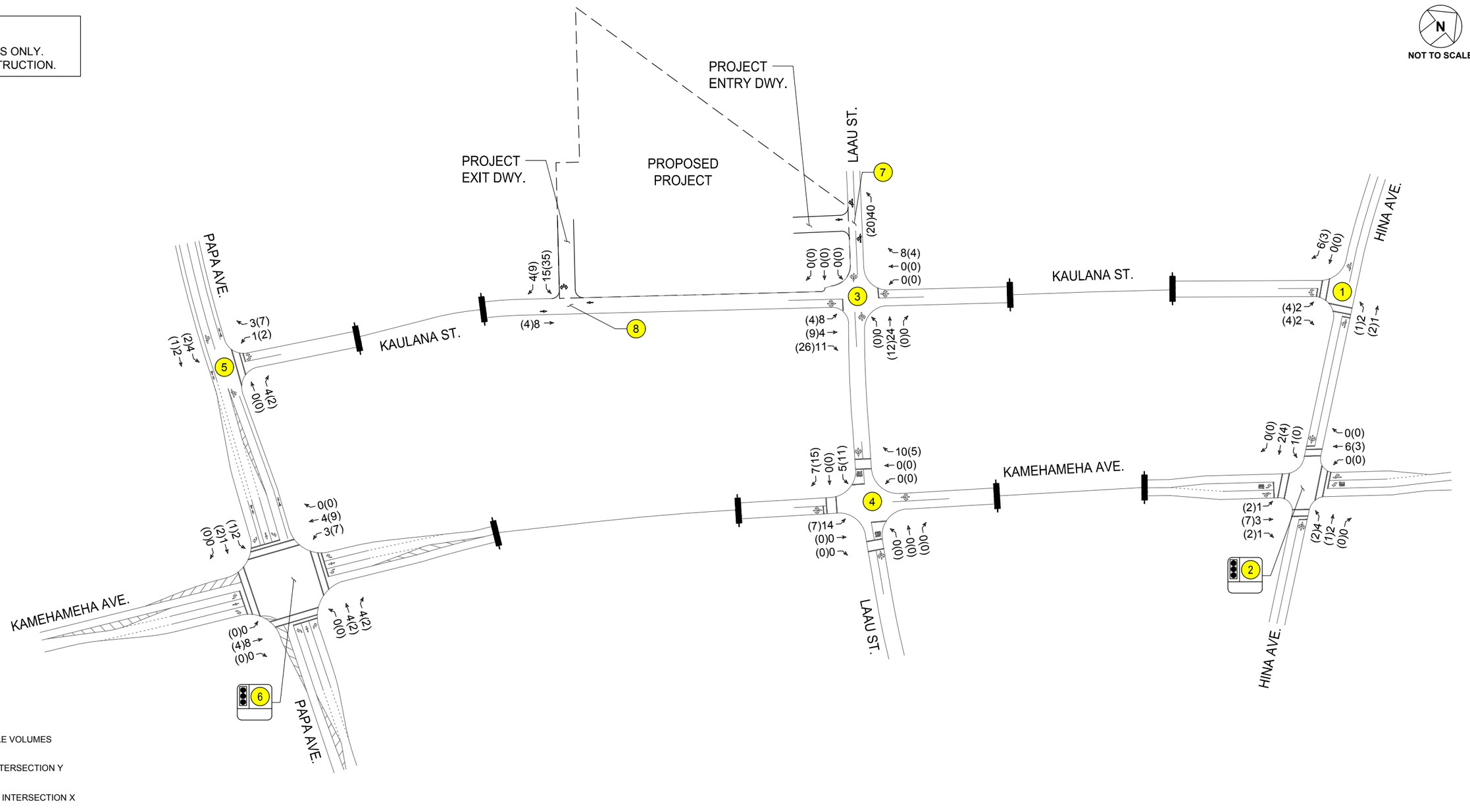


## LEGEND

| | |
|---|---|
| ##(##) | - AM(PM) VEHICLE VOLUMES |
| Y | - SIGNALIZED INTERSECTION Y |
| X | - UNSIGNALIZED INTERSECTION X |

# FIGURE 5.1

PROJECT TRIPS

# HALE MAKUA REHABILITATION FACILITY TIAR

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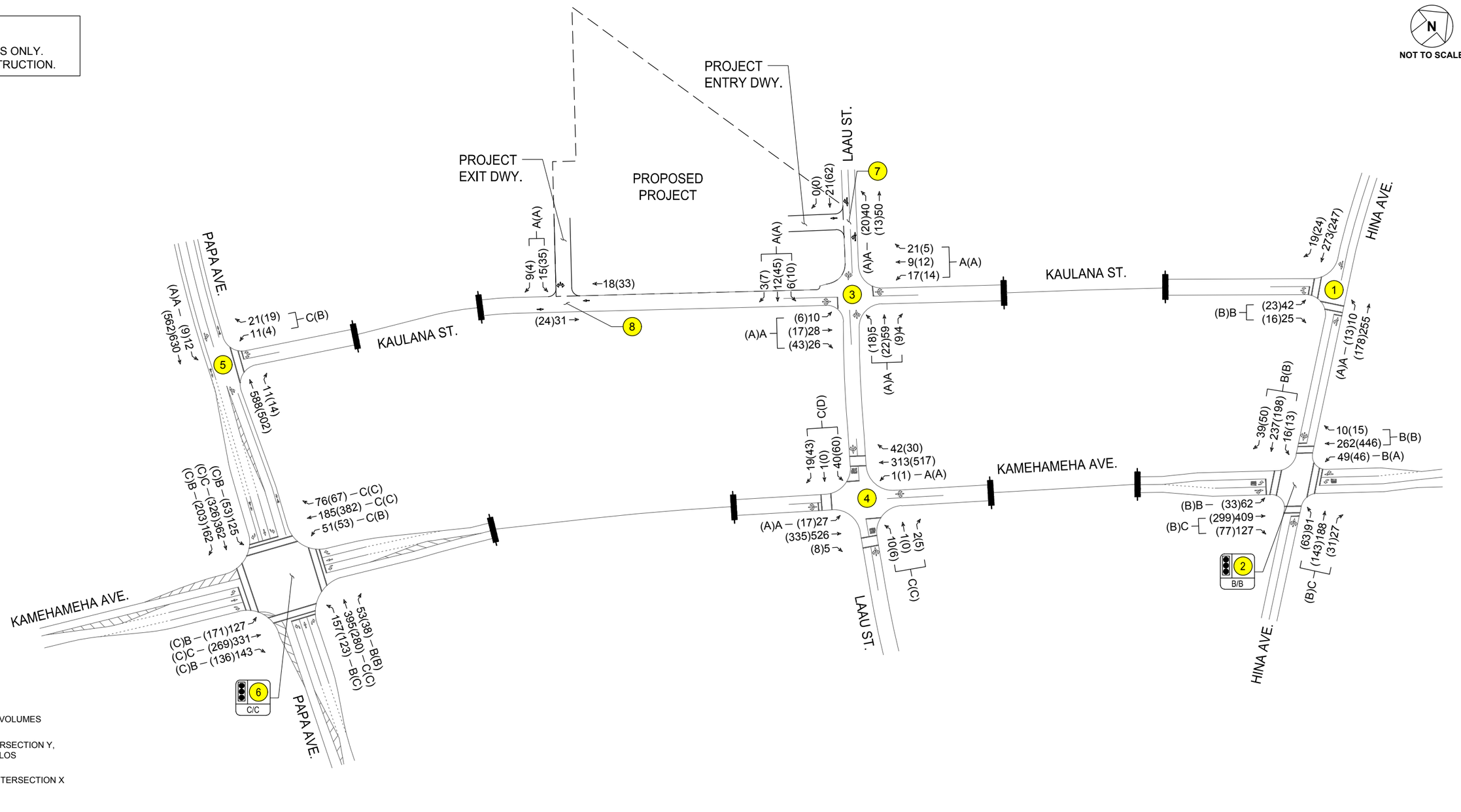


## LEGEND

| | |
|---|---|
| ##(##) | - AM(PM) VEHICLE VOLUMES |
| Y / X/X | - SIGNALIZED INTERSECTION Y, OVERALL AM/PM LOS |
| X | - UNSIGNALIZED INTERSECTION X |
| X(X) | - AM(PM) LOS |

# FIGURE 5.2

FUTURE YEAR CONDITIONS

Table 5.3: Existing, Base Year 2023, and Future Year 2023 During Construction

| Intersection | Existing Conditions | | | | | | Base Year Conditions | | | | | | Future Year Conditions | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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: Kaulana St & Hina Ave** | | | | | | | | | | | | | | | | | | |
| NB LT/RT | 12.7 | 0.13 | B | 11.4 | 0.06 | B | 12.9 | 0.13 | B | 11.4 | 0.06 | B | 13.0 | 0.14 | B | 11.5 | 0.07 | B |
| WB LT | 7.9 | 0.01 | A | 7.9 | 0.01 | A | 7.9 | 0.01 | A | 7.9 | 0.01 | A | 8.0 | 0.01 | A | 7.9 | 0.01 | A |
| *Overall* | 1.4 | - | - | 0.9 | - | - | 1.4 | - | - | 0.9 | - | - | 1.5 | - | - | 1.1 | - | - |
| **2: Kamehameha Ave & Hina Ave** | | | | | | | | | | | | | | | | | | |
| NB LT | 10.4 | 0.13 | B | 10.3 | 0.10 | B | 10.4 | 0.14 | B | 10.5 | 0.11 | B | 10.6 | 0.14 | B | 10.5 | 0.11 | B |
| NB TH/RT | 18.1 | 0.81 | B | 13.7 | 0.62 | B | 21.1 | 0.84 | C | 13.7 | 0.64 | B | 21.8 | 0.85 | C | 13.9 | 0.66 | B |
| EB LT/TH/RT | 17.8 | 0.55 | B | 15.4 | 0.53 | B | 19.2 | 0.56 | B | 17.0 | 0.56 | B | 19.3 | 0.56 | B | 17.1 | 0.56 | B |
| WB LT/TH/RT | 18.4 | 0.61 | B | 15.0 | 0.49 | B | 20.0 | 0.63 | C | 16.6 | 0.51 | B | 20.3 | 0.64 | C | 16.7 | 0.51 | B |
| SB LT | 12.1 | 0.18 | B | 9.9 | 0.13 | A | 12.8 | 0.19 | B | 9.8 | 0.13 | A | 13.0 | 0.20 | B | 9.9 | 0.13 | A |
| SB TH/RT | 13.3 | 0.39 | B | 14.4 | 0.72 | B | 13.5 | 0.42 | B | 14.9 | 0.77 | B | 13.8 | 0.43 | B | 15.1 | 0.77 | B |
| *Overall* | 16.7 | - | B | 14.3 | - | B | 18.4 | - | B | 15.0 | - | B | 18.8 | - | B | 15.1 | - | B |
| **3: Laau St & Kaulana St** | | | | | | | | | | | | | | | | | | |
| NB LT/TH/RT | 7.1 | 0.05 | A | 7.0 | 0.03 | A | 7.1 | 0.05 | A | 7.0 | 0.03 | A | 7.3 | 0.08 | A | 7.2 | 0.08 | A |
| EB LT/TH/RT | 7.2 | 0.03 | A | 7.4 | 0.08 | A | 7.2 | 0.03 | A | 7.4 | 0.08 | A | 7.4 | 0.03 | A | 7.5 | 0.08 | A |
| WB LT/TH/RT | 7.3 | 0.06 | A | 7.3 | 0.05 | A | 7.3 | 0.06 | A | 7.3 | 0.05 | A | 7.6 | 0.09 | A | 7.5 | 0.06 | A |
| SB LT/TH/RT | 7.2 | 0.05 | A | 7.4 | 0.03 | A | 7.2 | 0.05 | A | 7.4 | 0.03 | A | 7.3 | 0.06 | A | 7.4 | 0.04 | A |
| *Overall* | 7.2 | - | A | 7.3 | - | A | 7.2 | - | A | 7.3 | - | A | 7.4 | - | A | 7.4 | - | A |
| **4: Kamehameha Ave & Laau St** | | | | | | | | | | | | | | | | | | |
| NB LT | 8.0 | 0.01 | A | 8.4 | 0.01 | A | 8.1 | 0.01 | A | 8.7 | 0.01 | A | 8.2 | 0.03 | A | 8.7 | 0.02 | A |
| EB LT/TH/RT | 18.5 | 0.16 | C | 18.5 | 0.24 | C | 21.1 | 0.19 | C | 22.8 | 0.29 | C | 22.2 | 0.24 | C | 25.1 | 0.39 | D |
| WB LT/TH/RT | 18.1 | 0.05 | C | 14.9 | 0.03 | B | 20.4 | 0.06 | C | 17.2 | 0.04 | C | 21.8 | 0.06 | C | 18.1 | 0.04 | C |
| SB LT | 8.4 | 0.00 | A | 7.9 | 0.00 | A | 8.6 | 0.00 | A | 8.0 | 0.00 | A | 8.6 | 0.00 | A | 8.0 | 0.00 | A |
| *Overall* | 1.4 | - | - | 2.0 | - | - | 1.5 | - | - | 2.0 | - | - | 1.9 | - | - | 2.9 | - | - |
| **5: Papa Ave & Kaulana St** | | | | | | | | | | | | | | | | | | |
| EB LT | 8.8 | 0.01 | A | 8.4 | 0.01 | A | 8.9 | 0.01 | A | 8.6 | 0.01 | A | 8.9 | 0.01 | A | 8.6 | 0.01 | A |
| SB LT/RT | 18.1 | 0.10 | C | 12.7 | 0.03 | B | 19.4 | 0.11 | C | 13.6 | 0.04 | B | 19.6 | 0.12 | C | 14.2 | 0.06 | B |
| *Overall* | 0.5 | - | - | 0.2 | - | - | 0.5 | - | - | 0.2 | - | - | 0.6 | - | - | 0.3 | - | - |
| **6: Papa Ave & Kamehameha Ave** | | | | | | | | | | | | | | | | | | |
| NB LT | 19.3 | 0.36 | B | 18.2 | 0.50 | B | 19.9 | 0.37 | B | 20.2 | 0.57 | C | 20.0 | 0.37 | B | 20.6 | 0.57 | C |
| NB TH | 25.2 | 0.74 | C | 19.0 | 0.42 | B | 26.9 | 0.79 | C | 20.6 | 0.48 | C | 27.3 | 0.80 | C | 20.9 | 0.48 | C |
| NB RT | 19.8 | 0.16 | B | 16.8 | 0.11 | B | 20.2 | 0.15 | C | 17.7 | 0.11 | B | 20.3 | 0.15 | C | 17.8 | 0.11 | B |
| EB LT | 16.3 | 0.39 | B | 18.4 | 0.16 | B | 17.7 | 0.42 | B | 20.6 | 0.18 | C | 18.0 | 0.43 | B | 20.9 | 0.18 | C |
| EB TH | 22.4 | 0.71 | C | 25.9 | 0.75 | C | 25.2 | 0.78 | C | 29.5 | 0.79 | C | 25.4 | 0.78 | C | 29.9 | 0.79 | C |
| EB RT | 17.6 | 0.17 | B | 20.5 | 0.19 | C | 18.9 | 0.19 | B | 23.0 | 0.23 | C | 19.2 | 0.19 | B | 23.3 | 0.23 | C |
| WB LT | 15.7 | 0.43 | B | 18.6 | 0.40 | B | 17.4 | 0.49 | B | 21.0 | 0.44 | C | 17.7 | 0.49 | B | 21.3 | 0.45 | C |
| WB TH | 22.7 | 0.77 | C | 21.0 | 0.51 | C | 24.6 | 0.79 | C | 23.9 | 0.58 | C | 25.1 | 0.80 | C | 24.2 | 0.58 | C |
| WB RT | 16.0 | 0.03 | B | 17.6 | 0.02 | B | 17.1 | 0.03 | B | 19.3 | 0.02 | B | 17.4 | 0.03 | B | 19.5 | 0.02 | B |
| SB LT | 20.7 | 0.20 | C | 18.3 | 0.12 | B | 21.5 | 0.22 | C | 19.3 | 0.13 | B | 21.6 | 0.23 | C | 19.3 | 0.15 | B |
| SB TH | 24.7 | 0.52 | C | 26.7 | 0.78 | C | 25.7 | 0.55 | C | 31.3 | 0.84 | C | 25.8 | 0.55 | C | 32.2 | 0.84 | C |
| SB RT | 21.6 | 0.05 | C | 19.7 | 0.04 | B | 22.1 | 0.05 | C | 20.6 | 0.04 | C | 22.2 | 0.05 | C | 20.7 | 0.05 | C |
| *Overall* | 21.5 | - | C | 21.9 | - | C | 23.3 | - | C | 24.9 | - | C | 23.6 | - | C | 25.3 | - | C |
| **7: Project Entry DW & Hale Makua Main DW** | | | | | | | | | | | | | | | | | | |
| WB LT | - | - | - | - | - | - | - | - | - | - | - | - | 7.3 | 0.03 | A | 7.4 | 0.01 | A |
| *Overall* | - | - | - | - | - | - | - | - | - | - | - | - | 2.7 | - | - | 1.6 | - | - |
| **8: Kaulana St & Project Exit DW** | | | | | | | | | | | | | | | | | | |
| EB LT/RT | - | - | - | - | - | - | - | - | - | - | - | - | 8.8 | 0.02 | A | 8.9 | 0.05 | A |
| *Overall* | - | - | - | - | - | - | - | - | - | - | - | - | 2.5 | - | - | 3.9 | - | - |

# 6. CONCLUSION

The Project is planned to be an approximately 65,820 square-foot rehabilitation facility with 78 beds, specializing in physical therapy, occupational therapy, speech pathology, and hand therapy. The Project is anticipated to be completed by 2023.

## 6.1 Existing Conditions

Traffic throughout the study network was observed to generally flow smoothly, with no significant or persistent queues. Synchro analysis shows that all movements throughout the network operate at LOS C or better across both peak hours.

## 6.2 Base Year 2023

Due to background projects and ambient growth, it is anticipated that Kamehameha Avenue will experience an increase in approximately 35-80 vehicles per direction during the AM and PM peak hours. Papa Avenue is anticipated to experience an increase of approximately 20-60 vehicles per direction during the AM and PM peak hours as well. Hina Avenue is anticipated to experience an increase of less than 10 vehicles per direction during the AM and PM peak hours. With the volume increases, all movements are anticipated to continue to operate similarly to Existing conditions, with all movements operating and LOS C or better across all peak hours.

## 6.3 Future Year 2023

The Project is anticipated to generate a total of 59(64) trips during the AM(PM) peak hours. When distributed across the study network, the Project is anticipated to minimally add only 5-8 vehicles per direction along adjacent collector roads. Upon completion of the Project, all study intersections are forecast to operate with similar LOS as Base Year 2023 traffic conditions, with all movements operating acceptably at LOS D or better across both peak hours.

At the new entering and exiting driveway intersections, all movements are anticipated to operate at LOS A across both peak hours.

Therefore, no improvements are recommended as a result of the Project.

# 7. REFERENCES

1. Austin, Tsutsumi & Associates, Inc., Keolani Triangle Retail Center TIAR, July 19, 2018.
2. Austin, Tsutsumi & Associates, Inc., Maui Business Park Phase II – Lot 38 TIAR, June 02, 2017.
3. Austin, Tsutsumi & Associates, Inc., Maui County Service Center TIAR, October 26, 2016.
4. Austin, Tsutsumi & Associates, Inc., Skyline Eco-Adventures TIAR, February 16, 2018.
5. Federal Highway Administration, Manual on Uniform Traffic Control Devices, 2009.
6. Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017.
7. Transportation Research Board, Highway Capacity Manual, 6th Edition, 2016.

# *Appendix F:*

# *Early Consultation Letters and Responses*

# Example Early Consultation Letter Sent

KaimanaEnv.com
808.341.3546
PO Box 11890
Honolulu, HI 96828
max@kaimanaenv.com

August 2, 2021

To: <Recipient>
<Title>
<Address>

**Subject: Early Consultation Request for a Hawaii Revised Statutes, Chapter 343 (HRS 343) Environmental Assessment (EA) for the Hale Makua Rehabilitation Facility Kahului, Maui, Hawaii, Tax Map Key (TMK) Parcel (2) 3-8-007: 097 (Portion)**

Dear Participant:

On behalf of Hale Makua Health Services, Kaimana Environmental Solutions LLC (KES) is in the process of preparing an Environmental Assessment (EA) in compliance with HRS 343 and its implementing regulations, Hawaii Administrative Rules (HAR) 11-200.1 for the proposed Hale Makua Rehabilitation Facility located in Kahului, Maui, Hawaii.

In compliance with HAR 11-200.1-18, the project Applicant; Hale Makua Health Services is conducting early consultation with county, state and federal government agencies, community groups and individuals who may have an interest in the proposed project. HRS 343 applies since the proposed project site includes development of county owned land that would be leased to Hale Makua Health Services. Below is a description of the proposed project. Please send any written comments via email or U.S. mail to the following contact by September 2, 2021.

**Email**: Info@kaimanaenv.com

**Mailing Address**:
Kaimana Environmental Solutions LLC
PO Box 11890
Honolulu, HI 96828

**Project Description**

Hale Makua Health Services is proposing to build a new rehabilitation facility that will provide services such as physical, occupational and speech therapy, as well as home health and nursing services to the Kahului community. The facility would be located on an approximately 2.8 acre portion of TMK parcel (2) 3-8-007: 097. The proposed rehabilitation facility is part of the Hale Makua Master Plan, which also includes renovations to the existing aging Hale Makua facilities in Kahului and Wailuku. The proposed rehabilitation facility would be located near the existing Hale Makua Kahului facility, and would include an approximately 76,200 square foot two-story commercial building, as well as associated parking areas (see attached project location map and site plan).

KAIMANA
environmental solutions

KaimanaEnv.com
808.341.3546
PO Box 11890
Honolulu, HI 96828
max@kaimanaenv.com

The proposed rehabilitation facility would be located on county owned land adjacent to the existing county Kahului Community Center and Park.

Thank you for your participation in consultation process for the proposed project.

Sincerely,

Max R. Solmssen
Environmental Planner
Kaimana Environmental Solutions LLC

Attachments: Project Location Map
Site Plan

MICHAEL P. VICTORINO
Mayor

KARLA H. PETERS
Director

MARCI M. SATO
Deputy Director

# DEPARTMENT OF PARKS AND RECREATION

700 Hali'a Nakoa Street, Unit 2, Wailuku, Hawai'i 96793
Main Line (808) 270-7230 / Facsimile (808) 270-7942

August 30, 2021

Max Solmssen, Environmental Planner
Kaimana Environmental Solutions LLC
PO Box 11890
Honolulu, HI 96828

Dear Mr. Solmssen:

**SUBJECT: EARLY CONSULTATION REQUEST FOR A HAWAII REVISED STATUTES, CHAPTER 343 (HRS 343) ENVIRONMENTAL ASSESSMENT (EA) FOR THE HALE MAKUA REHABILITATION FACILITY, KAHULUI, MAUI, HAWAII, TAX MAP KEY (TMK) PARCEL (2) 3-8-007:097 (PORTION)**

Thank you for the opportunity to review and comment on the subject project. The Department of Parks and Recreation (DPR) is currently working with Hale Makua Health Services on the grant of real property as approved by Resolution 18-163. In addition, a Right of Entry has been executed for Hale Makua Health Services to conduct the EA process for the proposed improvements.

DPR is in receipt of the August 5, 2021 presentation by Hale Makua Health Services to the County of Maui Planning and Sustainable Land Use Committee regarding their initiation of the Change in Zoning and Community Plan Amendment for the Kahului Community Center. DPR is requesting that Hale Makua Health Services conduct community outreach to include communication with the current permit holders and users of the existing gateball field area identified as Phase 1 in Resolution 18-163.

Should you have any questions, please feel free to contact me or Samual Marvel, 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, Chief of Planning and Development

KHP:SM:csa

**Subject:** Re: Early Consultation for the Hale Makua Rehabilitation Facility EA
**Date:** Tuesday, October 5, 2021 at 10:31:45 AM Hawaii-Aleutian Standard Time
**From:** Max Solmssen
**To:** parks dept
**CC:** Samual Marvel
**Attachments:** COM Dept of Parks Response Letter.pdf

Aloha,

The attached early consultation letter from your agency was received. We will include it in the Draft Environmental Assessment. We have reached out to Maui Taiko and the Maui Disc Golf Association and have not received any responses yet. Please provide any contacts you may have for these groups, as well as any other permit holders for the project site, and we will reach out to all parties again.

Thanks,

Max R. Solmssen
Principal
Kaimana Environmental Solutions LLC

max@kaimanaenv.com
www.kaimanaenv.com

PO Box 11890
Honolulu, HI 96828

---

**From:** Max Solmssen <max@kaimanaenv.com>
**Date:** Wednesday, August 4, 2021 at 6:43 PM
**To:** parks dept <parks.dept@co.maui.hi.us>
**Subject:** Re: Early Consultation for the Hale Makua Rehabilitation Facility EA

Thank you! FYI, A hard copy was also mailed.

Max R. Solmssen
Principal
Kaimana Environmental Solutions LLC

max@kaimanaenv.com
www.kaimanaenv.com

PO Box 11890
Honolulu, HI 96828

---

**From:** parks dept <parks.dept@co.maui.hi.us>
**Date:** Wednesday, August 4, 2021 at 5:29 PM
**To:** Max Solmssen <max@kaimanaenv.com>

**Subject:** Re: Early Consultation for the Hale Makua Rehabilitation Facility EA

Aloha,

Confirming receipt of Early Consultation letter.

Mahalo!
Department of Parks and Recreation
>>> Max Solmssen <max@kaimanaenv.com> 8/3/2021 4:55 PM >>>
Aloha Director Peters,

Attached is an Early Consultation letter for the subject project. Feel free to write me at this email address or the PO Box listed below to provide any questions or comments.

Mahalo,

Max R. Solmssen
Principal
Kaimana Environmental Solutions LLC

max@kaimanaenv.com
www.kaimanaenv.com

PO Box 11890
Honolulu, HI 96828

**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, HAWAI'I 96793
www.mauicounty.gov/water

September 1, 2021

Max R. Solmsson, Environmental Planner
Kaimana Environmental Solutions LLC
PO Box 11890
Honolulu, HI 96828

Re: Hale Makua Rehabilitation Facility Early Consultation Request for an Environmental Assessment (EA)
TMK: (2)-3-8-007: 097 (Portion)

Dear Mr. Solmsson:

The Water Resources and Planning (WRP) Division of the County of Maui Department of Water Supply (MDWS) appreciates for the opportunity to comment on the proposed Hale Makua Rehabilitation Facility Early Consultation Request for an EA. The MDWS Engineering Division may choose to submit separate comments.

**Source Availability and System Infrastructure**
The subject property overlies the Kahului Aquifer, with a sustainable yield of 1 million gallons per day, according to the Commission on Water Resource Management (CWRM), and it is located within the MDWS Central System. In order to address potential MDWS infrastructure impacts, please coordinate with our Engineering Division at 808-270-7835.

**Project Alignment with the Draft Maui Island Water Use and Development Plan (WUDP)**
The table below describes opportunities the Hale Makua Rehabilitation Facility Project may incorporate in order to align with various Strategies of the Draft Maui Island WUDP.

**Potential Project Alignment with the Draft Maui Island WUDP**

| WUDP Strategy | WUDP Planning Objective | WUDP Strategy Type, Strategy # |
|---|---|---|
| Prioritize future available *recycled water* for non-potable uses where available in the Central Aquifer Sector. | 1. Maximize water quality<br>2. Manage water equitably<br>3. Maintain consistency with General and Community Plans | Wailuku ASEA Conventional Water Resource Strategy, #6 |

| WUDP Strategy | WUDP Planning Objective | WUDP Strategy Type, Strategy # |
|---|---|---|
| The Maui Island WUDP focuses on specific projects with a strategy to explore *stormwater drainage* to *supplement irrigation sources* in Central Maui. | 1. Minimize adverse environmental impacts<br>2. Maximize efficiency of water use<br>3. Maintain sustainable resources | WUDP Addendum, Wailuku ASEA, Alternative Water Source Strategy #10 |

**Pollution Prevention and Conservation**

Stormwater Drainage Management to Supplement Irrigation Sources

The proposed project may have potential to accomplish stormwater management within and around the proposed project footprint, which could be used for stormwater mitigation and retention for irrigation reuse (WUDP Wailuku ASEA Strategy #10, https://waterresources.mauicounty.gov/DocumentCenter/View/508/Maui-Island-Water-Use-and-Development-Plan-Draft-Update). The CWRM promotes the protection of ground water and the value of treating stormwater as a resource, including groundwater recharge capability when contained onsite, described in its document titled *A Handbook for Stormwater Reclamation and Reuse Best Management Practices in Hawai`i*, December, 2008: http://files.hawaii.gov/dlnr/cwrm/planning/hsrar_handbook.pdf. We recommend implementing Best Management Practices (BMPs) contained in the document, such as permeable surfaces to reduce storm water loss (for example, permeable detention ponds and vegetated filter strips), and bio-retention rain gardens. The WRP Division additionally recommends the following BMPs for water conservation and construction:

**Construction BMPs for Pollution Prevention**

To protect ground and surface water resources, we recommend that in addition to required BMPs the following measures designed to minimize infiltration and runoff be implemented during construction:

- Prevent cement products, oil, fuel and other toxic substances from falling or leaching into the ground.
- Replanting of denuded areas should include soil amendments and temporary irrigation. Use high seeding rates to ensure rapid establishment of stands of plants.
- Maintain vehicles and equipment to prevent oil or other fluids from leaking. Concrete trucks and tools used for construction should be rinsed off-site.
- Properly install and maintain erosion control barriers such as silt fencing or straw bales.
- Keep runoff on-site.

**Conservation BMPs**

**Indoor**

- Use EPA WaterSense labeled plumbing fixtures.
- Install dual flush toilets with high-efficiency models that use 1.28 gallons per flush, or less.
- Install bathroom sink faucets with fixtures that do not exceed 1 gallon per minute at 60 psi.

**Outdoor**

- Use Smart Approved WaterMark irrigation products. Examples include evapotranspiration

irrigation controllers, drip irrigation, and water saving spray heads.

- After plants are established, in order to avoid stimulating excessive growth, avoid fertilizing and pruning. Time watering to occur in the early morning or evening to limit evaporation. Limit the use of turf.
- Use native Hawaiian climate-adapted plants for landscaping. Native Hawaiian plants adapted to the area conserve water and protect the watershed from degradation due to invasive species.
- We recommend adopting landscape irrigation conservation best management practices endorsed by the Landscape Industry Council of Hawai`i at https://www.hawaiiscape.com/wp-content/uploads/2013/04/LICH_Irrigation_Conservation_BMPs.pdf
- Dust Control: reclaimed water for dust control is available from the Kihei Wastewater Treatment Plant at a reasonable cost. If feasible, it should be considered as an alternative source of water for dust control during construction.

We hope you find this information useful. Should you have any questions, please contact staff planner Alex Buttaro at (808) 463-3103 or alex.buttaro@mauicounty.gov.

Sincerely,

Jeffrey T Pearson, P.E.
Director
BAB

Cc: MDWS Engineering

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**Subject:** Re: Hale Makua Rehabilitation Facility
**Date:** Wednesday, August 25, 2021 at 4:29:57 PM Hawaii-Aleutian Standard Time
**From:** Max Solmssen
**To:** Tammy Yeh

Aloha Tammy,

Thank you for your response to early consultation letter. Your letter will be included in the Draft Environmental Assessment (DEA), and your comments will be considered in completing the DEA.

Thanks,

Max R. Solmssen
Principal
Kaimana Environmental Solutions LLC

max@kaimanaenv.com
www.kaimanaenv.com

PO Box 11890
Honolulu, HI 96828

---

**From:** Tammy Yeh <Tammy.Yeh@co.maui.hi.us>
**Date:** Wednesday, August 18, 2021 at 9:19 AM
**To:** Max Solmssen <max@kaimanaenv.com>
**Cc:** Water Resources <Water.Resources@mauicounty.gov>
**Subject:** Hale Makua Rehabilitation Facility

Hi Max,

Attached is the Department of Water Supply's comments on the Early Consultation Request for the subject project.

Thanks,

**Tammy T. Yeh, P.E.**
**Civil Engineer VI**
**District I - Central/South/Hana**
County of Maui
Department of Water Supply, Engineering Division
200 South High Street
Wailuku, HI 96793
Phone: (808) 270-7835

**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, HAWAI'I 96793

August 17, 2021

Mr. Max R. Solmssen
KAIMANA ENVIRONMENTAL SOLUTIONS LLC
via email: max@kaimanaenv.com

Dear Mr. Solmssen:

SUBJECT: EARLY CONSULTATION REQUEST FOR HRS, CHAPTER 343 EA FOR HALE MAKUA REHABILITATION FACILITY
TMK: (2) 3-8-007:097 (portion), Kahului, Maui, Hawaii

Thank you for the opportunity to review and comment on the subject project, which includes the construction of a 76,200 square foot two-story commercial building and related improvements.

Based on the information provided and Table 100-18 of the Department's 2002 Water System Standards, the required water demand for the proposed project is approximately 10,249 gallons per day, which does not include any new irrigation demand. Please be advised that the requested water demand shall be verified by the Department of Water Supply upon receipt of the building permit application.

The project will need to meet the criteria for water service outlined in the Administrative Rules (Title 16, Chapter 201). 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. This means that the amount of water requested for a project shall not be greater than the allowed 5,400 gallons per day, unless it meets one of the following exceptions:

- 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.

Please be aware that the Department's project allowances in gallons per day are updated at the beginning of each year. Therefore, we advise you to contact us to discuss your options in the future. The Department's Administrative Rules can be found at https://www.mauicounty.gov/205/Rules-Regulations.

All water system improvements shall be designed in accordance with the Department's Water System

Standards 2002, as amended. Requirements will be determined at the time of building permit application. These requirements may include, but are not limited to the following:

- Installation of water service lateral(s), box(es) and approved reduced pressure backflow preventer (RPBP), if applicable, to serve the proposed Hale Makua Rehabilitation Facility.
- Installation of a double check detector assembly (DCDA), if applicable, to serve the proposed Hale Makua Rehabilitation Facility fire line.
- Provide domestic and irrigation water demand calculations prepared, signed, and stamped by a licensed State of Hawaii professional engineer or architect.
- Provide an updated annual Backflow and Cross Connection Control Testing Report for the 2 existing RPBPs serving the subject property's water services (Account #4476194993, #9091890982 and #8102556371).
- All water system improvements require submittal of civil plans (24"x36") stamped and signed by a licensed State of Hawaii engineer for the Department's review and approval. Construction work shown on the approved plans shall be completed by a licensed contractor at the property owner's expense.

Please be advised that prior to building permit approval by the Department of Water Supply, all water requirements shall be installed and accepted.

Should you have any questions or need further information, please contact Tammy Yeh of our Engineering Division at (808) 270-7682 or at tammy.yeh@co.maui.hi.us. Engineering Division's main number is (808) 270-7835.

Sincerely,

WENDY TAOMOTO, P.E.
Engineering Program Manager

TY

cc: DWS Water Resources & Planning, via email: Water.Resources@mauicounty.gov

**Subject:** Re: Hale Makua Rehabilitation Facility Early Consult EA
**Date:** Thursday, September 2, 2021 at 9:06:06 AM Hawaii-Aleutian Standard Time
**From:** Max Solmssen
**To:** Alex Buttaro
**CC:** Marti Buckner

Aloha Alex,

Thank you for providing early consultation comments. Your letter will be included in the draft EA, and your comments will be considered and addressed in the environmental review and planning process.

Thanks,

Max R. Solmssen
Principal
Kaimana Environmental Solutions LLC

max@kaimanaenv.com
www.kaimanaenv.com

PO Box 11890
Honolulu, HI 96828

---

**From:** Alex Buttaro <Alex.Buttaro@co.maui.hi.us>
**Date:** Thursday, September 2, 2021 at 9:02 AM
**To:** Max Solmssen <max@kaimanaenv.com>
**Cc:** Marti Buckner <Marti.Buckner@co.maui.hi.us>
**Subject:** Hale Makua Rehabilitation Facility Early Consult EA

Aloha kakahiaka Max:

Our comment letter is attached.

Mahalo for the opportunity to comment.

Sincerely,

Alex
B. Alex Buttaro
Water Resources Planner
County of Maui
Department of Water Supply
2200 Main Street, Suite 102
Wailuku, Hawaii 96793
808-463-3103

MICHAEL P. VICTORINO
MAYOR

OUR REFERENCE

YOUR REFERENCE

# POLICE DEPARTMENT

COUNTY OF MAUI

55 MAHALANI STREET
WAILUKU, HAWAII 96793
(808) 244-6400
FAX (808) 244-6411

CHIEF OF POLICE

**DEAN M. RICKARD**
DEPUTY CHIEF OF POLICE

August 25, 2021

Mr. Max R. Solmssen, Environmental Planner
Kaimana Environmental Solutions LLC
P.O. Box 11890
Honolulu, Hawaii 96828

**Re: Early Consultation Request for a Hawaii Revised Statues, Chapter 343 (HRS 343) Environmental Assessment (EA) for the Hale Makua Rehabilitation Facility Kahului, Maui, Hawaii**
**TMK: (2) 3-8-007:097**

Dear Mr. Solmssen:

This is in response to your letter dated August 2, 2021 requesting comments on an Environmental Assessment for the proposed Hale Makua Rehabilitation Facility project.

In review of the submitted documents, we suggest taking into account the affects the construction may pose on vehicular and pedestrian movement as the project is located within a developed urban area. We ask efforts be taken to control noise levels, dust, and run off to minimize any inconvenience to neighboring residences.

Thank you for giving us the opportunity to comment on this project.

Sincerely,

Assistant John Jakubczak
for DEAN M. RICKARD
Acting Chief of Police

KAIMANA
environmental solutions

KaimanaEnv.com
808.341.3546
PO Box 11890
Honolulu, HI 96828
max@kaimanaenv.com

September 2, 2021

To: Dean M. Rickard
Acting Chief of Police
County of Maui Police Department
55 Mahalani Street
Wailuku, Hawaii 96793

**Subject: Hawaii Revised Statutes, Chapter 343 (HRS 343) Environmental Assessment (EA) for the Hale Makua Rehabilitation Facility Kahului, Maui, Hawaii, Tax Map Key (TMK) Parcel (2) 3-8-007: 097 (Portion)**

Dear Chief Rickard:

On behalf of Hale Makua Health Services, Kaimana Environmental Solutions LLC (KES) received your early consultation letter dated August 25, 2021. Thank you for your comments. Your letter will be included in the Draft Environmental Assessment and your comments will be considered in conducting the environmental review process.

Thank you for your participation in consultation process for the proposed project.

Sincerely,

Max R. Solmssen
Environmental Planner
Kaimana Environmental Solutions LLC

Max@kaimanaenv.com

PO Box 11890
Honolulu, HI 96828

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

September 2, 2021

Kaimana Environmental Solutions LLC
Attn: Mr. Max R. Solmssen
P.O. Box 11890
Honolulu, Hawaii 96828

via email: max@kaimanaenv.com

Dear Mr. Solmssen:

SUBJECT: Early Consultation Request for Environmental Assessment for the **Hale Makua Rehabilitation Facility** located at Kahului, Island of Maui; TMK: (2) 3-8-007: 097 (Portion) on behalf of Hale Makua Health Services

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

August 10, 2021

**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)

TO:

~~FROM:~~ Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: Early Consultation Request for Environmental Assessment for the **Hale Makua Rehabilitation Facility**
LOCATION: Kahului, Island of Maui; TMK: (2) 3-8-007: 097 (Portion)
APPLICANT: Kaimana Environmental Solutions on behalf of Hale Makua Health Services

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit any comments by **September 1, 2021.**

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

Signed: [signature]
Print Name: Carty S. Chang, Chief Engineer
Division: Engineering Division
Date: Aug 12, 2021

Attachments
cc: Central Files

**DEPARTMENT OF LAND AND NATURAL RESOURCES**
**ENGINEERING DIVISION**

**LD/Russell Y. Tsuji**
**Ref: Early Consultation Request for Environmental Assessment for the Hale Makua Rehabilitation Facility**
**Location: Kahului, Island of Maui**
**TMK(s): (2) 3-8-007: 097 (Portion)**
**Applicant: Kaimana Environmental Solutions on behalf of Hale Makua Health Services**

**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 12, 2021

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 10, 2021

**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)

FROM: Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: Early Consultation Request for Environmental Assessment for the **Hale Makua Rehabilitation Facility**
LOCATION: Kahului, Island of Maui; TMK: (2) 3-8-007: 097 (Portion)
APPLICANT: Kaimana Environmental Solutions on behalf of Hale Makua Health Services

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit any comments by **September 1, 2021.**

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.
( ) We have no additional comments.
( ) Comments are attached.

Signed: [signature]
Print Name: Daniel Ornellas
Division: Land
Date: 8/17/21

Attachments
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

August 10, 2021

**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)

FROM: Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: Early Consultation Request for Environmental Assessment for the **Hale Makua Rehabilitation Facility**
LOCATION: Kahului, Island of Maui; TMK: (2) 3-8-007: 097 (Portion)
APPLICANT: Kaimana Environmental Solutions on behalf of Hale Makua Health Services

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit any comments by **September 1, 2021.**

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.
( ) We have no additional comments.
(✔) Comments are attached.

Signed: _____
Print Name: DAVID G. SMITH, Administrator
Division: Division of Forestry and Wildlife
Date: Sep 1, 2021

Attachments
cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

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

ROBERT K. MASUDA
FIRST DEPUTY

M. KALEO MANUEL
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
DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET, ROOM 325
HONOLULU, HAWAII 96813

August 31, 2021

**MEMORANDUM** *Log no. 3287*

**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 the Early Consultation Request for an Environmental Assessment for the Hale Makua Rehabilitation Facility in Kahului, Maui**

The Department of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW) has received your inquiry regarding the early consultation for the proposed construction of the Hale Makua Rehabilitation Facility in Kahului on the Island of Maui, Hawai‘i; TMK: (2) 3-8-007: 097. The proposed project consists of building a new rehabilitation facility on approximately a 2.8 acre portion of the parcel. The proposed facility would be located on county owned land near the existing Hale Kahului Facility and would include a 76,200 square foot two-story commercial building, and associated parking areas.

The State listed Hawaiian Hoary Bat or ‘Ōpe‘ape‘a (*Lasiurus cinereus semotus*) has the potential to occur in the vicinity of the project area and may roost in nearby trees. Any site clearing required should be timed to avoid disturbance during the bat birthing and pup rearing season (June 1 through September 15). During this period, woody plants greater than 15 feet (4.6 meters) tall should not be disturbed, removed, or trimmed. DOFAW prefers that new construction avoid the use of barbed wire; if this is not possible, metal tags or plates should be used on the barbed wire for increased detection by bats.

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 structures or grounding of birds. For nighttime lighting that might be required, DOFAW recommends that all lights be fully shielded to minimize impacts. However, 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 Hawai‘i please visit: https://dlnr.hawaii.gov/wildlife/files/2016/03/DOC439.pdf.

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.

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, Coconut Rhinoceros Beetles), 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. Gear that may contain soil, such as work boots and vehicles, should be thoroughly cleaned with water and sprayed with 70% alcohol solution to prevent the spread of Rapid ʻŌhiʻa Death and other harmful fungal pathogens.

To prevent the spread of Rapid ʻŌhiʻa Death (ROD), if ʻōhiʻa trees are present and will be removed, trimmed, or potentially injured DOFAW requests that the information and guidance at the following website be reviewed and followed: https://cms.ctahr.hawaii.edu/rod.

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 Paul Radley, Protected Species Habitat Conservation Planning Coordinator at (808) 587-0010 or paul.m.radley@hawaii.gov.

Sincerely,

DAVID G. SMITH
Administrator

**From:** **Max Solmssen** max@kaimanaenv.com
**Subject:** Re: Request for Comments - Hale Makua Rehabilitation Facility
**Date:** September 7, 2021 at 1:19 PM
**To:** Nakamura, Darlene K darlene.k.nakamura@hawaii.gov

MS

Thank you Darlene! The comment letters from the State DLNR were received and will be included and addressed in the draft Environmental Assessment.

Max R. Solmssen
Principal
Kaimana Environmental Solutions LLC

max@kaimanaenv.com
www.kaimanaenv.com

PO Box 11890
Honolulu, HI 96828

---

**From:** Nakamura, Darlene K <darlene.k.nakamura@hawaii.gov>
**Date:** Thursday, September 2, 2021 at 10:50 AM
**To:** Max Solmssen <max@kaimanaenv.com>
**Subject:** Request for Comments - Hale Makua Rehabilitation Facility

Attached are comments from the Hawaii Department of Land and Natural Resources to the above-entitled subject project.

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 0766
STP 8.3245

August 26, 2021

**VIA EMAIL:** Max@kaimanaenv.com

Mr. Max R. Solmssen
Environmental Planner
Kaimana Environmental Solutions LLC
PO Box 11890
Honolulu, Hawaii 96828

Dear Mr. Solmssen:

Subject: Early Consultation Request for Environmental Assessment (EA)
Hale Makua Rehabilitation Facility
Kahului, Maui, Hawaii
Tax Map Key: (2) 3-8-007: 097 (Por.)

Thank you for your letter dated August 2, 2021 requesting the State of Hawaii Department of Transportation's (HDOT) review and comments for the Hale Makua Rehabilitation Facility project. HDOT understands Hale Makua Health Services is proposing to construct a new 72,600 square foot two-story building with associated parking areas on a 2.8-acre county owned property in Kahului. Direct access to the site is proposed to be off of Kaulana Street, and the nearest State roadways Kaahumanu Avenue (State Route 32) to the west, Puunene Avenue (State Route 311) to the northeast, and Kuihelani Highway (State Route 380) to the east.

HDOT has the following comments:

Airports Division (HDOT-A)

1. The proposed project is approximately 1.35 miles from Kahului Airport (OGG). 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. The proposed project is approximately 13,267 feet from the end of Runway 2-20 at OGG. 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, 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. Due to the project proximity to the airport, the developer should be aware of potential noise from aircraft operations. There is also a potential for fumes, smoke, vibrations, odors, etc., resulting from occasional aircraft flight operations over the project location.

4. The HDOT-A requires that the project uses landscaping and plants that do not create a wildlife attractant. Please review the FAA Advisory Circular (AC) 150/5200-33C Hazardous Wildlife Attractants On or Near Airports for guidance.

5. If photovoltaic (PV) systems are going to be installed, be aware that PV systems located in or near the approach path of aircrafts can create a hazardous condition for pilots due to possible glint and glare reflected from the PV array. If glint or glare from the PV array creates a hazardous condition for pilots, the owner of the PV system shall be prepared to immediately mitigate the hazard upon notification by the HDOT-A and/or FAA.

   PV systems have also been known to emit radio frequency interference (RFI) to aviation-dedicated radio signals, thereby disrupting the reliability of air-to-ground communications. Again, the owner of the PV system shall be prepared to immediately mitigate the RFI hazard upon notification by the HDOT-A and/or FAA.

   The HDOT-A recommends that the developer submit a separate FAA Form 7460-1 for the site of the PV system. Note that you will need latitude, longitude, ground elevation and the above ground elevation data for the installation site to fully complete this form.

   A glint and glare analysis must be attached to your submittal of FAA Form 7460-1. The following website may assist you with preparation of a glint and glare analysis: www.sandia.gov/glare. When you have received the FAA determination from your submittal of FAA Form 7460-1, please provide a copy for our files.

Highways Division (HDOT-HWY)

1. The Draft EA traffic impact discussion should include the following:

   a. Jurisdiction of roadways in the vicinity of the project.

   b. Location of existing and proposed site access driveways.

   c. Observations regarding existing traffic conditions in the vicinity of the site, include bicycle and pedestrian routes, and location of transit stops.

   d. Project description, including pipeline and other infrastructure that may be removed or constructed within HDOT right-of-way, operations and construction activities, hours of operation, and estimated number of vehicle trips to/from the site during peak traffic hours.

e. Assessment of the project's potential direct, secondary, and cumulative impacts to State roadways.

f. If the qualitative traffic assessment suggests a potential for adverse impact to State highways, include a Traffic Impact Analysis Report prepared by a licensed Professional Engineer.

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

**Subject:** Re: STP 8.3245 Hale Makua Rehabilitation Facility (21-074)
**Date:** Friday, August 27, 2021 at 12:05:52 PM Hawaii-Aleutian Standard Time
**From:** Max Solmssen
**To:** Torres, Natasha P
**CC:** Nikaido, Blayne H

Aloha Natasha,

Thank you for your letter. It was received, and will be included in the Draft EA (DEA), and we will incorporate your comments in the DEA also.

Thanks,

Max R. Solmssen
Principal
Kaimana Environmental Solutions LLC

max@kaimanaenv.com
www.kaimanaenv.com

PO Box 11890
Honolulu, HI 96828

---

**From:** Torres, Natasha P <Natasha.P.Torres@hawaii.gov>
**Date:** Thursday, August 26, 2021 at 3:52 PM
**To:** Max Solmssen <max@kaimanaenv.com>
**Cc:** Nikaido, Blayne H <blayne.h.nikaido@hawaii.gov>
**Subject:** STP 8.3245 Hale Makua Rehabilitation Facility (21-074)

Aloha,

Please see attached for your viewing and handling. No hard copy will be transmitted.

Kindly, acknowledge receipt of this email.

Thank you,
Natasha Torres
Statewide Transportation Planning Office
Hawai'i Department of Transportation
Phone: (808) 831-7973 | Fax: (808) 831-7995

**MICHAEL P. VICTORINO**
Mayor

**BRADFORD K. VENTURA**
Acting Fire Chief

**DEPARTMENT OF FIRE & PUBLIC SAFETY**
FIRE PREVENTION BUREAU
COUNTY OF MAUI
313 MANEA PL.
WAILUKU, HI 96793

August 17, 2021

Kaimana Environmental Solutions LLC
Attn: Max R. Solmssen
PO Box 11890
Honolulu, HI 9828

**SUBJECT: EARLY CONSULTATION ENVIRONMENTAL ASSESSMENT (EA) FOR THE HALE MAKUA REHABILITATION FACILITY, KAHULUI TMK (2) 3-8-007:097 (Portion)**

Dear Max,

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 Fire Prevention Bureau has no comments in regards to the information provided as part of the Environmental Assessment.

- 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 apparatus access, water supply for fire protection, and fire and life safety requirements associated with the subject project will be formally reviewed.

- Should you have any specific fire related public safety concerns please identify those to us on this or any future projects you would like us to review.

If there are any questions or comments, please contact Fire Prevention Bureau at (808) 876-4690 or by email at Fire.Prevention@mauicounty.gov.

Sincerely,
Plans Review - Fire Prevention Bureau

**Subject:** Re: Early Consultation for the Hale Makua Rehabilitation Facility EA
**Date:** Wednesday, August 25, 2021 at 4:34:19 PM Hawaii-Aleutian Standard Time
**From:** Max Solmssen
**To:** Fire Prevention

Aloha,

Your response to early consultation letter was received. The letter will be included in the Draft Environmental Assessment (EA), and your comments will be considered in writing the DEA.

Thanks,

Max R. Solmssen
Principal
Kaimana Environmental Solutions LLC

max@kaimanaenv.com
www.kaimanaenv.com

PO Box 11890
Honolulu, HI 96828

---

**From:** Fire Prevention <Fire.Prevention@co.maui.hi.us>
**Date:** Tuesday, August 17, 2021 at 11:39 AM
**To:** Max Solmssen <max@kaimanaenv.com>
**Subject:** Re: Early Consultation for the Hale Makua Rehabilitation Facility EA

Aloha Max, Good Morning ~

Please find our attached response to your Early Consultation letter.

Mahalo,

Fire Prevention Bureau
313 Manea Pl.
Wailuku, HI 96793
Office: 808 876-4690
Fax: 808 876-4646

>>> Max Solmssen <max@kaimanaenv.com> 8/3/2021 4:52 PM >>>
Aloha Deputy Chief Ventura,

Attached is an Early Consultation letter for the subject project. Feel free to write me at this email address or the PO Box listed below to provide any questions or comments.

Mahalo,

Max R. Solmssen
Principal
Kaimana Environmental Solutions LLC
max@kaimanaenv.com
www.kaimanaenv.com

PO Box 11890
Honolulu, HI 96828

DAVID Y. IGE
GOVERNOR

KEITH T. HAYASHI
INTERIM SUPERINTENDENT

**STATE OF HAWAI'I**

DEPARTMENT OF EDUCATION

P.O. BOX 2360

HONOLULU, HAWAI'I 96804

OFFICE OF FACILITIES AND OPERATIONS

August 11, 2021

Mr. Max R. Solmssen, Environmental Planner
Kaimana Environmental Solutions LLC
PO Box 11890
Honolulu, Hawaii 96828

Re: Early Consultation Request for a Hawaii Revised Statues, Chapter 343 Environmental Assessment for the Hale Makua Rehabilitation Facility Kahului, Maui, Hawaii, Tax Map Key Parcel (2)3-8-007:097 (Portion)

Dear Mr. Solmssen:

Thank you for your letter dated August 2, 2021 on the early consultation request for the Hale Makua Rehabilitation Facility Kahului, Maui, Hawaii, Tax Map Key Parcel (2)3-8-007:097 (Portion).

Based on the information provided, the Hawaii State Department of Education has determined that the proposed project will not have a direct impact on any of its neighboring public schools. We, therefore, do not have comments at this time.

Thank you for the opportunity to comment. Should you have questions, please contact Cori Tamashiro, Planner of the Facilities Development Branch, Planning Section, at 784-5095 or by email at cori.tamashiro@k12.hi.us.

Sincerely,

Roy Ikeda
Interim Public Works Manager
Planning Section

RI:ct

c: Kathleen Dimino, Complex Area Superintendent, Baldwin/Kekaulike/Maui Complex Area
Facilities Development Branch

**From:** **Max Solmssen** max@kaimanaenv.com
**Subject:** Response to Early Consultation Hale Makua Rehabilitation Facility
**Date:** October 4, 2021 at 5:05 PM
**To:** cori.tamashiro@k12.hi.us

MS

Aloha Cori,

The attached letter from Mr. Ikeda with the State Department of Education was received and will be included in the Draft Environmental Assessment.

Thanks,

Max R. Solmssen
Principal
Kaimana Environmental Solutions LLC

max@kaimanaenv.com
www.kaimanaenv.com

PO Box 11890
Honolulu, HI 96828

---

DAVID Y. IGE
GOVERNOR

KEITH T. HAYASHI
INTERIM SUPERINTENDENT

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

OFFICE OF FACILITIES AND OPERATIONS

August 11, 2021

Mr. Max R. Solmssen, Environmental Planner
Kaimana Environmental Solutions LLC
PO Box 11890
Honolulu, Hawaii 96828

Re: Early Consultation Request for a Hawaii Revised Statues, Chapter 343
Environmental Assessment for the Hale Makua
Rehabilitation Facility Kahului, Maui, Hawaii, Tax Map Key
Parcel (2)3-8-007:097 (Portion)

Dear Mr. Solmssen:

Thank you for your letter dated August 2, 2021 on the early consultation request for the Hale Makua Rehabilitation Facility Kahului, Maui, Hawaii, Tax Map Key Parcel (2)3-8-007:097 (Portion).

Based on the information provided, the Hawaii State Department of Education has determined that the proposed project will not have a direct impact on any of its neighboring public schools. We, therefore, do not have comments at this time.

Thank you for the opportunity to comment. Should you have questions, please contact Cori Tamashiro, Planner of the Facilities Development Branch, Planning Section, at 784-5095 or by email at cori.tamashiro@k12.hi.us.

Sincerely,

Roy Ikeda
Interim Public Works Manager
Planning Section

RI:ct

c: Kathleen Dimino, Complex Area Superintendent, Baldwin/Kekaulike/Maui Complex Area
Facilities Development Branch

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER

**From:** **Richards, Christina E** christina_richards@fws.gov
**Subject:** Re: [EXTERNAL] RE: 01EPIF00-2021-TA-0431 Technical Assistance for the proposed Hale Makua Rehabilitation Facility, Kahului, Maui
**Date:** August 18, 2021 at 4:27 AM
**To:** Max Solmssen max@kaimanaenv.com
**Cc:** Agostini, Tiffany Tiffany.Agostini@tetratech.com

Good morning,

No incidental take permit/habitat conservation plan will be necessary. Since the project is not federally funded, we do not have the ability to concur with a determination on the impact to the species. It is therefore, up to the applicant to ensure that no endangered species are impacted within the project limits. If you have done surveys and found no endangered species present and have committed to implementing avoidance and minimization measures to cover species that may be near or fly over the project area, you will have fulfilled the requirements of the ESA. Please let me know if you have any additional comments or questions.

Thank you,

Christina Richards
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Pacific Islands fish and Wildlife Office
300 Ala Moana Boulevard, Rm. 3-122
Honolulu, Hawaii 96850
Phone 808-792-9450

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**From:** Max Solmssen <max@kaimanaenv.com>
**Sent:** Tuesday, August 17, 2021 9:29 AM
**To:** Richards, Christina E <christina_richards@fws.gov>
**Cc:** Agostini, Tiffany <Tiffany.Agostini@tetratech.com>
**Subject:** [EXTERNAL] RE: 01EPIF00-2021-TA-0431 Technical Assistance for the proposed Hale Makua Rehabilitation Facility, Kahului, Maui

**This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.**

Hi Christina,

Thank you for your response letter. The proposed project is not federally funded, nor is it being initiated by a federal agency. Would the applicant still need to apply for an incidental take permit/habitat conservation plan under Section 10(a)(1)(B) of the ESA? A biological survey was recently completed for the project site, and will be included in the EA document. No critical habitat or protected species were observed at or directly around the project area. Several avian species were noted in the biological survey that may traverse the site. Mitigation measures will be included in the EA to minimize/eliminate impacts to species that may arrive at the project site.

Thanks

Thanks,

Max Solmssen
Kaimana Environmental Solutions LLC

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**From:** Richards, Christina E <christina_richards@fws.gov>
**Sent:** Tuesday, August 17, 2021 8:58 AM
**To:** Max Solmssen <max@kaimanaenv.com>
**Subject:** 01EPIF00-2021-TA-0431 Technical Assistance for the proposed Hale Makua Rehabilitation Facility, Kahului, Maui

Dear Max Solmssen,

Attached you will find the FWS Pacific Islands Fish and Wildlife Office's response to your technical assistance request for the above named project.

We thank you for your efforts to conserve listed species and native habitats. Please contact me should you have any questions pertaining to this response or require further guidance. When referring to this project, please include this reference number: 01EPIF00-2021-TA-0431.

Aloha,

Christina Richards
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Pacific Islands fish and Wildlife Office
300 Ala Moana Boulevard, Rm. 3-122
Honolulu, Hawaii 96850
Phone 808-792-9450