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FEB 2 3 2021

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Mayor

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Director

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COUNTY OF MAUI
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
2050 MAIN STREET, SUITE 2B
WAILUKU, MAUI, HAWAII 96793

February 3, 2021

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

Dear Mr. Kawaoka:

SUBJECT: WEST MAUI RECYCLED WATER SYSTEM

With this letter, the County of Maui, Wastewater Reclamation Division hereby transmits the draft environmental assessment and anticipated finding of no significant impact (DEA-AFONSI) for the West Maui Recycled Water System situated at (2)4-4-001:015, (2)4-4-001:104, (2)4-4-001:108, (2)4-4-002:018, (2)4-4-002:019, (2)4-4-002:029, (2)4-4-003:001, (2)4-4-006:010, (2)4-4-008:009, (2)4-4-008:011, (2)4-4-008:014, (2)4-4-013:011, (2)4-4-013:013, in Lahaina District on the island of Maui for publication in the next available edition of the Environmental Notice.

Transmitted herewith is the completed OEQC publication form, an Adobe Acrobat PDF file of the DEA-AFONSI, and a zip file containing the shape file of the project's location.

Should you have any questions, please contact Mr. Albert Hahn at (808) 270-7421.

Sincerely,

Digitally signed by Eric Nakagawa
DN: cn=Eric Nakagawa, o=County of Maui, ou=Director of Environmental Management, email=eric.nakagawa@co.maui.hi.us, c=US
Date: 2021.02.05 09:12:50 -10'00'

ERIC A. NAKAGAWA, P.E.
Director of Environmental Management

21-118

From: webmaster@hawaii.gov
To: HI Office of Environmental Quality Control
Subject: New online submission for The Environmental Notice
Date: Friday, February 12, 2021 5:43:29 PM

Action Name

West Maui Recycled Water System

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

Lahaina, Maui

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

(2)4-4-001:015; (2)4-4-001:104; (2)4-4-001:108; (2)4-4-002:018; (2)4-4-002:019; (2)4-4-002:029; (2)4-4-003:001; (2)4-4-006:010; (2)4-4-008:009; (2)4-4-008:011; (2)4-4-008:014; (2)4-4-013:011; (2)4-4-013:013

Action type

Agency

Other required permits and approvals

Numerous; see Section 9 for list of permits and approvals

Proposing/determining agency

County of Maui, Department of Environmental Management

Agency contact name

Albert Hahn

Agency contact email (for info about the action)

albert.hahn@co.maui.hi.us

Agency contact phone

(808) 270-7421

Agency address

2200 Main Street, Suite 610
Wailuku, HI 96793
United States
Map It

Was this submittal prepared by a consultant?

Yes

Consultant

Fukunaga and Associates, Inc.

Consultant contact name

Amanda Tanaka

Consultant contact email

atanaka@fukunagaengineers.com

Consultant contact phone

(808) 944-1821

Consultant address

1357 Kapiolani Blvd Ste 1530
Honolulu, HI 96814
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Map It

Action summary

The County of Maui, Department of Environmental Management, Wastewater Reclamation Division operates the Lahaina WWRF which produces R-1 recycled water, the highest grade of recycled water for non-potable use, and distributes this valuable water resource through the West Maui Recycled Water System. The purpose of this project is to upgrade the West Maui Recycled Water System. The proposed action includes renovating the existing Honokowai Reservoir to improve its function as elevated recycled water storage, replacing an aging 20-inch recycled waterline (RW) with a new 24-inch RW, and constructing a new reuse pump station and recycled water storage basin at the Lahaina WWRF. The improvements will provide a more reliable recycled water supply to users and will facilitate connecting additional users to the system. Overall, the proposed improvements will help to decrease demand on potable water resources and decrease the use of injection wells for effluent disposal.

Reasons supporting determination

See Section 8 of the EA.

Attached documents (signed agency letter & EA/EIS)

- West-Maui-Recycled-Water-System-DEA.pdf
- WestMauiRecycledWaterSystem_signedDEMletter.pdf

Action location map

- West_Maui_Recycled.zip

Authorized individual

Amanda Tanaka

Authorization

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

DRAFT
ENVIRONMENTAL ASSESSMENT

WEST MAUI RECYCLED WATER SYSTEM

WASTEWATER RECLAMATION DIVISION
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
COUNTY OF MAUI

Prepared by:

Fukunaga & Associates, Inc.
1357 Kapiolani Blvd., Suite 1530
Honolulu, Hawaii 96814

February 2021

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APPENDIX A:

APPENDIX B:

LIST OF ABBREVIATIONS

AFONSI	Anticipated Finding of No Significant Impact
ALISH	Agricultural Lands of Importance to the State of Hawaii
APE	Area of Potential Effect
BMP	Best Management Practices
COM	County of Maui
CWRM	Commission on Water Resource Management
CZM	Coastal Zone Management
CZO	Comprehensive Zoning Ordinance
DBEDT	Department of Business and Economic Development & Tourism
DEM-WWRD	Department of Environmental Management, Wastewater Reclamation Division
DOA	Department of Agriculture
DOFAW	Division of Forestry and Wildlife
DOH	Department of Health
DHHL	Department of Hawaiian Home Lands
DLNR	Department of Land and Natural Resources
EFH	Essential Fish Habitat
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FPPA	Farmland Protection Policy Act
HAR	Hawaii Administrative Rules
HRS	Hawaii Revised Statutes
KLMC	Kaanapali Land Management Corporation
LID	Low Impact Development
LSB	Land Study Bureau
MECO	Maui Electric Company
MG	Million Gallon
MGD	Million Gallons per Day
MIP	Maui Island Plan
MLP	Maui Land and Pineapple Company
MSL	Mean Sea Level
NEPA	National Environmental Policy Act

NHD	National Hydrography Dataset
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollution Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
PIFWO	Pacific Islands Fish and Wildlife Office
RW	Recycled Waterline
SCS	Soil Conservation Service or Scientific Consultant Services, Inc.
SMA	Special Management Area
SHPD	State Historic Preservation District
SRF	State Revolving Fund
TMK	Tax Map Key
UIC	Underground Injection Control
USC	United States Code
USDA	United States Department of Agriculture
USFWS	United States Fish & Wildlife Service
USGS	U.S. Geological Survey
WHWMP	Wahikuli-Honokowai Watershed Management Plan
WUDP	Water Use and Development Plan
WWRF	Wastewater Reclamation Facility

EXECUTIVE SUMMARY

Project Name:	West Maui Recycled Water System
Proposing/Determining Agency:	County of Maui Department of Environmental Management Wastewater Reclamation Division 2200 Main Street, Suite 610 Wailuku, Maui, Hawaii 96793-2155
Consultant:	Fukunaga and Associates, Inc. 1357 Kapiolani Boulevard, Suite 1530 Honolulu, Hawaii 96814
Location:	Lahaina, Maui

Property Owner and Land Use:

Tax Map Key	Current Property Owner	State Land Use District	Community Plan Land Use	County Zoning
(2)4-4-001:015	Department of Hawaiian Home Lands	Agriculture	Agriculture	AG Agriculture
(2)4-4-001:104	State of Hawaii	Urban	Public/ Quasi-Public	P-1 Public/ Quasi-Public
(2)4-4-001:108	Kaanapali Development Corporation	Agriculture	Agriculture and Open Space	R-3 Residential and AG Agriculture
(2)4-4-002:018	Department of Hawaiian Home Lands	Agriculture	Agriculture	AG Agriculture
(2)4-4-002:019	Maui Land and Pineapple Co.	Agriculture	Agriculture	AG Agriculture
(2)4-4-002:029	State of Hawaii (Leasee: County of Maui)	Urban	Public/ Quasi-Public	P-1 Public/ Quasi-Public
(2)4-4-003:001	Kaanapali Development Corporation	Agriculture	Agriculture and Open Space	R-3 Residential and AG Agriculture
(2)4-4-006:010	Royal Kaanapali Holdings, LLC (Kaanapali Golf Courses)	Urban	Park (Golf Course)	R-3 Residential
(2)4-4-008:009	Royal Kaanapali Holdings, LLC (Kaanapali Golf Courses)	Urban	Park (Golf Course)	A-2 Apartment

Tax Map Key	Current Property Owner	State Land Use District	Community Plan Land Use	County Zoning
(2)4-4-008:011	Kaanapali Operations Association	Urban	No Designation (Road)	Road
(2)4-4-008:014	Kaanapali Development Corporation	Urban	Park (Golf Course)	A-2 Apartment
(2)4-4-013:011	Kaanapali Operations Association	Urban	No Designation (Road)	Road
(2)4-4-013:013	Maui Timeshare Venture LLC	Urban	Hotel	H-2 Hotel

Environmental Assessment "Trigger": Proposed Use of State and County Lands and County Funds

Anticipated Determination: Anticipated Finding of No Significant Impact (AFONSI)

1 PROJECT OVERVIEW

1.1 Proposed Action

The West Maui Recycled Water Expansion Project is proposed by the County of Maui (COM), Department of Environmental Management, Wastewater Reclamation Division (DEM-WWRD). The proposed project includes work as described below and shown on **Figure 1**:

- Renovate the Honokowai Reservoir (TMK (2)4-4-002:019). The reservoir and property are presently owned by the Maui Land and Pineapple Company (MLP). The DEM-WWRD is negotiating with MLP to acquire the reservoir and property. The water in the reservoir was used by MLP for irrigation, and an existing recycled waterline connection supplied recycled water from the Lahaina Wastewater Reclamation Facility (WWRF) to the reservoir.

  Improvements to the reservoir will include earthwork to fortify and improve the reservoir and dam as necessary, replacement of the existing reservoir lining, addition of a geosynthetic floating cover over the reservoir, and upgrade of the reservoir appurtenances (including but not limited to the inlet and outlet piping).

  The earthwork modifications are anticipated to maintain or more likely decrease the existing reservoir capacity. The reservoir capacity will not be increased. The reservoir improvements will enhance the reservoir's function as elevated storage of recycled water for irrigation.

- Replace the existing 20-inch recycled waterline (RW) from the Lahaina WWRF to Honokowai Reservoir with a 24-inch RW. The new 24-inch RW will be aligned roughly parallel to the existing 20-inch RW and traverse through TMKs (2)4-4-001:108, (2)4-4-003:001, (2)4-4-001:015, and (2)4-4-002:018. These parcels are owned by Kaanapali Development Corporation, Pioneer Mill Company, LLC, and the Department of Hawaiian Home Lands (DHHL), respectively. The approximate alignment is shown on **Figure 1**. A 12-foot wide access road is proposed over the 24-inch RW.

- Replace the existing reuse pump station located at the Lahaina WWRF (TMKs (2)4-4-001:104 and (2)4-4-002:029). Improvements will include installation of new pumps and pump discharge piping to replace the existing reuse pump station and electrical system improvements to support the new pumps. Other improvements for the West Maui Recycled Water Expansion project at the Lahaina WWRF will include construction of a new enclosed recycled water storage basin and improvements to the interconnection of the recycled water transmission system.

- Provide a control valve on the existing 16-inch RW at the Kaanapali Golf Course (TMK (2)4-4-006:010) in an existing vault.

Figure 1 also shows a conceptual alignment for a future 16-inch RW which would extend the recycled water distribution system into the Kaanapali Resort area. This future RW is proposed by COM, DEM-WWRD as part of the Kaanapali Resort R-1 Water Distribution System Expansion Project. The conceptual alignment would connect to the existing RW in Honoapiilani Highway, and continue through the Kaanapali Golf Course (TMK (2)4-4-008:009, 014), along Kaanapali Parkway (TMK (2)4-4-008:011) and Nohea Kai Drive (TMK (2)4-4-013:011), terminating at the Hyatt Regency Resort (TMK (2)4-4-013:013).

All improvements will comply with the Reuse Guidelines of the State of Hawaii Department of Health (DOH) Wastewater Branch, which was updated in January 2016. The Reuse Guidelines documents requirements for facilities that produce and purvey recycled water and requirements for sites that use recycled water, all of which are regulated by DOH.

1.2 Purpose of the Projects

The County of Maui has been at the forefront of water reuse in the State of Hawaii and has been proactively developing its reuse programs since the early 1990s. In 1996, Chapter 20.30 – Use of Reclaimed Water, was adopted into the Maui County Code of Ordinances. The provisions contained in Chapter 20.30 were developed to "conserve the limited water resources in the County of Maui, encourage the use of reclaimed water and reduce the reliance on injection wells for the disposal of wastewater effluent." This ordinance mandates the use of recycled water for irrigation by commercial properties where there is a recycled water distribution main contiguous to or within one hundred feet of the consumer's property line. Today, the County continues its commitment to increasing recycled water use and is working towards achieving 100 percent reuse.

The purpose of this project is to upgrade the West Maui Recycled Water System. DEM-WWRD operates the West Maui Recycled Water System and the Lahaina WWRF. The Lahaina WWRF treats all wastewater to R-1 quality, which is the highest grade of non-potable recycled water. R-1 quality recycled water is a valuable resource that is suitable for many uses, including irrigation. As illustrated in **Figure 1**, the existing West Maui Recycled Water System consists of two separate recycled water distribution systems: the Mauka System and the South System.

The Mauka System currently consists of two pumps at the Lahaina WWRF reuse pump station and an existing 20-inch RW that connects to two existing reservoirs: the Honokowai Reservoir at 300-foot elevation and a COM reservoir at 725-foot elevation. With the cessation of MLP operations, there is no longer demand for irrigation water from the Mauka System, and the COM reservoir is no longer in regular operation. The condition of the existing 20-inch RW is not known but is assumed to be poor due to its age and lack of use and maintenance.

The South System currently consists of two pumps at the Lahaina WWRF reuse pump station and an existing 16-inch RW that terminates at a Kaanapali Golf Course reservoir. The South System delivers up to about 1.8 million gallons per day (mgd) to Honua Kai Resort, Kaanapali Golf Course, Hyatt Regency, and Hyatt Residence Club and is pressurized only while the Lahaina WWRF reuse pumps are operating. Therefore, users along the existing distribution system are restricted to taking recycled water only while the Lahaina WWRF reuse pumps are running.

The improvements described in Section 1.1 will interconnect the Mauka and South systems and will provide a more reliable recycled water supply to end users. Upon completion of improvements to the Honokowai Reservoir, the system will be capable of providing a stable recycled water supply and distribution pressure, allowing the recycled water system to function similarly to a potable water distribution system. The upgraded Honokowai Reservoir will provide necessary storage volume such that recycled water, which is predominately generated during the day when wastewater flows into the Lahaina WWRF is high, can be stored until higher user demand occurs, which is typically at night. The addition of a protective cover over the top of the reservoir will help preserve the R-1 quality delivered from the Lahaina WWRF to the service connections. The new reuse pumps will be selected to operate efficiently with the upgraded distribution system. Replacement of the existing 20-inch RW with a new 24-inch RW will provide improved reliability. In the future, if DEM-WWRD chooses to rehabilitate the existing 20-inch RW, the new 24-inch RW could be used as a transmission main from the Lahaina WWRF to the Honokowai Reservoir and the rehabilitated RW could be used as the distribution main from the reservoir to the users. Dedicating separate lines into and out of the reservoir will allow for more predictable and stable system hydraulics.

The proposed improvements will facilitate connecting additional users to the system. Locations of potential users are shown on **Figure 1**. Potential users located along the existing 16-inch RW are shown in yellow. Additional users that could be served with expansion of the distribution system are shown in orange.

Overall, the proposed improvements will help to decrease demand on potable water resources and decrease the use of injection wells for effluent disposal from the Lahaina WWRF.

1.3 Construction Cost and Implementation Schedule

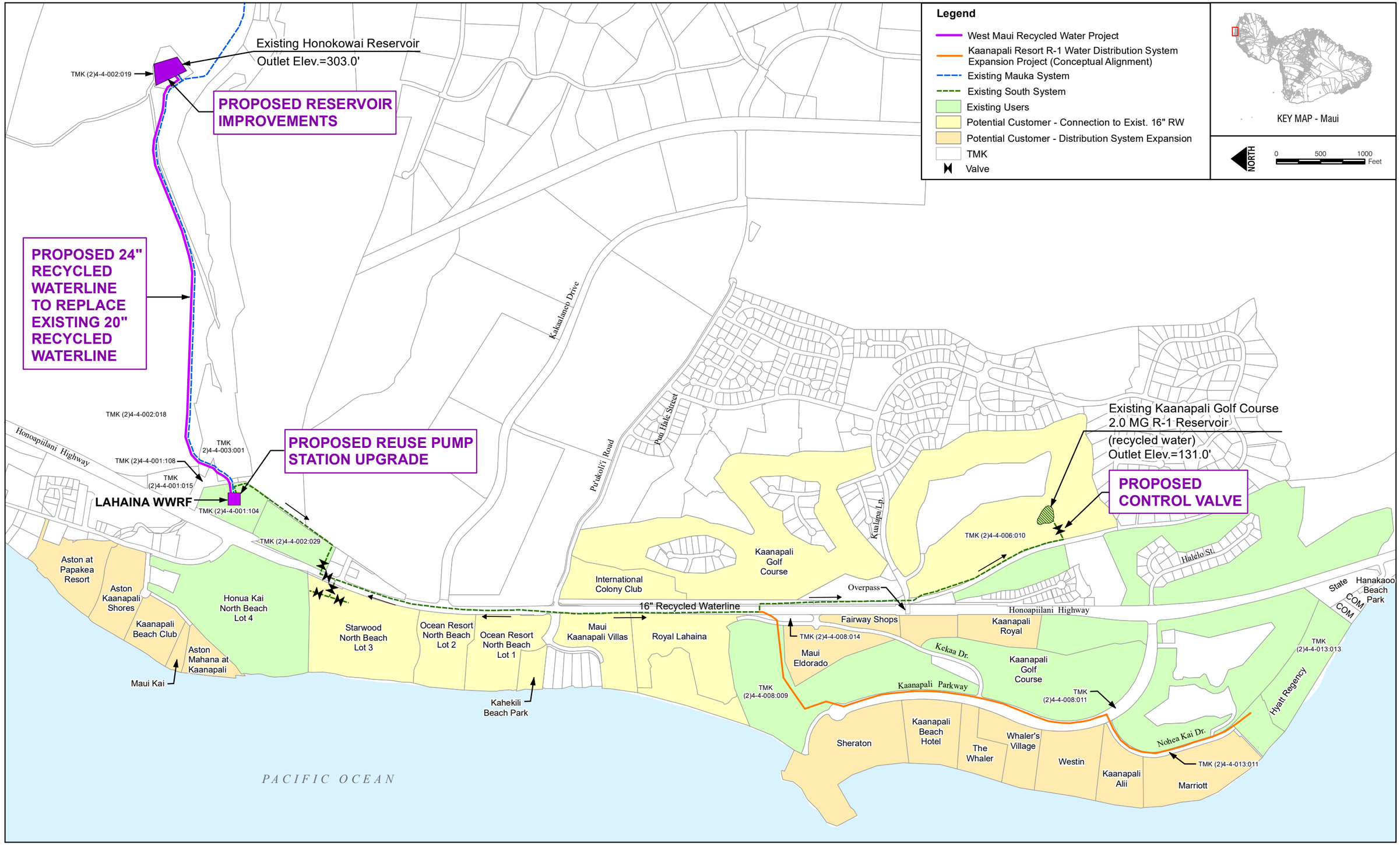
The estimated cost of construction for the West Maui Recycled Water Expansion Project is $26 million. It is estimated that the project will be bid in phases, with the initial phase bid in late 2021. The Kaanapali Resort R-1 Water Distribution System Expansion Project will be designed and constructed after the West Maui Recycled Water Expansion Project.

1.4 Future Expansion

In January 2012, DEM-WWRD prepared the *West Maui Recycled Water Verification Study* for the Maui County Council to identify and evaluate options to increase the use of recycled water produced by the Lahaina WWRF and to ultimately reduce potable water use and reduce the use of injection wells for effluent disposal. The study identified potential commercial properties that could be served by various expansion opportunities of the distribution system. The options and associated improvements discussed in the study are conceptual and subject to change. Potential expansion of the system would be impacted by the future growth in the West Maui Region and resulting increase in wastewater flows. If the County moves forward with any future options, the improvements will be further evaluated and refined by more detailed design.

The potential users shown on **Figure 1** comprise the study's first three options. The users shown in yellow can be served at the completion of the West Maui Recycled Water Expansion Project. The users shown in orange can be served if the distribution system is extended to those service areas.

Other expansion options that were not previously identified may also become viable in the future.


Legend
West Maui Recycled Water Project
Kaanapali Resort R-1 Water Distribution System Expansion Project (Conceptual Alignment)
Existing Mauka System
Existing South System
Existing Users
Potential Customer - Connection to Exist. 16" RW
Potential Customer - Distribution System Expansion
TMK
Valve
KEY MAP - Maui
NORTH
0
500
1000
Feet
Existing Honokowai Reservoir
Outlet Elev.=303.0'
TMK (2)4-4-002:019
PROPOSED RESERVOIR IMPROVEMENTS
PROPOSED 24" RECYCLED WATERLINE TO REPLACE EXISTING 20" RECYCLED WATERLINE
TMK (2)4-4-002:018
TMK (2)4-4-003:001
TMK (2)4-4-001:108
TMK (2)4-4-001:015
PROPOSED REUSE PUMP STATION UPGRADE
LAHAINA WWRF
TMK (2)4-4-001:104
TMK (2)4-4-002:029
Honoapiilani Highway
Kaanapali Golf Course
2.0 MG R-1 Reservoir
(recycled water)
Outlet Elev.=131.0'
PROPOSED CONTROL VALVE
TMK (2)4-4-006:010
Kaanapali Golf Course
International Colony Club
Overpass
16" Recycled Waterline
Aston at Papakea Resort
Aston Kaanapali Shores
Kaanapali Beach Club
Aston Mahana at Kaanapali
Maui Kai
Honua Kai North Beach Lot 4
Starwood North Beach Lot 3
Ocean Resort North Beach Lot 2
Ocean Resort North Beach Lot 1
Kahekili Beach Park
Maui Kaanapali Villas
Royal Lahaina
Fairway Shops
TMK (2)4-4-008:014
Maui Eldorado
TMK (2)4-4-008:009
Kaanapali Royal
Kekaa Dr.
Kaanapali Golf Course
Kaanapali Parkway
TMK (2)4-4-008:011
Sheraton
Kaanapali Beach Hotel
The Whaler
Whaler's Village
Westin
Kaanapali Alii
Marriott
Nohea Kai Dr.
TMK (2)4-4-013:011
Hyatt Regency
TMK (2)4-4-013:013
State COM
Hanakaoo Beach Park
Halelo St.
Kaanapali Pkwy
Kaanapali Lp.
Pu'ukoli'i Road
Paul Hale Street
Kakaalaneki Drive
PACIFIC OCEAN

2 LAND USE PLANS, POLICIES, AND CONTROLS

2.1 Hawaii State Plan

The Hawaii State Plan, as set forth by Hawaii Revised Statutes (HRS) Chapter 226, serves as a guide for the future long-range development of the State. It identifies the goals, objectives, policies, and priorities for the State; provides a basis for determining priorities and allocating limited resources, such as public funds, services, human resources, land, energy, water, and other resources; improves coordination of state and county plans, policies, programs, projects, and regulatory activities; and establishes a system for plan formulation and program coordination to provide for an integration of all major state and county activities. The State goals are discussed below, and the objectives relevant to the proposed projects are indicated in **Table 1**.

Section 226-4: State Goals.
In order to guarantee, for present and future generations, those elements of choice and mobility that ensure that individuals and groups may approach their desired levels of self-reliance and self-determination, it shall be the goals of the State to achieve:

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

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

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

The proposed projects support these overall state goals by creating a more robust recycled water system that supplies a valuable alternate water source to meet non-potable demands, and thereby reserves potable water for potable water needs, as well as decreases the use of injection wells for disposal.

Table 1. Hawaii State Plan Objectives

Objective	Description	Applicable
Population	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	No
Economy--in general	Planning for the State's economy in general shall be directed toward achievement of the following objectives: (1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawai‘i's people, while at the same time stimulating the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited. (2) A steadily growing and diversified economic base that is not overly dependent on a few industries, and includes the development and expansion of industries on the neighbor islands.	No

Objective	Description	Applicable
Economy--agriculture	Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives: (1) Viability of Hawai‘i's sugar and pineapple industries. (2) Growth and development of diversified agriculture throughout the State. (3) An agriculture industry that continues to constitute a dynamic and essential component of Hawai‘i's strategic, economic, and social well-being.	Yes
Economy--visitor industry	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.	No
Economy--federal expenditures	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.	No
Economy--potential growth activities	Planning for the State's economy with regard to potential growth activities shall be directed towards achievement of the objective of development and expansion of potential growth activities that serve to increase and diversify Hawai‘i's economic base.	No
Economy--information industry	Planning for the State's economy with regard to telecommunications and information technology shall be directed toward positioning Hawai‘i as a leader in broadband communications and applications in the Pacific Region.	No
Physical environment--land-based, shoreline, and marine resources	Planning for the State's physical environment with regard to land-based, shoreline, and marine resources shall be directed towards achievement of the following objectives: (1) Prudent use of Hawai‘i's land-based, shoreline, and marine resources. (2) Effective protection of Hawai‘i's unique and fragile environmental resources.	No
Physical environment-- scenic, natural beauty, and historic resources	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.	No
Physical environment--land, air, and water quality	Planning for the State's physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objectives: (1) Maintenance and pursuit of improved quality in Hawai‘i's land, air, and water resources. (2) Greater public awareness and appreciation of Hawai‘i's environmental resources.	Yes

Objective	Description	Applicable
Facility systems--in general	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.	Yes
Facility systems--solid and liquid wastes	Planning for the State's facility systems with regard to solid and liquid wastes shall be directed towards the achievement of the following objectives: (1) Maintenance of basic public health and sanitation standards relating to treatment and disposal of solid and liquid wastes. (2) Provision of adequate sewerage facilities for physical and economic activities that alleviate problems in housing, employment, mobility, and other areas.	Yes
Facility systems--water	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.	Yes
Facility systems--transportation	Planning for the State's facility systems with regard to transportation shall be directed towards the achievement of the following objectives: (1) An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe, and convenient movement of people and goods. (2) A statewide transportation system that is consistent with and will accommodate planned growth objectives throughout the State.	No
Facility systems--energy	Planning for the State's facility systems with regard to energy shall be directed toward the achievement of the following objectives, giving due consideration to all: (1) Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people; (2) Increased energy self-sufficiency where the ratio of indigenous to imported energy use is increased; (3) Greater energy security and diversification in the face of threats to Hawai‘i's energy supplies and systems; and (4) Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use.	No
Facility systems--telecommunications	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.	No

Objective	Description	Applicable
Socio-cultural advancement--housing	Planning for the State's socio-cultural advancement with regard to housing shall be directed toward the achievement of the following objectives: (1) Greater opportunities for 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. (2) The orderly development of residential areas sensitive to community needs and other land uses. (3) The development and provision of affordable rental housing by the State to meet the housing needs of Hawai'i's people.	No
Socio-cultural advancement--health	Planning for the State's socio-cultural advancement with regard to health shall be directed towards achievement of the following objectives: (1) Fulfillment of basic individual health needs of the general public. (2) Maintenance of sanitary and environmentally healthful conditions in Hawai'i's communities.	No
Socio-cultural advancement--education	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.	No
Socio-cultural advancement--social services	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.	No
Socio-cultural advancement--leisure	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.	No
Socio-cultural advancement--individual rights and personal well-being	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.	No
Socio-cultural advancement--culture	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.	No

Objective	Description	Applicable
Socio-cultural advancement--public safety	Planning for the State's socio-cultural advancement with regard to public safety shall be directed towards the achievement of the following objectives: (1) Assurance of public safety and adequate protection of life and property for all people. (2) Optimum organizational readiness and capability in all phases of emergency management to maintain the strength, resources, and social and economic well-being of the community in the event of civil disruptions, wars, natural disasters, and other major disturbances. (3) Promotion of a sense of community responsibility for the welfare and safety of Hawai'i's people.	No
Socio-cultural advancement--government	Planning the State's socio-cultural advancement with regard to government shall be directed towards the achievement of the following objectives: (1) Efficient, effective, and responsive government services at all levels in the State. (2) Fiscal integrity, responsibility, and efficiency in the state government and county governments.	No

The objectives and policies relevant to the proposed project are listed and discussed below.

Section 226-7: Objectives and policies for the economy – agriculture.

(A) Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives:

(2) Growth and development of diversified agriculture throughout the State.

(B) To achieve the agricultural objectives, it shall be the policy of this State to:

(10)Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs.

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

(A) Planning the State's physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objectives:

(1) Maintenance and pursuit of improved quality in Hawaii's land, air, and water resources.

(B) To achieve the land, air, and water quality objectives, it shall be the policy of this State to:

(2) Promote the proper management of Hawaii's land and water resources.

(3) Promote effective measures to achieve desired quality in Hawaii's surface, ground, and coastal waters.

Section 226-14: Objective and policies for facility systems – in general.

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

(B) To achieve the general facility systems objective, it shall be the policy of this State to:

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

(2) Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities.
(3) Ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user.
(4) Pursue alternative methods of financing programs and projects and cost-saving techniques in the planning, construction, and maintenance of facility systems.

Section 226-15: Objectives and policies for facility systems – solid and liquid wastes.

(A) Planning for the State's facility systems with regard to solid and liquid wastes shall be directed towards the achievement of the following objectives:
(1) Maintenance of basic public health and sanitation standards relating to treatment and disposal of solid and liquid wastes.
(B) To achieve solid and liquid waste objectives, it shall be the policy of this State to:
(1) Encourage the adequate development of sewerage facilities that complement planned growth.
(2) Promote re-use and recycling to reduce solid and liquid wastes and employ a conservation ethic.

Section 226-16: Objective and policies for facility systems – water.

(A) Planning for the State's facility system 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 capabilities.
(B) To achieve the facility systems water objective, it shall be the policy of this State to:
(2) Support research and development of alternative methods to meet future water requirements well in advance of anticipated needs.
(3) Reclaim and encourage the productive use of runoff water and waste water discharges.
(4) Assist in improving the quality, efficiency, service, and storage capabilities of water systems for domestic and agricultural use.

Section 226-103 Economic priority guidelines.

(E) Priority guidelines for water use and development:
(2) Encourage the improvement of irrigation technology and promote the use of non-potable water for agricultural and landscaping purposes
(3) Increase the support for research and development of economically feasible alternative water sources.
(4) Explore alternative funding sources and approaches to support future water development programs and water system improvements.

The proposed projects will upgrade the West Maui recycled water system. Upgrading the system will improve service and increase the availability of recycled water. Increased use of recycled water will replace current and projected potable water use for non-potable demands such as irrigation. This promotes the proper management of Hawaii's water resources by providing an alternative source so that water is put to its best and highest use; i.e., potable water available for drinking water purposes. Increased use of recycled water will also result in a decrease of effluent disposal through injection wells. In addition, the proposed improvements consider the potential for future expansion of the system and provide flexibility to accommodate it. This promotes the prudent use of resources and the ability to handle changes in demands and priorities. Hence, the proposed projects comply with the aforementioned goals, objectives, and policies.

2.2 State Land Use

HRS Chapter 205, Land Use Commission, establishes four general land use districts in which all lands in the State are placed. These four districts are Urban, Rural, Agricultural, and Conservation. The State Land Use classification for the project sites is provided in **Table 2**. See **Figure 2**.

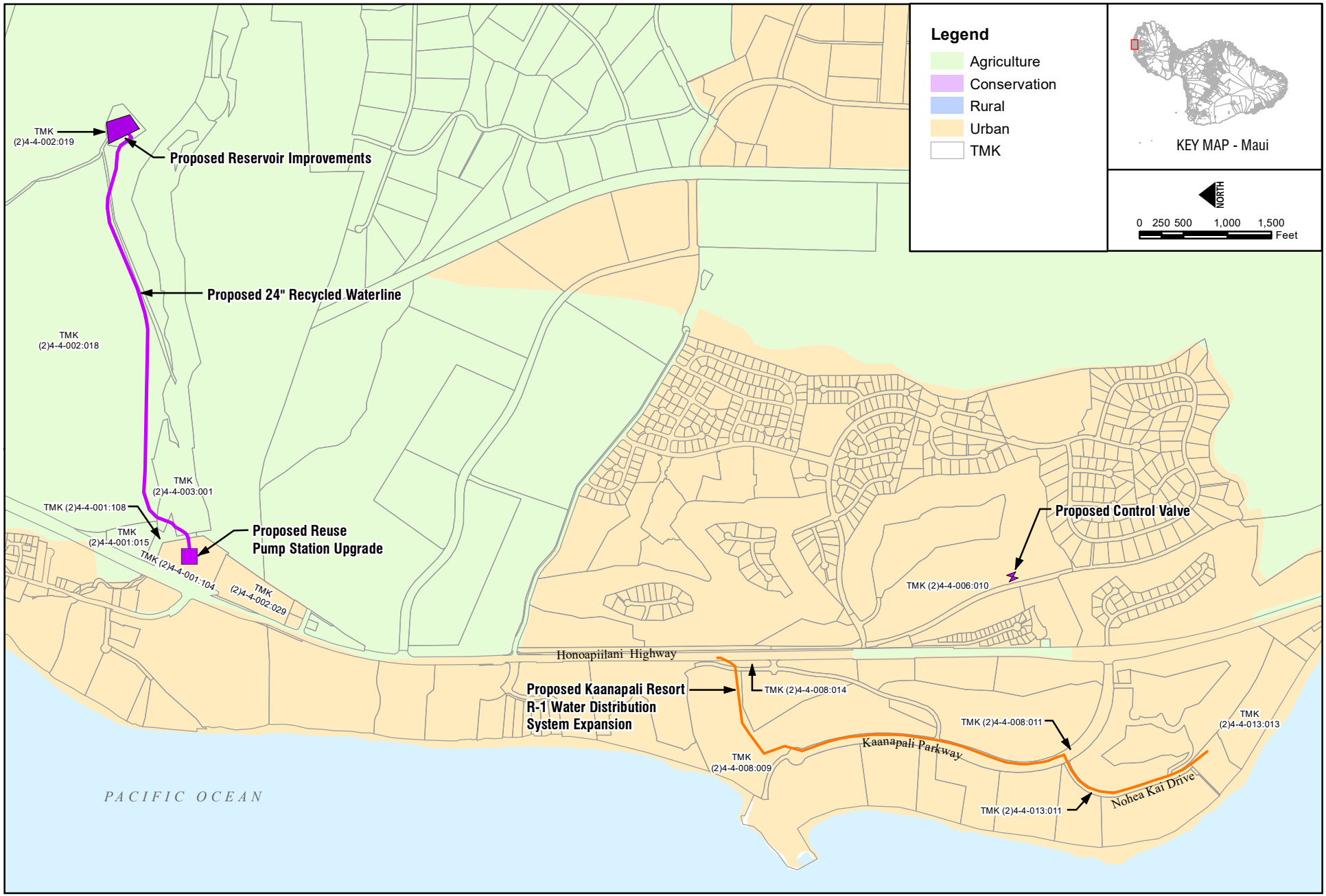
Table 2. State Land Use Classification

TMK	State Land Use District
(2)4-4-001:015 (24-inch RW)	Agricultural
(2)4-4-001:104 (Lahaina WWRF)	Urban
(2)4-4-001:108 (24-inch RW)	Agricultural
(2)4-4-002:018 (24-inch RW)	Agricultural
(2)4-4-002:019 (24-inch RW and Honokowai Reservoir)	Agricultural
(2)4-4-002:029 (Lahaina WWRF)	Urban
(2)4-4-003:001 (24-inch RW)	Agricultural
(2)4-4-006:010 (Control Valve)	Urban
(2)4-4-008:009 (Kaanapali R-1 Expansion)	Urban
(2)4-4-008:011 (Kaanapali R-1 Expansion)	Urban
(2)4-4-008:014 (Kaanapali R-1 Expansion)	Urban
(2)4-4-013:011 (Kaanapali R-1 Expansion)	Urban
(2)4-4-013:013 (Kaanapali R-1 Expansion)	Urban

Permissible uses within the Urban district are any and all uses permitted by the counties. Discussion of uses permitted by the County are discussed in **Sections 2.3, 2.4, and 2.5**. Permissible uses within the Agricultural district include public, private, and quasi-public utility lines and roadways, transformer stations, communications equipment buildings, solid waste transfer stations, major water storage tanks, and appurtenant small buildings such as booster pumping stations, but not including offices or yards for equipment, material, vehicle storage, repair or maintenance, treatment plants, corporation yards, or other similar structures. Therefore, renovation of the Honokowai Reservoir and construction of a new 24-inch RW, including valves and appurtenances, are permissible uses within the Agricultural district.

2.3 Maui Island Plan

The Maui County General Plan is a set of documents that guides future growth and policy direction in the County. The General Plan consists of the Countywide Policy Plan, the Maui Island Plan (MIP), and Community Plans. The Countywide Policy Plan is an umbrella policy document that provides the framework for the development of the MIP and Community Plans. The MIP and the Community Plans implement the concepts set forth in the Countywide Policy Plan.



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Draft Environmental Assessment

STATE LAND USE MAP

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FIGURE 2

The MIP took effect in December 2012 and is a direction-setting document that "establishes a vision, founded on core values that break down into goals, objectives, policies, and actions." The vision and core values for Maui Island as stated in the MIP are as follows:

> Vision: *Maui Island will be environmentally, economically, and culturally sustainable with clean, safe, and livable communities and small towns that will protect and perpetuate a pono lifestyle for the future.*
>
> Core Values:
>
> *A. Adopt responsible stewardship principles by applying sound natural resource management practices.*
> *B. Respect and protect our heritage, traditions, and multi-cultural resources.*
> *C. Plan and build communities that include a diversity of housing.*
> *D. Retain and enhance the unique identity and sense of place.*
> *E. Preserve rural and agricultural lands and encourage sustainable agriculture.*
> *F. Secure necessary infrastructure concurrently with future development.*
> *G. Support efforts that contribute to a sustainable and diverse economy for Maui.*
> *H. Create a political climate that seeks and responds to citizen input.*
> *I. Respect and acknowledge the dignity of those who live on Maui.*
> *J. Establish a sustainable transportation system that includes multiple modes, including walking, biking, and mass transit, as well as automobile-based modes.*
> *K. Recognize and be sensitive to land ownership issues and work towards resolution.*

The MIP goals, objectives, and policies most relevant to the proposed project are listed below:

- Goal 2.2: *An intact, ecologically functional system of reef, shoreline, and nearshore waters that are protected in perpetuity.*
  - Objective 2.2.3: *Water quality that meets or exceeds State Clean Water Act standards.*
    - Action 2.2.3-1: *Transition from the use of wastewater injection wells to appropriate, environmentally sound methods of wastewater disposal, and promote the beneficial reuse of wastewater effluent.*

- Goal 6.2: *Maui will have wastewater systems that comply with or exceed State and Federal regulations; meet levels-of-service needs; provide adequate capacity to accommodate projected demand; ensure efficient, effective, and environmentally sensitive operation; and maximize wastewater reuse where feasible.*
  - Objective 6.2.2: *Adequate levels of wastewater service with minimal environmental impacts.*
    - Policy 6.2.2.c: *Improve and upgrade the County's existing wastewater collection, treatment, and reuse facilities consistent with current and future plans and the County's CIP.*
  - Objective 6.2.3: *Increase the reuse of wastewater.*
    - Policy 6.2.3.a: *Expand the reuse of wastewater from the Central Maui, Kihei, Lahaina, and other wastewater systems.*

- Goal 6.3: *Maui will have an environmentally sustainable, reliable, safe, and efficient water system.*
    - Objective 6.3.2: *Increase the efficiency and capacity of the water systems in striving to meet the needs and balance the island's water needs.*
        - Policy 6.3.2.c: *Maximize the efficient use of reclaimed wastewater to serve non-potable needs.*

The proposed project will upgrade the County's West Maui recycled water system and expand the use of recycled water generated by the Lahaina WWRF. Increased use of recycled water to serve non-potable needs will promote reserving potable water for its best and highest use (e.g., drinking water for human consumption) and will also decrease the use of injection wells.

The MIP acknowledges that when additional urban lands are needed to accommodate growth, it is almost inevitable that agriculturally classified lands will be converted. In order to identify and protect farms and natural areas from sprawl and to promote the efficient use of land, the Directed Growth Plan was developed and is the backbone of the MIP. The proposed improvements at the Lahaina WWRF, the control valve, and the Kaanapali Resort R-1 Water Distribution System Expansion project fall within the Urban Growth Boundary as shown in **Figure 3**. The 24-inch RW and the Honokowai Reservoir improvements are not within a growth boundary. However, the Honokowai Reservoir is an existing facility and the proposed 24-inch RW will be constructed adjacent to an existing 20-inch RW. Further, the proposed improvements support the MIP goals, objectives, and policies and will increase the availability of recycled water for non-potable needs, such as irrigation.

Another component of the MIP's Directed Growth Plan is Protected Areas. There are no Protected Areas within the project sites.

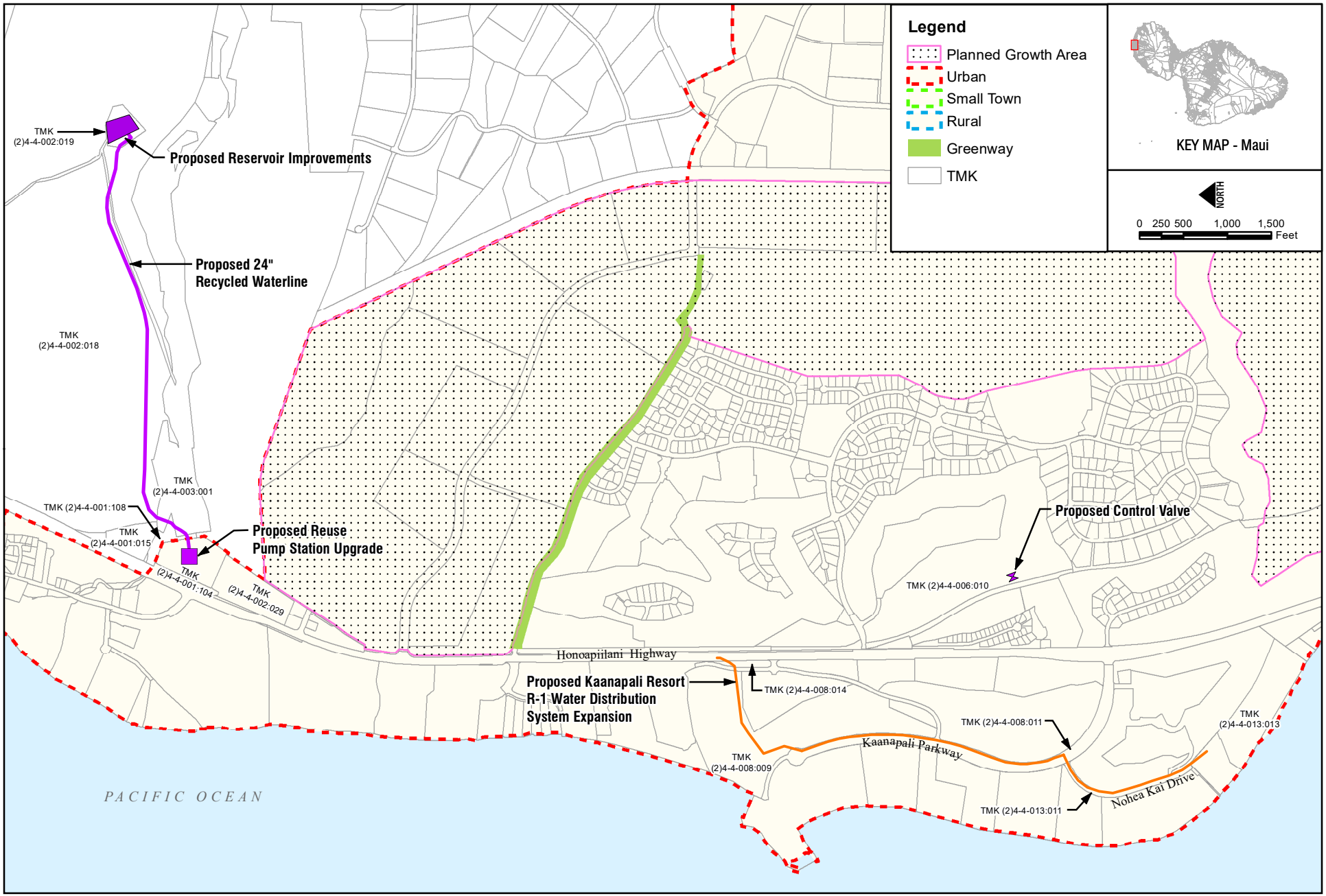
2.4 West Maui Community Plan

The West Maui Community Plan, dated 1996, is one of nine community plans for the COM. It is a strategic planning document that provides goals, objectives, policies, and implementation considerations to guide decision-making in West Maui. The West Maui Community Plan is in the process of being updated and a draft was released in July 2019.

The objectives and policies contained in the West Maui Community Plan most relevant to the proposed project are listed below:

- Environment
    - Objective/Policy: *Encourage park, golf course, landscape, and agricultural uses of treated effluent. Plan for wastewater reuse in the design of new parks, golf courses, and open spaces.*

- Infrastructure (Water and Utilities)
    - Objective/Policy: *Promote conservation of potable water through the use of treated wastewater effluent for irrigation.*



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MAUI ISLAND PLAN MAP

- Infrastructure (Liquid and Solid Waste)
    - Objective/Policy: *Reuse the treated effluent from the County's wastewater treatment system for irrigation and other suitable purposes in a manner that is environmentally sound.*

The proposed project will upgrade the recycled water system such that the distribution system will be continually pressurized and make recycled water readily available for on-demand use. With improved availability of a consistent supply of recycled water, this will promote the use of recycled water to meet non-potable needs, such as irrigation, which might otherwise use potable water.

The West Maui Community Plan designation for the project sites is provided in **Table 3**. See **Figure 4**.

Table 3. West Maui Community Plan Designation

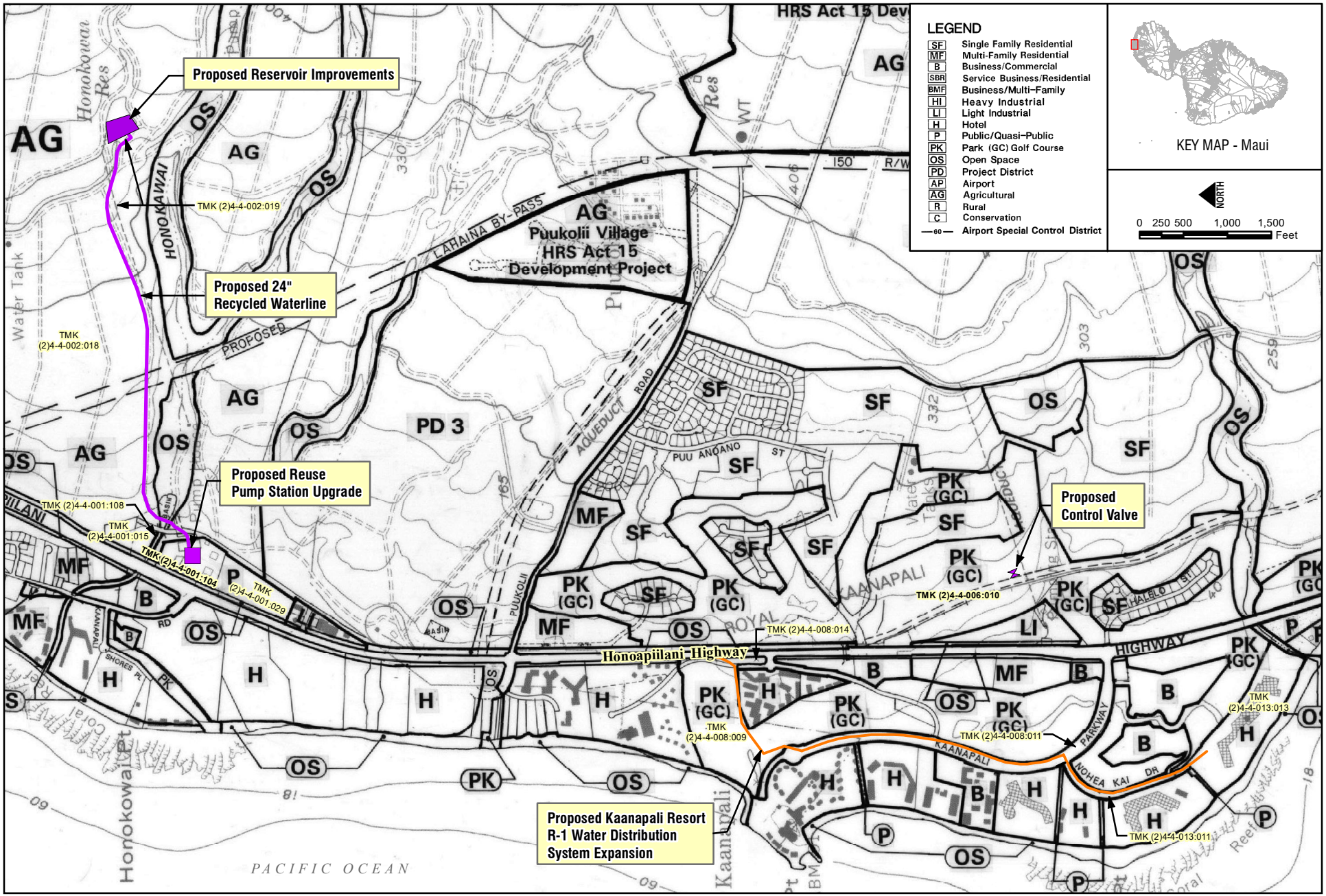
TMK	West Maui Community Plan Designation
(2)4-4-001:015 (24-inch RW)	Agriculture
(2)4-4-001:104 (Lahaina WWRF)	Public/Quasi-Public
(2)4-4-001:108 (24-inch RW)	Agriculture and Open Space
(2)4-4-002:018 (24-inch RW)	Agriculture
(2)4-4-002:019 (24-inch RW and Honokowai Reservoir)	Agriculture
(2)4-4-002:029 (Lahaina WWRF)	Public/Quasi-Public
(2)4-4-003:001 (24-inch RW)	Agriculture and Open Space
(2)4-4-006:010 (Control Valve)	Park (Golf Course)
(2)4-4-008:009 (Kaanapali R-1 Expansion)	Park (Golf Course)
(2)4-4-008:011 (Kaanapali R-1 Expansion)	No Designation (Privately-Owned Road)
(2)4-4-008:014 (Kaanapali R-1 Expansion)	Park (Golf Course)
(2)4-4-013:011 (Kaanapali R-1 Expansion)	No Designation (Privately-Owned Road)
(2)4-4-013:013 (Kaanapali R-1 Expansion)	Hotel

The Lahaina WWRF is on land designated as Public/Quasi-Public. The proposed 24-inch RW is primarily located within areas designated as Agriculture but does cross through land designated as Open Space. This occurs where the alignment crosses over Honokowai Stream. The proposed Kaanapali Resort system expansion RW traverses lands that are designated as Park (Golf Course), Hotel, and without designation (privately-owned roads).

2.5 Maui County Zoning

The Comprehensive Zoning Ordinance (CZO) of Maui County regulates land use in a manner encouraging orderly development in accordance with the HRS, the revised charter of the County, and the General Plan and community plans of the County. The CZO provides development standards which implement the community plans.

The zoning designation for the project sites is provided in **Table 4**. See **Figure 5**.



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WEST MAUI COMMUNITY PLAN MAP

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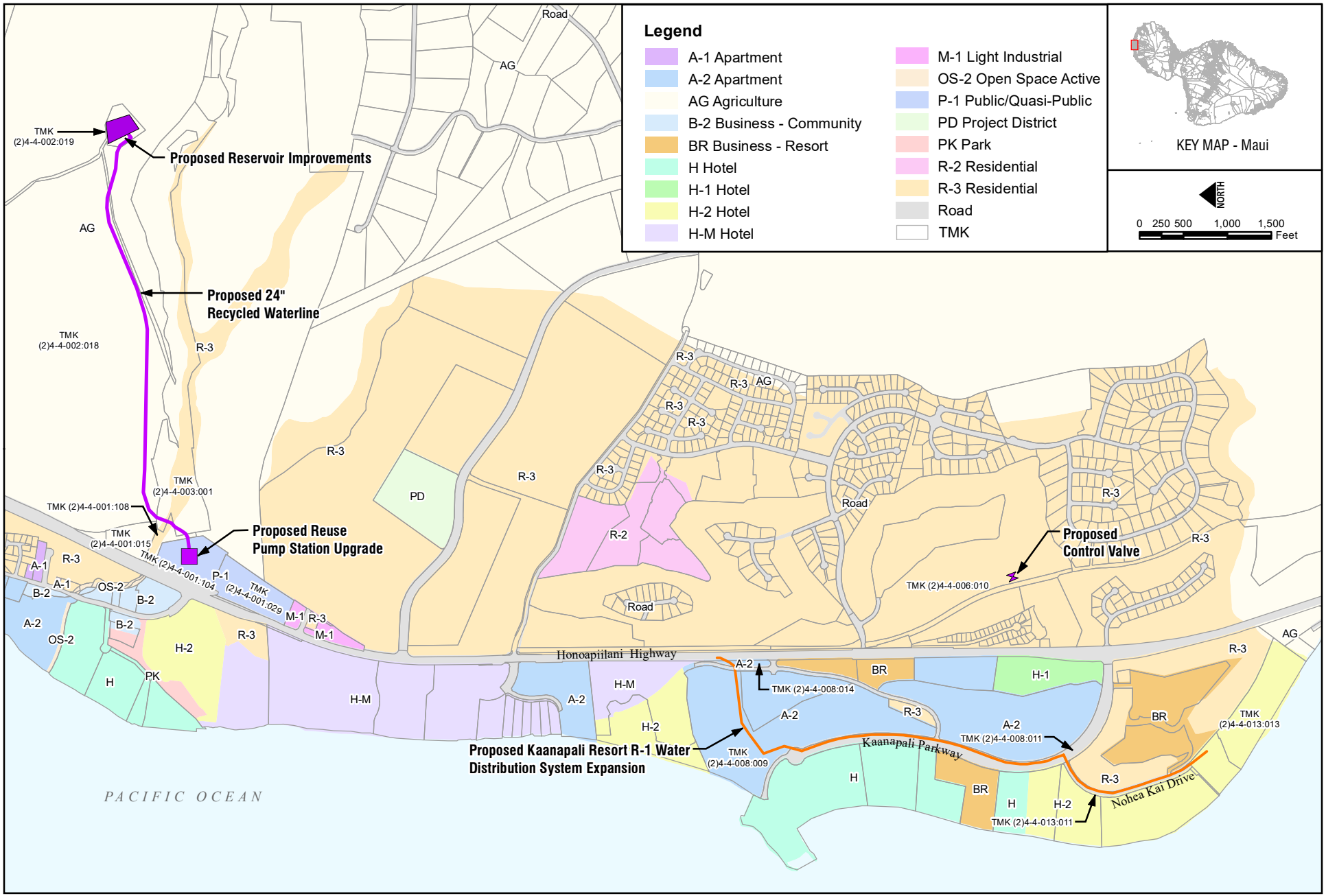
FIGURE 4



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COUNTY ZONING ORDINANCE MAP

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FIGURE 5

Table 4. Maui County Zoning Designation

TMK	Zoning District
(2)4-4-001:015 (24-inch RW)	AG Agriculture
(2)4-4-001:104 (Lahaina WWRF)	P-1 Public/Quasi-Public
(2)4-4-001:108 (24-inch RW)	R-3 Residential and AG Agriculture
(2)4-4-002:018 (24-inch RW)	AG Agriculture
(2)4-4-002:019 (24-inch RW and Honokowai Reservoir)	AG Agriculture
(2)4-4-002:029 (Lahaina WWRF)	P-1 Public/Quasi-Public
(2)4-4-003:001 (24-inch RW)	R-3 Residential and AG Agriculture
(2)4-4-006:010 (Control Valve)	R-3 Residential
(2)4-4-008:009 (Kaanapali R-1 Expansion)	A-2 Apartment
(2)4-4-008:011 (Kaanapali R-1 Expansion)	Road
(2)4-4-008:014 (Kaanapali R-1 Expansion)	A-2 Apartment
(2)4-4-013:011 (Kaanapali R-1 Expansion)	Road
(2)4-4-013:013 (Kaanapali R-1 Expansion)	H-2 Hotel

The Lahaina WWRF (TMK (2)4-4-001:104) is on land zoned as P-1 Public/Quasi-Public. Wastewater treatment facilities are one of the permitted uses in the P-1 zoning district per Maui County Code Chapter 19.31.020. The Lahaina WWRF is an existing wastewater treatment facility, and the proposed improvements at the Lahaina WWRF comply with the development standards of the P-1 zoning district as listed in the Maui County Code Chapter 19.31.050.

The proposed 24-inch RW and the control valve that will be installed at the Kaanapali Golf Course will be on lands zoned as R-3 Residential and AG Agriculture. "Buildings or premises used by the federal, State, or County governments for public purposes" is one of the permitted uses in residential districts per Maui County Code Chapter 19.08.020. The proposed 24-inch RW and the control valve will be used by the County to distribute recycled water to the public and therefore is allowed in R-3 zoned areas. Minor utility facilities, defined as "transmission lines used directly in the distribution of utility services that have minor impact on adjacent land uses which include, but are not limited to, twenty-three kilovolt transmission substations, vaults, water wells, tanks and distribution equipment, sewage pump stations, and other similar type uses" is one of the permitted uses in agricultural districts per Maui County Code Chapter 19.30A.050. The proposed 24-inch RW is considered a transmission line and will allow for the distribution of recycled water. The control valve will be installed along the existing 16-inch RW in an existing vault. Therefore, the proposed 24-inch RW and the control valve are considered minor utility facilities.

The proposed Kaanapali Resort system expansion RW traverses through land zoned as A-2 Apartment and H-2 Hotel. "Any use permitted in the residential and duplex districts" are permitted in lands zoned as Apartment and Hotel per Maui County Code Chapter 19.12.020 and Chapter 19.14.020, respectively. Therefore, since the RW will be used by the County for public purposes (County Code Chapter 19.08.020), it is permitted.

2.6 Maui Water Use and Development Plan

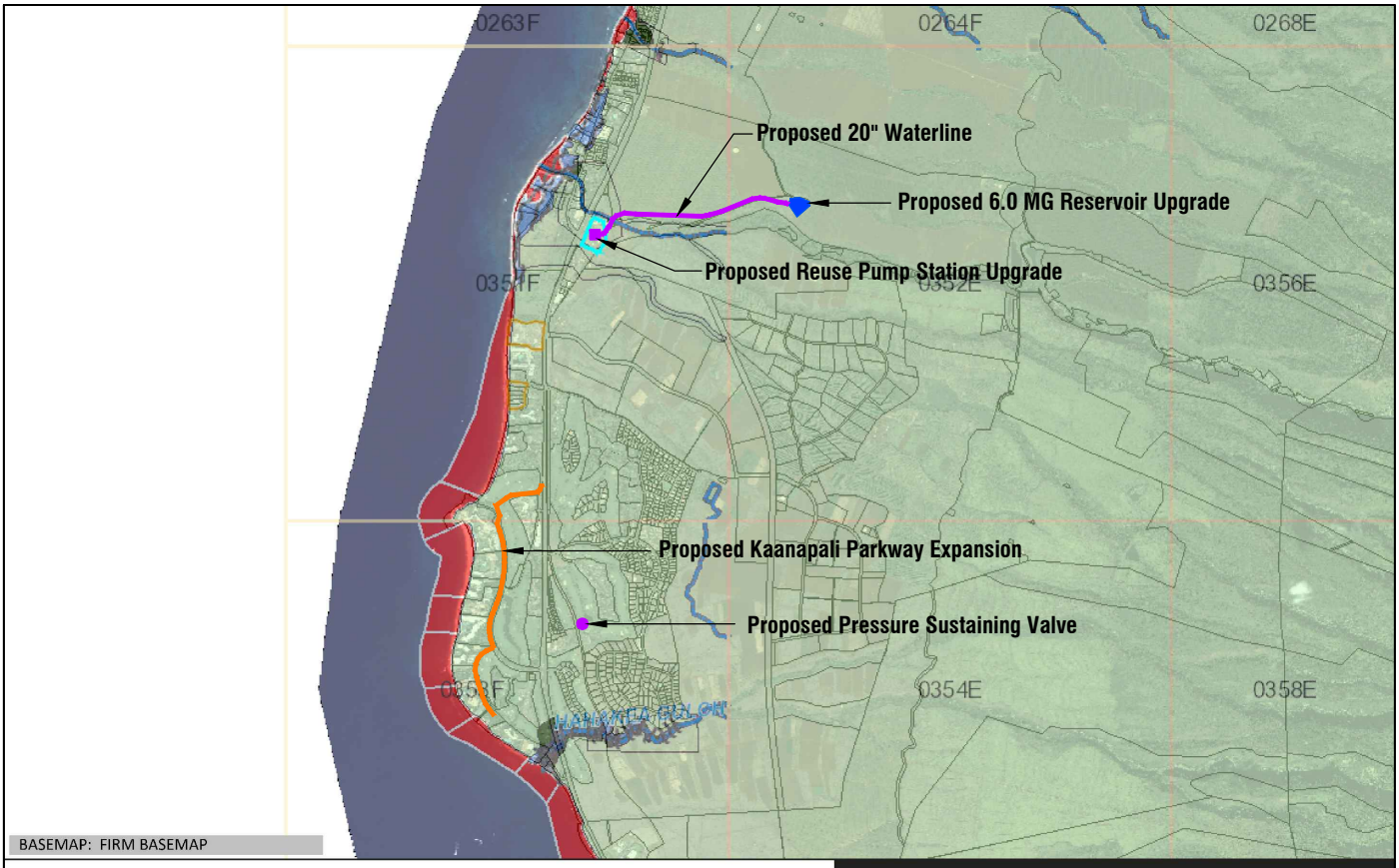
The State Water Code (HRS Chapter 174C) was enacted in 1987 to protect and manage Hawaii's surface and ground water resources. The State Water Code requires formulation of the Hawaii Water Plan as the guide for implementing the policy. The Maui County Water Use and Development Plan is one of eight subplans which collectively comprise the Hawaii Water Plan.

The Water Use and Development Plan (WUDP) serves as the long-range planning guide for water resource development for all uses of water including recycled water over a 20-year time frame. The WUDP inventories existing water sources and addresses existing and future land uses and related water needs, resource impacts, considers multiple forecasts, and sets forth a program by which water needs will be met. The Maui WUDP, dated March 1990, is currently being updated by the Department of Water Supply. Recycled water is a valuable non-potable water resource. The Draft Maui WUDP update supports this project and related capital improvement funding. The Maui WUDP update acknowledges the need for elevated storage and increasing the recycled water service area.

2.7 Flood and Tsunami Hazards

The State of Hawaii Department of Land and Natural Resources (DLNR) Flood Hazard Assessment Tool is an informational mapping viewer that displays flood zones based on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM). The proposed improvements are shown on FIRM panel 15000030351F, dated September 19, 2012 and FIRM panel 15000030353F, dated September 19, 2012. The project sites, except for where the 24-inch RW will cross over Honokowai Stream, are in areas determined to be in Zone X. Zone X is an area determined to be outside the 0.2% annual chance floodplain. The 24-inch RW is proposed to cross Honokowai Stream where it is a concrete channel (TMKs (2)4-4-001:015 and (2)4-4-001:108). FIRM panel 15000030351F indicates that the "1% annual chance flood discharge (is) contained in channel" and the channel is Zone A. A special flood hazard area development permit will be required for the 24-inch RW crossing over the top of the concrete channel since it is Zone A. However, since the 24-inch RW is not considered a structure, it is anticipated that the application process will be basic. See **Figure 6** for a report for the project area generated by DLNR Flood Hazard Assessment Tool.

The Kaanapali Resort R-1 Water Distribution System Expansion is within the Tsunami Evacuation Zone as defined by the Pacific Disaster Center in 2013. However, since the proposed RW will be below ground, damage due to a tsunami is not anticipated. See **Figure 7** for a map of the tsunami evacuation zones in the vicinity.



Flood Hazard Assessment Report

www.hawaiinfip.org

Property Information

COUNTY:	MAUI
TMK NO:	(2) 4-4-001:104
WATERSHED:	HONOKOWAI; WAHIKULI
PARCEL ADDRESS:	

Notes:

Flood Hazard Information

FIRM INDEX DATE:	NOVEMBER 04, 2015
LETTER OF MAP CHANGE(S):	NONE
FEMA FIRM PANEL:	1500030351F
PANEL EFFECTIVE DATE:	SEPTEMBER 19, 2012

THIS PROPERTY IS WITHIN A TSUNAMI EVACUTION ZONE: NO
FOR MORE INFO, VISIT: http://www.scd.hawaii.gov/

THIS PROPERTY IS WITHIN A DAM EVACUATION ZONE: YES (MA-0054; MA-0056; MA-0130)
FOR MORE INFO, VISIT: http://dlnreng.hawaii.gov/dam/

0 0.60 1.20 mi

Disclaimer: The Hawaii Department of Land and Natural Resources (DLNR) assumes no responsibility arising from the use, accuracy, completeness, and timeliness of any information contained in this report. Viewers/Users are responsible for verifying the accuracy of the information and agree to indemnify the DLNR, its officers, and employees from any liability which may arise from its use of its data or information.

If this map has been identified as 'PRELIMINARY', please note that it is being provided for informational purposes and is not to be used for flood insurance rating. Contact your county floodplain manager for flood zone determinations to be used for compliance with local floodplain management regulations.

FLOOD HAZARD ASSESSMENT TOOL LAYER LEGEND
(Note: legend does not correspond with NFHL)

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD - The 1% annual chance flood (100-year), also know as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. SFHAs include Zone A, AE, AH, AO, V, and VE. The Base Flood Elevation (BFE) is the water surface elevation of the 1% annual chance flood. Mandatory flood insurance purchase applies in these zones:

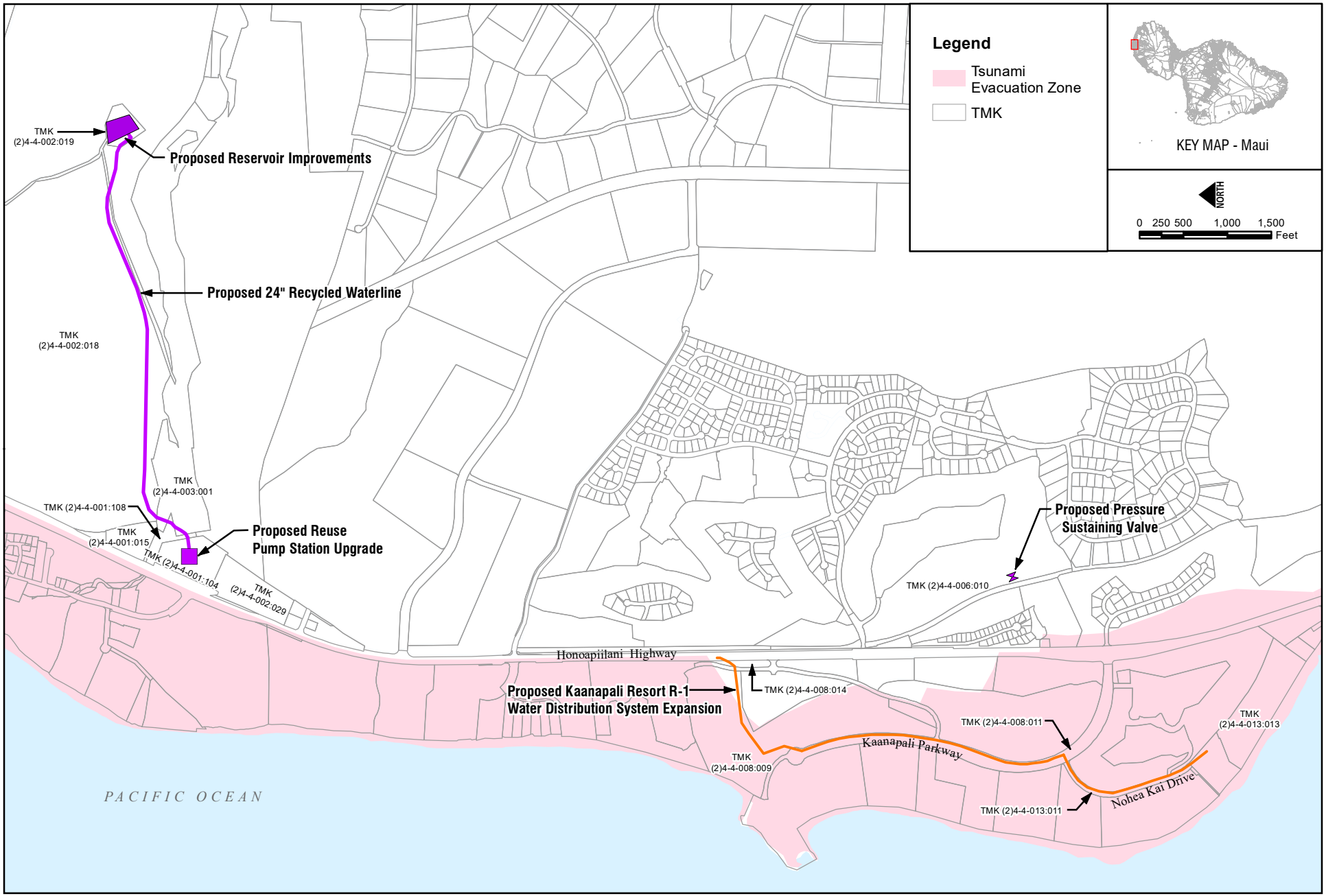
	Zone A: No BFE determined.
	Zone AE: BFE determined.
	Zone AH: Flood depths of 1 to 3 feet (usually areas of ponding); BFE determined.
	Zone AO: Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined.
	Zone V: Coastal flood zone with velocity hazard (wave action); no BFE determined.
	Zone VE: Coastal flood zone with velocity hazard (wave action); BFE determined.
	Zone AEF: Floodway areas in Zone AE. The floodway is the channel of stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without increasing the BFE.

NON-SPECIAL FLOOD HAZARD AREA - An area in a low-to-moderate risk flood zone. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

	Zone XS (X shaded): Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
	Zone X: Areas determined to be outside the 0.2% annual chance floodplain.

OTHER FLOOD AREAS

	Zone D: Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase apply, but coverage is available in participating communities.



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TSUNAMI EVACUATION ZONE MAP

Fukunaga & Associates, Inc.

FIGURE 7

2.8 Sea Level Rise

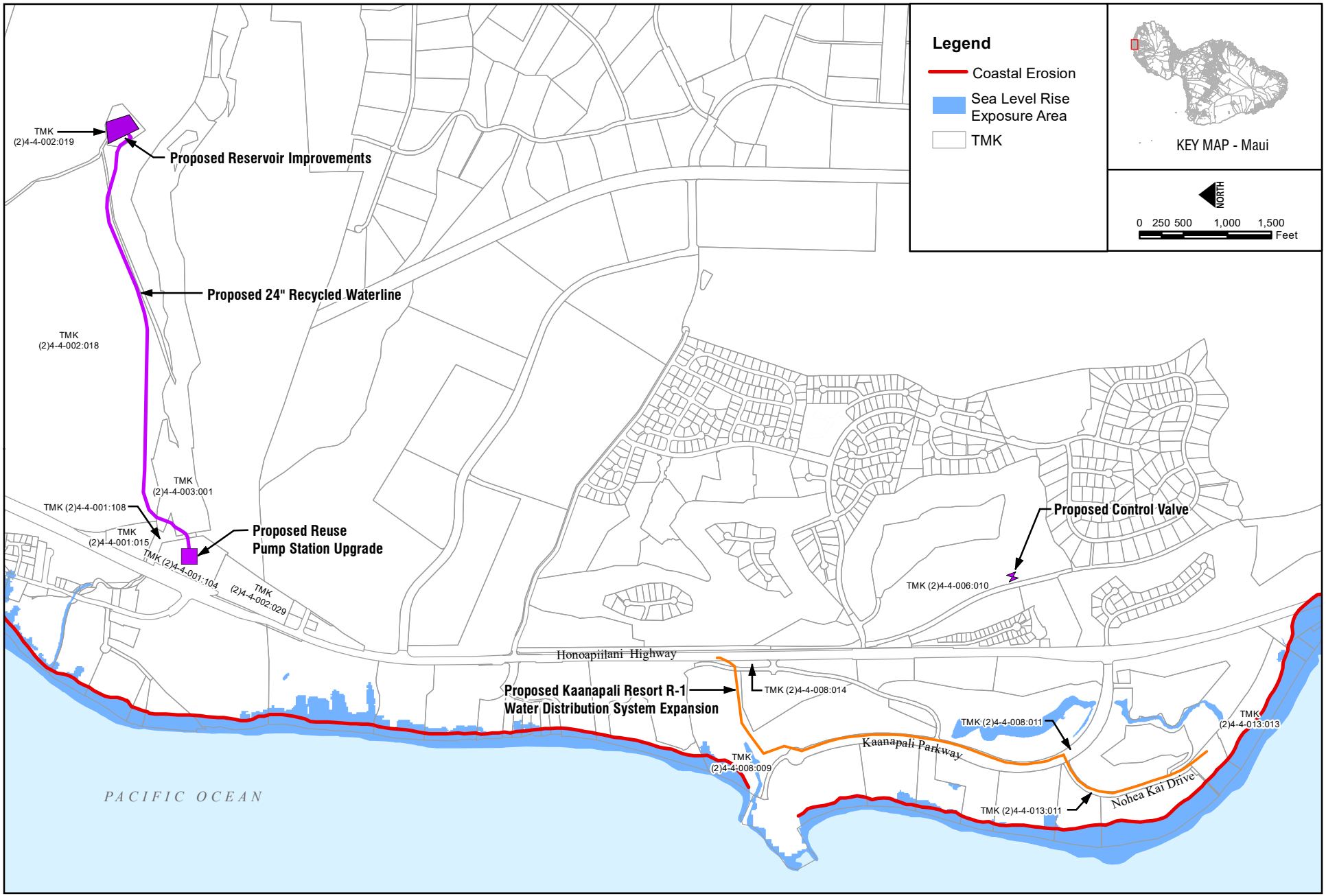
The Hawaii Sea Level Rise Vulnerability and Adaptation Report was published by the Hawaii Climate Change Mitigation and Adaption Commission in 2017 as mandated by Act 83 and Act 32. The report assesses Hawaii's vulnerability to sea level rise and provides recommendations on how to prepare for the changes to come. Approximately 3.2 feet of sea level rise is predicted by the year 2100, but the report urges the State to plan for this level of rise now. On the island of Maui, with 3.2 feet of sea level rise, more than 11 miles of major coastal roads such as Honoapiilani Highway will become impassible and Lahaina's historic district and other portions of the island would be exposed to chronic flooding.

The Pacific Islands Ocean Observing System developed the Hawaii Sea Level Rise Viewer, which displays the sea level rise results from the hazard modeling and vulnerability assessment that was developed for the report. The proposed projects are not within the 3.2 feet exposure area. See **Figure 8** for a map of the areas affected by 3.2 feet of sea level rise in the vicinity.

2.9 Coastal Zone Management Program

The Hawaii Coastal Zone Management (CZM) law (HRS Chapter 205A) was enacted in 1977. All lands of the state are within the CZM area, and all agencies are responsible to enforce the objectives and policies set forth in HRS Chapter 205A-2. The ten CZM objectives are as follows:

- Recreational Resources: *Provide coastal recreational opportunities accessible to the public.*
- Historic Resources: *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.*
- Scenic and open space resources: *Protect, preserve, and where desirable, restore or improve the quality of coastal scenic and open space resources.*
- Coastal ecosystems: *Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.*
- Economic uses: *Provide public or private facilities and improvements important to the State's economy in suitable locations.*
- Coastal hazards: *Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.*
- Managing development: *Improve the development review process, communication, and public participation in the management of coastal resources and hazards.*
- Public participation: *Stimulate public awareness, education, and participation in coastal management.*
- Beach protection: *Protect beaches for public use and recreation.*
- Marine resources: *Promote the protection, use, and development of marine coastal resources to assure their sustainability.*



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SEA LEVEL RISE MAP

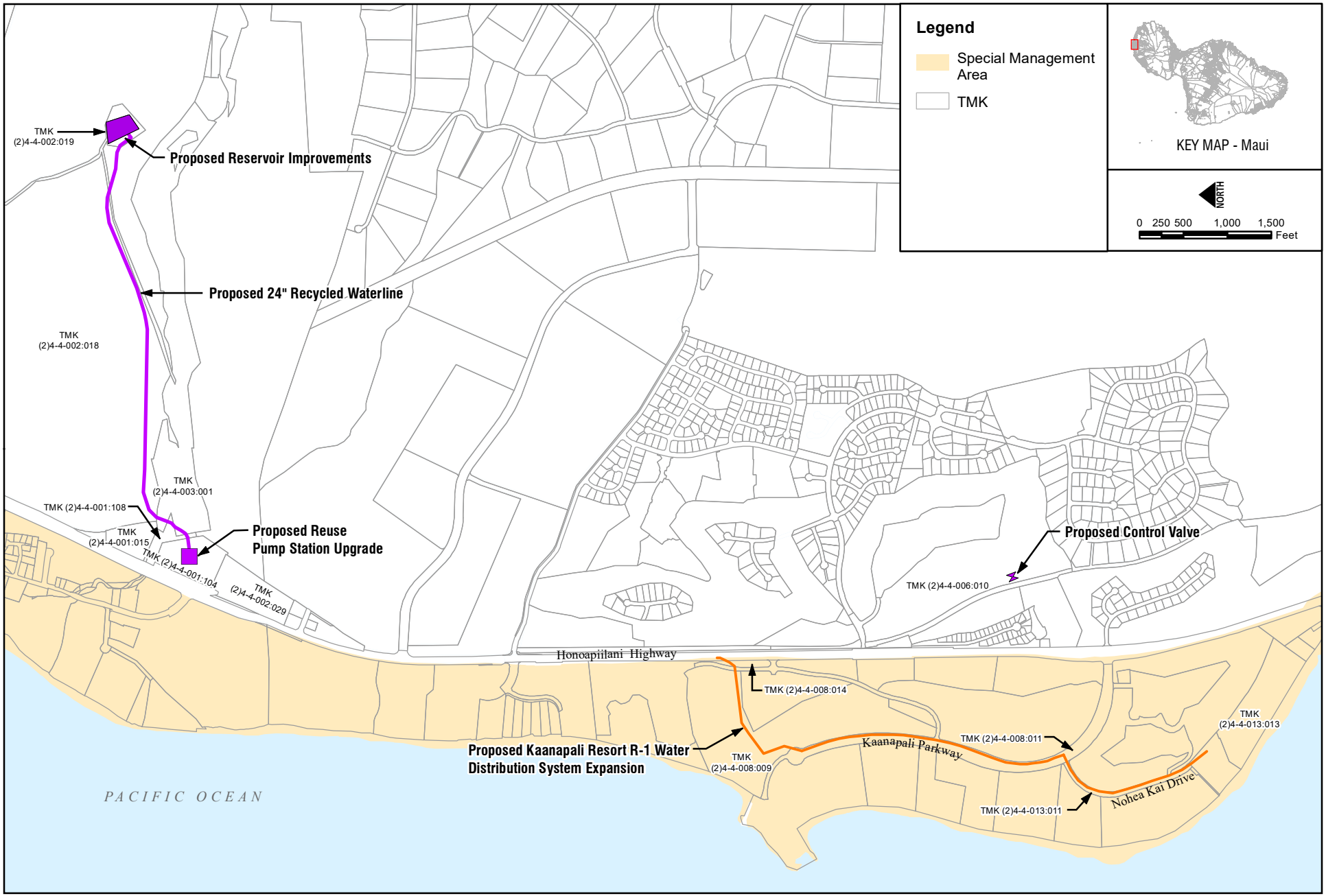
Part II of the CZM law describes special management areas (SMAs) and its permit system. SMAs are areas needing particularly careful management, and the SMA permit is a tool to assure that uses, activities, and operations within an SMA comply with the CZM objectives and policies and SMA guidelines. **Figure 9** shows the SMA in the vicinity of the proposed project. The proposed West Maui Recycled Water Expansion project area is not within the SMA, and therefore, an SMA permit will not be required. The proposed Kaanapali Resort R-1 Water Distribution System Expansion project area is within the SMA. The project is to install an underground RW, and installation of underground utility lines is generally not considered "development" per HRS Chapter 205A-22 and typically does not require a SMA permit. The COM Planning Department will be consulted as details of the alignment are developed to confirm if the Kaanapali Resort R-1 Water Distribution System Expansion project will require an SMA permit.

The proposed project conforms to the CZM objectives and policies. An analysis of the proposed project's conformance follows:

- Recreational resources: The proposed improvements at the Lahaina WWRF, the 24-inch RW, the Honokowai Reservoir, and the control valve at the golf course vault are located mauka of Honoapiilani Highway away from the coastline and outside of the SMA. Therefore, these improvements are not anticipated to impact recreational opportunities or public access to the shoreline. The Kaanapali Resort system expansion RW is anticipated to be between 550 and 1,400 feet away from the shoreline and is located within the SMA. The RW is an underground utility and is not anticipated to impact recreational opportunities or access to the shoreline.

- Historic resources: A literature review and field inspection were performed for the project sites. Refer to **Appendix A** for the report. The historical research was conducted to construct a history of land use and to determine if archaeological sites have been recorded or are likely to be recorded on the subject property and the terrain adjacent to it. The field inspection was performed via pedestrian survey and was conducted to identify any surface archaeological features and to investigate and assess the potential for impact to such features. Based on background information and field inspection, no adverse impacts on historical or archaeological sites are anticipated. In the event that human skeletal remains are inadvertently discovered during construction, the requirements in HRS Section 6E-43.6 "Inadvertent discovery of burial sites" will be met. The Contractor shall ensure that the remains are not moved. Any activity in the immediate area that could damage the remains or potential historic site shall cease, and the SHPD, the appropriate medical examiner or coroner, and the police department shall be contacted.

- Scenic and open space resources: Most of the proposed improvements will be within the Lahaina WWRF or below ground and will not create visual impacts. The Honokowai Reservoir is an existing reservoir. Improvements to the reservoir will maintain or decrease the size of the reservoir, and surrounding improvements are not anticipated to have visual impacts or result in a loss of scenic and open space. The proposed 12-foot wide access road to the reservoir will provide more reliable access to the reservoir than the existing dirt roads of the former pineapple fields. The access road is not anticipated to have a significant impact on scenic or open space resources.



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SPECIAL MANAGEMENT AREA MAP

Fukunaga & Associates, Inc.

FIGURE 9

- Coastal ecosystems: The proposed improvements at the Lahaina WWRF, the 24-inch RW, the Honokowai Reservoir, and the control valve at the golf course vault are located mauka of Honoapiilani Highway away from the coastline and outside of the SMA. Based on the location of the aforementioned proposed improvements, no adverse impacts are anticipated on the coastal ecosystem as a result of the proposed improvements. The Kaanapali System expansion is located within an SMA. Erosion control plans and construction best management practices will be prepared and enforced to mitigate impact from construction activities. The long-term impact of the proposed project on water quality is discussed further in **Section 4.2.1**.

- Economic uses: The proposed improvements will increase the availability of recycled water and decrease the use of injection wells. The proposed improvements are not coastal dependent developments and are located in suitable locations.

- Coastal hazards: The proposed project is located within Zone X on the FIRM. Zone X is an area determined to be outside the 0.2% annual chance floodplain. The Kaanapali Resort R-1 Water Distribution System Expansion is within the Tsunami Evacuation Zone as defined by the Pacific Disaster Center in 2013. However, since the proposed RW will be below ground, damage due to a tsunami is not anticipated.

- Managing development: The environmental review process set forth in HRS Chapter 343 ensures that environmental concerns are given appropriate consideration in decision making along with economic and technical considerations and integrates public notification and participation in development of the proposed project.

- Public participation: The environmental review process set forth in HRS Chapter 343 ensures that environmental concerns are given appropriate consideration in decision making along with economic and technical considerations and integrates public notification and participation in development of the proposed project.

- Beach protection: The proposed improvements are located away from the shoreline and beaches. Therefore, there are no anticipated impacts on beach resources.

- Marine resources: The proposed improvements at the Lahaina WWRF, the 24-inch RW, the Honokowai Reservoir, and the control valve at the golf course vault are located mauka of Honoapiilani Highway away from the coastline and outside of the SMA. The Kaanapali Resort system expansion RW is anticipated to be between 550 and 1,400 feet away from the shoreline and is located within the SMA. Therefore, there are no anticipated impacts on marine resources.

2.10 UIC

The Underground Injection Control (UIC) Program is one of several programs administered by the DOH Safe Drinking Water Branch. The UIC Program serves to protect the quality of Hawaii's underground sources of drinking water from chemical, physical, radioactive, and biological contamination that could originate from injection well activity. Hawaii Administrative Rules (HAR) Chapter 11-23 Underground Injection Control, provides conditions governing the location, construction, and operation of injection wells to prevent injected fluids from migrating and polluting aquifers designated as sources of drinking water. The UIC Line is the boundary between exempted aquifers, or non-drinking water aquifers, and underground sources of drinking water.

The proposed projects do not include work related to locating, constructing, or operating an injection well, and is therefore not subject to the conditions of the UIC Program. **Figure 10** depicts the UIC Line relative to the proposed improvements. The majority of the proposed improvements are below the UIC line where the underlying aquifer is not considered a drinking water source. The Honokowai Reservoir and the proposed 24-inch RW are above the UIC line where the underlying aquifer is considered a drinking water source. The Honokowai Reservoir will be lined with an impervious liner and is not considered a well.

3 DESCRIPTION OF THE ENVIRONMENT

3.1 Physical Environment

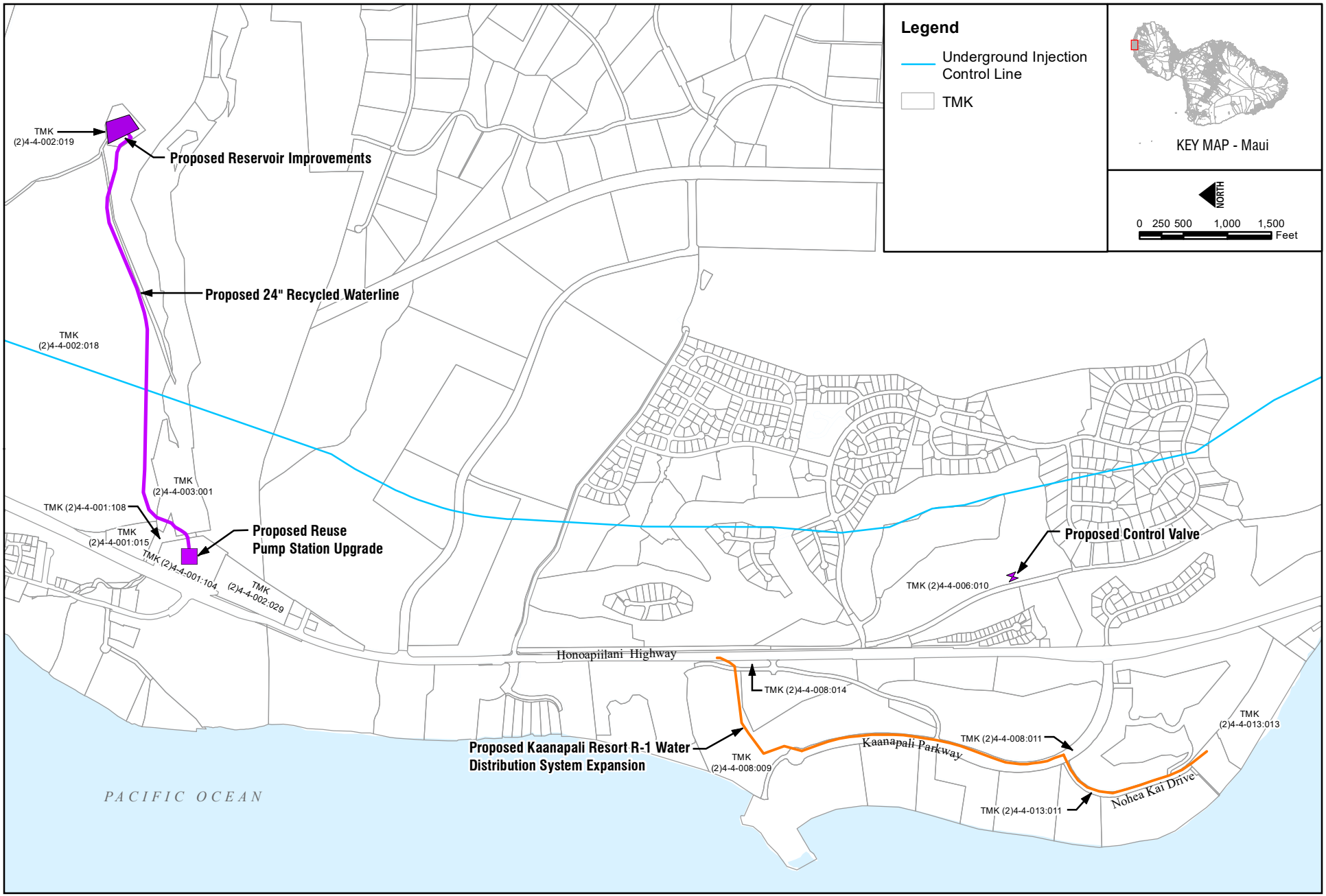
The existing sites consist of a reservoir (Honokowai Reservoir), former pineapple fields along the proposed 24" RW alignment, the Lahaina WWRF, the Kaanapali Golf Course, and roadways within the Kaanapali resort area.

3.1.1 Climate

Temperatures in the vicinity range from an average high of about 79°F to an average low of 72°F. Rainfall varies spatially from approximately 29 inches per year near the Honokowai Reservoir to approximately 18 inches per year in the Kaanapali Resort area. Rainfall also varies seasonally; the nearby Kapalua Airport receives approximately 4.6 inches in December and only about 1 inch in September.

3.1.2 Topography

Maui is made up of two volcanoes, West Maui Volcano and East Maui Volcano (Haleakala). An isthmus connects the two volcanoes; this area is referred to as Central Maui. The proposed project is in West Maui.



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UNDERGROUND INJECTION CONTROL LINE MAP

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FIGURE 10

Ground elevations within the West Maui Recycled Water Expansion project area ranges from approximately 310 feet mean sea level (MSL) at the Honokowai Reservoir site down to approximately 30 feet MSL at the Lahaina WWRF. The majority of the Honokowai Reservoir site consists of the reservoir itself, and the existing grades around the reservoir direct runoff around to the south of the reservoir. The downstream slope of the dam is a steep slope with a slope of approximately 2.5 to 1 (horizontal to vertical, respectively). From the Honokowai Reservoir west towards Honoapiilani Highway, the average slope of the existing ground along the proposed 24-inch RW alignment is approximately 6 percent. The Lahaina WWRF is a previously developed site and is relatively flat.

The Kaanapali Resort R-1 Water Distribution System Expansion projects area ranges from approximately 50 feet MSL at Honoapiilani Highway to approximately 6 to 9 feet MSL along Kaanapali Parkway and Nohea Kai Drive.

3.1.3 Soils

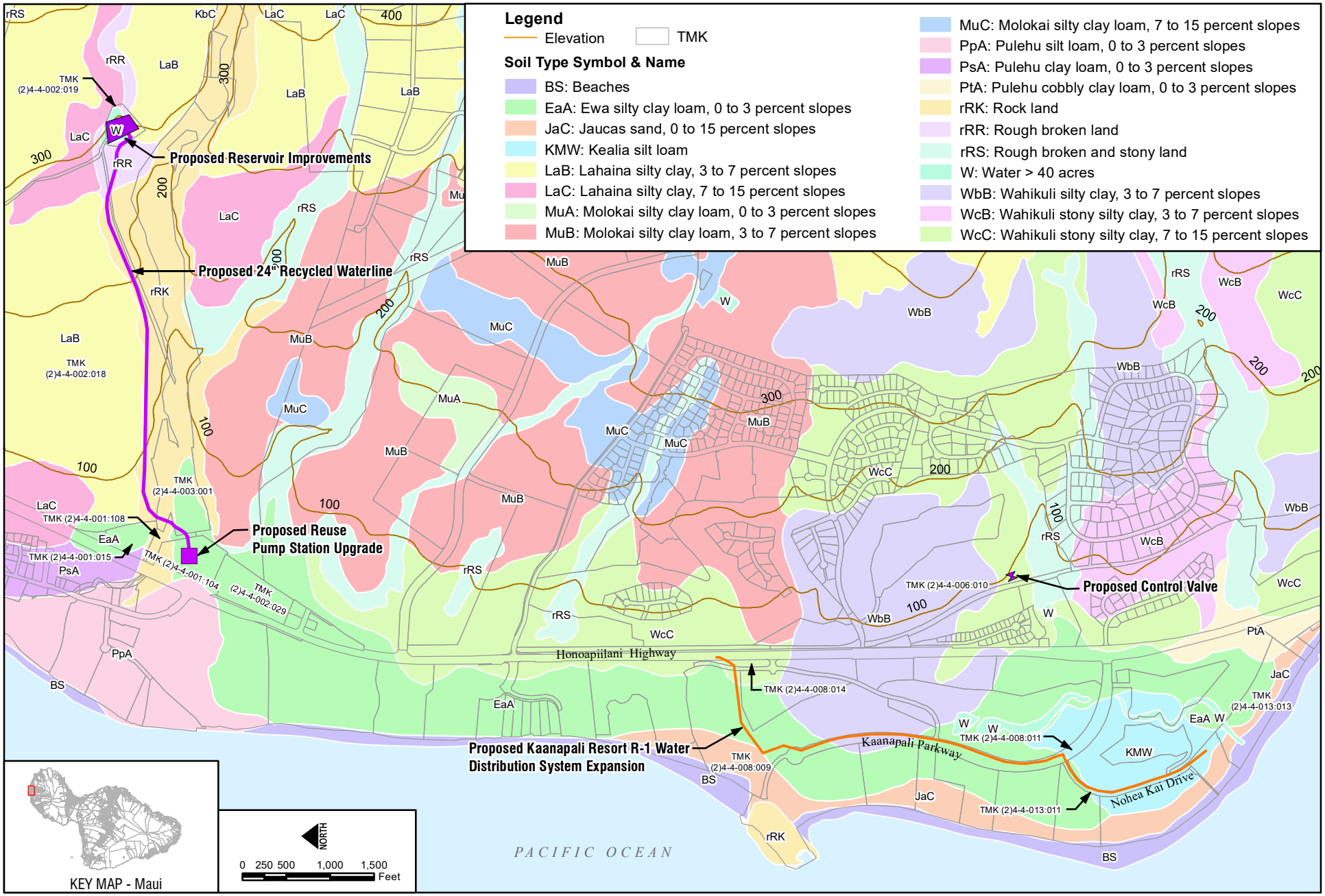
The Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai by the United States Department of Agriculture (USDA) Soil Conservation Service (SCS), dated August 1972, and the Web Soil Survey by the USDA Natural Resources Conservation Service (NRCS) provide soil data and information. **Figure 11** shows the soil classifications for the vicinity.

The soils for the West Maui Recycled Water Expansion project sites are classified as Ewa silty clay loam, 0 to 3 percent slopes (EaA); Lahaina silty clay, 3 to 7 percent slopes (LaB); Rock land (rRk); and Rough broken land (rRR).

- Ewa silty clay loam, 0 to 3 percent slopes (EaA): The Ewa series consists of well-drained soils. Runoff is very slow, and the erosion hazard is no more than slight.
- Lahaina silty clay, 3 to 7 percent slopes (LaB): The Lahaina series consists of well-drained soils. Permeability is moderate. Runoff is slow, and the erosion hazard is slight.
- Rock land (rRk): Rock land is made up of areas where exposed rock covers 25 to 90 percent of the surface. The rock outcrops and very shallow soils are the main characteristics.
- Rough broken land (rRR): Rough broken land consists of very steep land broken by numerous intermittent drainage channels.

The soils for the Kaanapali Resort R-1 Water Distribution System Expansion project sites are classified as Ewa silty clay loam, 0 to 3 percent slope (EaA); Kealia silt loam (KMW); Wahikuli silty clay, 3 to 7 percent (WbB); and Wahikuli stony silty clay, 7 to 15 percent slope (WcC).

- Ewa silty clay loam, 0 to 3 percent slopes (EaA): The Ewa series consists of well-drained soils. Runoff is very slow, and the erosion hazard is no more than slight.
- Kealia silt loam (KMW): This soil is poorly drained and has a high salt content. Permeability is moderately rapid. Runoff is slow to very slow. The hazard of water erosion is no more than slight.
- Wahikuli silty clay, 3 to 7 percent (WbB): The Wahikuli series consists of well-drained soils. Permeability is moderate. Runoff is slow, and the erosion hazard is slight.



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SOIL AND ELEVATION MAP

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FIGURE 11

- Wahikuli stony silty clay, 7 to 15 percent slope (WcC): This soil is similar to WbB except that there are enough stones on the surface to hinder cultivation. Runoff is slow to medium, and the erosion hazard is slight to moderate.

3.1.4 Agriculture

The University of Hawaii, Land Study Bureau (LSB)'s Detailed Land Classification – Island of Maui, dated 1967, classifies non-urban lands into five categories based on their soil properties and capabilities for agricultural productivity. The categories were assigned letters "A" through "E" in order of highest to least productivity. See **Figure 12**.

In 1977-1978, the State of Hawaii Department of Agriculture (DOA), with assistance from the USDA SCS and the University of Hawaii, College of Tropical Agriculture, developed a classification system to identify Agricultural Lands of Importance to the State of Hawaii (ALISH). The ALISH classification system is based primarily on soil characteristics and consists of three classes: Prime Agricultural Land, Unique Agricultural Land, and Other Agricultural Land. While these classifications identify the long-term implications of land use options for production of food, feed, forage, and fiber crops, they are not land use designations. The following lands were not considered for ALISH classification: 1) Developed urban land over 10 acres, 2) Natural or artificial enclosed bodies of water over 10 acres, 3) Forest reserves, 4) Public use lands, 5) Lands with slopes in excess of 35%, and 6) Military installations, except undeveloped areas over 10 acres. See **Figure 12**.

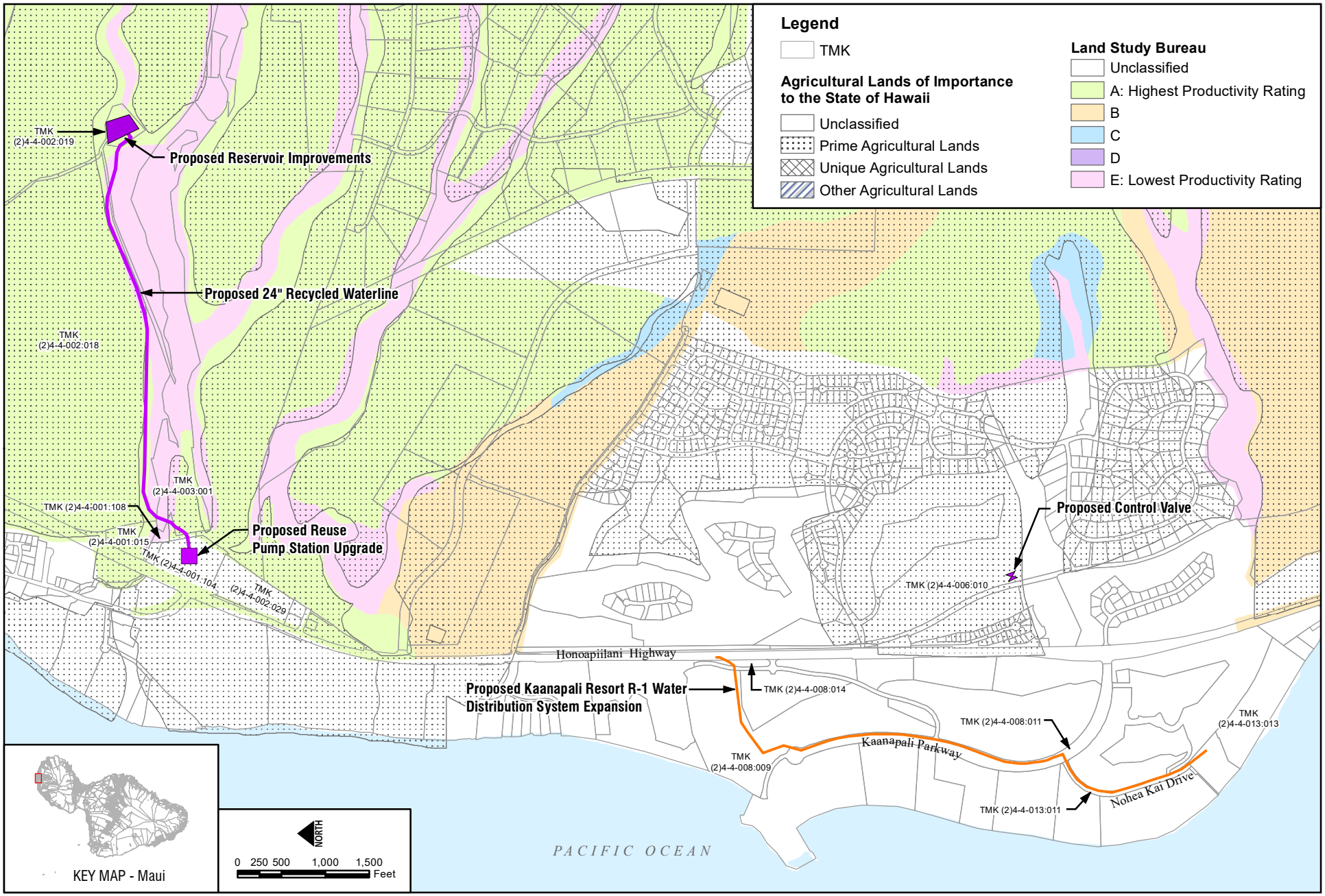
The project area at the Lahaina WWRF is on land classified as "Prime" by the ALISH system and that is unclassified by the LSB. However, since the Lahaina WWRF is an already developed facility, the improvements at the Lahaina WWRF will not adversely impact the site in terms of agricultural productivity.

The proposed 24-inch RW and access road will be located along the boundary between "Prime" and unclassified lands in the ALISH system and the boundary between "A" and "E" in the LSB system. Adverse impacts to agricultural productivity will be minimal given this location. Moreover, the net impact to agricultural productivity will be positive since the project will increase the supply of recycled water for irrigation and there is potential for nearby lands to be irrigated with the recycled water. The improvements at Honokowai Reservoir are on land that is unclassified by ALISH and on land classified as "A" by the LSB. The site is an existing reservoir, and the improvements at the site will increase the supply of recycled water for irrigation.

The Kaanapali Resort R-1 Water Distribution System Expansion project is on lands that are not classified by the ALISH system and by the LSB.

3.1.5 Flora and Fauna

All projects sites are developed or have been previously disturbed. The Lahaina WWRF, the Honokowai Reservoir, Kaanapali Golf Course, and the Kaanapali resort area are developed sites. The land that the proposed 24-inch RW will be constructed on was cultivated as pineapple fields, but production operations have ceased and the land currently lays fallow.



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AGRICULTURAL LAND CLASSIFICATION

The United States Fish and Wildlife Service (USFWS), Pacific Islands Fish and Wildlife Office (PIFWO) and the Department of Land and Natural Resources (DLNR), Division of Forestry and Wildlife (DOFAW), were contacted during the preparation of this environmental assessment. In their early consultation responses that are included in Appendix B, PIFWO and DOFAW provided general information and guidance. The PIFWO letter was prepared under the authority of, and in accordance with, provisions of the Endangered Species Act of 1973, as amended (ESA).

The following State listed and/or federally listed species have the potential to occur or transit through the vicinity of the proposed project area:

- Hawaiian hoary bat
- Blackburn's sphinx moth
- Hawaiian waterbirds, including the Hawaiian duck, Hawaiian stilt, and Hawaiian coot
- Hawaiian goose or Nene
- Hawaiian seabirds, including the Hawaiian petrel, band-rumped storm-petrel, and Newell's shearwater

Hawaiian hoary bat

The Hawaiian hoary bat roosts in woody vegetation and will leave their young unattended in trees and shrubs when they forage. If trees or shrubs 15 feet or taller are cleared during the pupping season (June 1 through September 15), there is a risk that young bats could inadvertently be harmed or killed, since they are too young to fly or move away from disturbance. Hawaiian hoary bats forage for insects from as low as 3 feet to higher than 500 feet above ground and can become entangled in barbed wire fencing.

The following general BMP recommendations were provided:

- Do not disturb, remove, or trim woody plants greater than 15 feet tall during the bat birthing and pup rearing season (June 1 through September 15). If this cannot be avoided, DOFAW should be consulted.
- Do not use barbed wire for fencing

Blackburn's sphinx moth

The Blackburn's sphinx moth larvae feed on non-native tree tobacco (Nicotiana glauca) which grows in disturbed soil and native aiea (Nothocestrum). To pupate, the larvae burrow into the soil and can remain in a state of torpor for a year or more before emerging from the soil. Soil disturbance can result in death of the pupae.

It is recommended that a vegetation survey be performed early on to determine if tree tobacco is present on the project site. This survey could be performed by any staff provided with picture placards of tree tobacco at different life stages.

Tree tobacco over 3 feet tall may become a host plant for Blackburn's sphinx moth. Tree tobacco can grow greater than 3 feet in approximately 6 weeks. To avoid attracting Blackburn's sphinx moth to the project site, the following general BMP recommendations were provided:

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

Hawaiian waterbirds

The existing Honokowai Reservoir could attract Hawaiian waterbirds to the project site. Hawaiian waterbirds that are attracted to sub-optimal habitat may suffer adverse impacts, such as predation and reduced reproductive success. It is recommended to work with the PIFWO to develop measures to avoid impacts to listed species. It is noted that the existing reservoir is an open reservoir with fencing around the perimeter, and the improved reservoir will be enclosed.

The following general BMP recommendations were provided:

- Have a biological monitor conduct Hawaiian waterbird nest surveys where appropriate habitat occurs prior to project initiation. Repeat surveys again within 3 days of project initiation and after any subsequent delay of work of 3 or more days (during which birds may attempt to nest). If a nest or active brood is found:
    - Contact PIFWO within 48 hours for further guidance.
    - Establish and maintain a 100-foot buffer around all active nests and/or broods until the chicks/ducklings have fledged. Do not conduct potentially disruptive activities or habitat alteration within this buffer.
    - Have a biological monitor present during construction activities until the chicks/ducklings fledge.
- In areas where waterbirds are known to be present, post and implement reduced speed limits, and inform project personnel and contractors about the presence of endangered species on-site.

Hawaiian goose

Hawaiian geese may be observed in a variety of habitats, but prefer open areas, such as pastures, golf courses, wetlands, natural grasslands and shrublands, and lava flows. Threats to species include introduced mammalian and avian predators, wind facilities and vehicle strikes.

The following general BMP recommendations were provided:

- Do not approach, feed, or disturb Hawaiian geese.
- If Hawaiian geese are observed loafing or foraging within the project area during the breeding season (September through April), halt work and have a biologist survey for nests in and around the project areas prior to the resumption of any work. Repeat 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 to nest).

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

Hawaiian seabirds

Hawaiian seabirds may traverse the project area at night during the breeding, nesting, and fledging seasons (March 1 to December 15). Outdoor lighting could result in seabird disorientation, fallout, and injury or mortality. Seabirds are attracted to lights and after circling the lights, they may become exhausted and collide with nearby wires, buildings, or other structures or they may land on the ground. Downed seabirds are subject to increased mortality due to collision with automobiles, starvation, and predation by dogs, cats, and other predators. Young birds (fledglings) traversing the area between September 15 and December 15 on their first flights from their mountain nests to the sea are particularly vulnerable to light attraction.

The following general BMP recommendations were provided:

- Fully shield all outdoor lights so the bulb can only be seen from below.
- Install automatic motion sensor switches and controls on all outdoor lights or turn off lights when human activity is not occurring in the lighted area.
- Avoid nighttime construction during the seabird fledging period (September 15 through December 15)

Predators and invasive species

DOFAW notes that construction sites could attract nonnative predators and recommends taking action to minimize predator presence, such as removing cats, placing bait stations for rodents and mongoose, and providing covered trash receptacles.

DOFAW also provided recommendation on ways to mitigate the spread of invasive species. Recommendations include minimizing the movement of plant and soil material between worksites, and cleaning equipment, materials, and personnel of excess soil and debris.

3.1.6 Hydrology

Ground Water

As previously mentioned, the State Water Code (HRS Chapter 174C) was enacted in 1987 to protect and manage Hawaii's surface and ground water resources. The State Water Code called for the establishment of a Commission on Water Resource Management (CWRM) to administer the code. CWRM established ground water hydrologic units to provide a consistent basis for managing ground water resources. Each island was divided into aquifer sectors, and each aquifer sector was subdivided into aquifer systems. The proposed project is in the Honokowai Aquifer System within the Lahaina Aquifer Sector. CWRM also establishes the sustainable yield for each aquifer system.

Sustainable yield is defined as the maximum rate at which water may be withdrawn from a water source without impairing the utility or quality of the water source as determined by the commission. The sustainable yield of the Honokowai Aquifer System is 6 mgd.

Surface Water

CWRM established surface water hydrologic units to provide a consistent basis for managing surface water resources. The West Maui Recycled Water Expansion project area is in the Honokowai Surface Water Hydrologic Unit. The Kaanapali Resort R-1 Water Distribution System Expansion project is in the Wahikuli Surface Water Hydrologic Unit.

Surface water features identified by the U.S. Geological Survey (USGS)'s National Hydrography Dataset (NHD) and the State of Hawaii DOH's Water Quality Map are shown on **Figure 13**. Honokowai Stream is adjacent to the project and runs parallel to the proposed 24-inch RW. The surface water in the vicinity of the proposed project is classified as Class 2 by DOH. Honokowai Stream is on the Clean Water Act 303(d) list of impaired waters and is listed as impaired by turbidity.

The 24-inch RW will cross Honokowai Stream where it is an existing concrete channel. The RW is proposed to cross over the top of the channel to avoid alteration to the channel, and the pipe is proposed to be no lower than a nearby existing bridge. Since the proposed alignment over the top of the channel walls will not alter the channel, it is not anticipated that a Stream Channel Alteration Permit from DLNR or a Department of Army permit will be required. The Department of the Army and the DLNR CWRM will be consulted for determination as details of the crossing are developed.

Wetlands

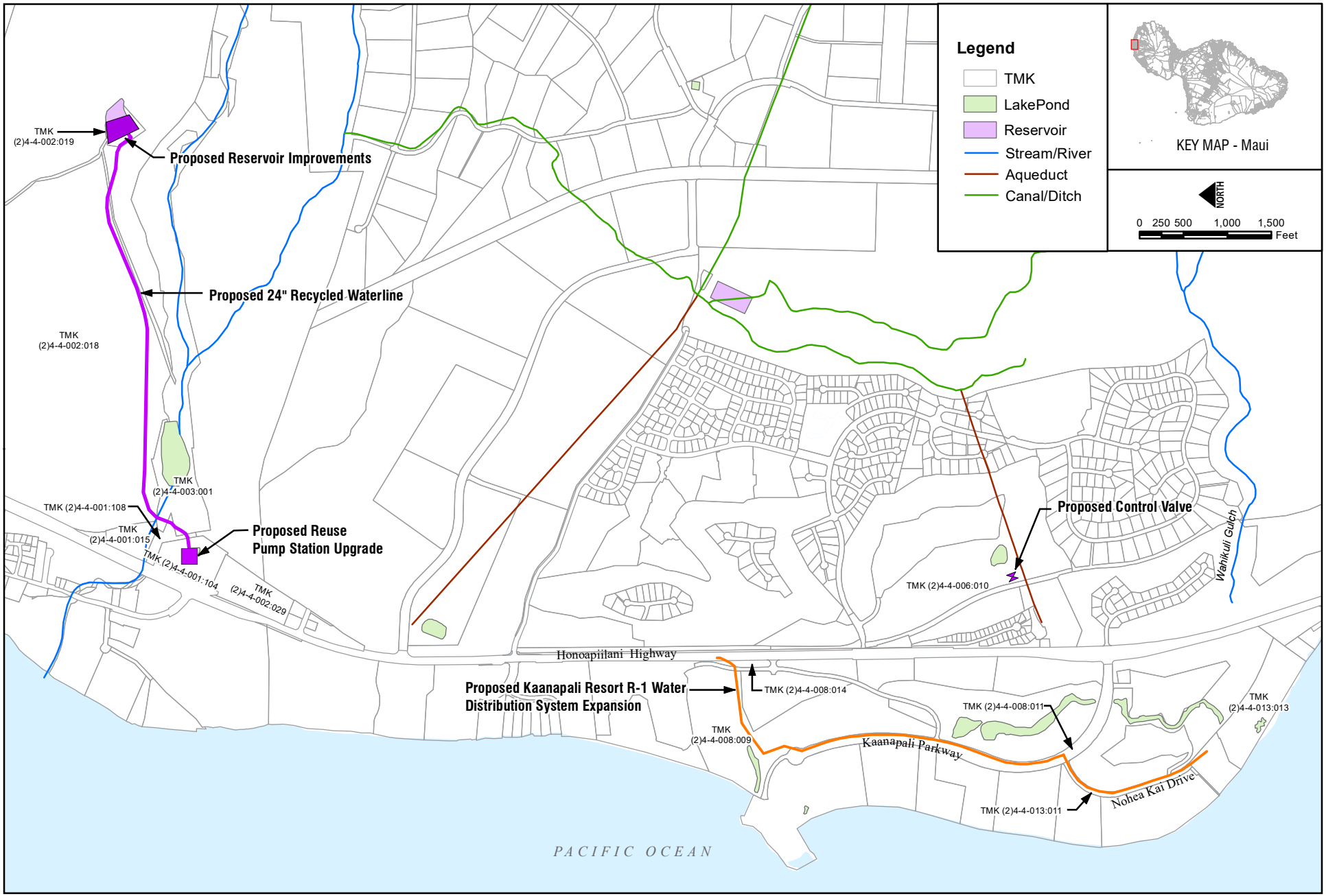
Wetlands are defined as those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. There are no wetlands in the vicinity of the project sites.

Coastal Waters

The coastal waters makai of the proposed project are classified as Class A by DOH and are on the Clean Water Act 303(d) list of impaired waters.

3.2 Historical and Archaeological Sites

The Department of Land and Natural Resources (DLNR), State Historic Preservation Division (SHPD) includes three branches, History and Culture, Archaeology, and Architecture. SHPD maintains the Hawaii Register of Historic Places, which recognizes districts, sites, structures, buildings, and other objects in Hawaii's history, architecture, archaeology, engineering, and culture. The National Park Service (NPS) maintains the National Register of Historic Places, which includes significant properties nominated by State and Federal agencies, historic areas in the National Park System, and all National Historic Landmarks.



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SURFACE WATER MAP

A literature review and field inspection were performed for the project sites by Scientific Consultant Services, Inc. (SCS). Refer to **Appendix A** for the report. The historical research was conducted to construct a history of land use and to determine if archaeological sites have been recorded or are likely to be recorded on the subject property and the terrain adjacent to it. The field inspection was performed via pedestrian survey and was conducted to identify any surface archaeological features and to investigate and assess the potential for impact to such features. No historic properties were identified during the field inspection. The entirety of the project area is a previously utilized environment, with agricultural lands formerly used for the cultivation of pineapple to the north and urbanized development to the south. No sensitive areas that may require further investigation or mitigation before the project proceeds were identified. SCS recommends a determination of "no historic properties affected."

3.3 Social and Cultural Environment

3.3.1 Population

The 2030 Socio-Economic Forecast by the Planning Department is based on projections by the State of Hawaii Department of Business and Economic Development & Tourism (DBEDT) and allocates the anticipated countywide changes to local areas. The projected population for West Maui is shown in **Table 5**.

Table 5. Projected Population by Year

2000	2005	2010	2015	2020	2025	2030
17,967	19,852	22,156	29,103	31,410	33,743	36,058

3.3.2 Economy

According to the Maui Island Plan, tourism generates more than 80 percent of the County's economic activity. The Kaanapali area boasts many of West Maui's resorts. These resorts have been identified as potential users of recycled water.

Agriculture has also historically been a major industry for the County. However, plantations in the vicinity of the proposed project have ceased production, and the agricultural fields currently lay fallow.

3.3.3 Cultural Resources

The Hawaiian economy was based on agricultural production, marine exploitation, and animal husbandry. During pre-Contact times, there were primarily two types of agriculture: wetland and dry land. Wetland agriculture was utilized in areas of suitable physiography with dependable water supplies. Dry land agriculture was developed in areas with sufficient and dependable rainfall. Early settlement tended to be concentrated along the coastline where marine resources could be exploited and in stream valleys with water supplies dependable enough to sustain loʻi systems. As discussed in Section 3.2, the entirety of the project area is a previously utilized environment, with agricultural lands formerly used for the cultivation of pineapple to the north and urbanized development to the south. No historic properties were identified during the field inspection, and no sensitive areas that may require further investigation or mitigation before the project proceeds were identified.

4 PROBABLE IMPACTS AND MITIGATIVE MEASURES

4.1 Short-Term Impacts

Short-term impacts are associated with the construction activities at the various projects sites. The impacts are not anticipated to be significant and will be controlled and minimized by laws and regulations, best management practices, permit requirements, and construction monitoring.

4.1.1 Noise

Construction work, machinery operation, and truck traffic will generate temporary noise. The Contractor will be required to comply with HAR Chapter 11-46, "Community Noise Control." HAR Chapter 11-46 sets maximum permissible sound levels. An approved Community Noise Permit may be required if construction noise exceeds the maximum level and has a total cost of more than $250,000 (based on the value of the building permit). Regular construction work hours will generally be during the hours of 7:00 AM to 6:00 PM Monday through Friday, and if needed, during the hours of 9:00 AM to 6:00 PM on Saturday. Certain construction equipment, such as pile drivers, hydraulic hammers, and jack hammers, shall be restricted to 9:00 AM to 5:30 PM, Monday through Friday. Construction exceeding the maximum permissible sound levels outside of these hours will require a Community Noise Variance. Permits and variances required from the DOH Indoor and Radiological Health Branch would be obtained by the Contractor prior to construction.

4.1.2 Air Quality

Potential short-term impacts on air quality will be mitigated by Best Management Practices (BMPs). Fugitive dust and exhaust from construction vehicles and equipment traffic and earthmoving activities will be minimized by appropriate BMPs such as regular water sprinkling, particularly during earthwork, limiting vehicle and equipment speeds over unpaved surfaces, protecting stockpiles of excavated material, and proper maintenance of machinery and vehicles.

4.1.3 Traffic

Temporary impacts to traffic may occur during the construction of the Kaanapali Resort R-1 Water Distribution System Expansion Project. The most significant short-term impacts are expected to occur when the RW is installed within Kaanapali Parkway and Nohea Kai Drive (Privately-owned). The RW alignment within Kaanapali Parkway and Nohea Kai Drive will be designed to minimize traffic impacts as practicable. Work within Honoapiilani Highway is necessary to connect the proposed RW to an existing RW within the highway. Permits to perform work within the State Right-of-Way will be obtained as necessary. The State of Hawaii Department of Transportation may require work within Honoapiilani Highway only be performed at night to minimize traffic impacts.

Construction work to trench, install piping, and repave along Kaanapali Parkway and Nohea Kai Drive will have an impact on nearby residents, businesses, and visitors. The increase in traffic will be temporary and will be minimized by implementation of traffic control measures. Trench excavations will be covered at the end of each day, and flagmen or policemen will be stationed to direct traffic on the roads as deemed necessary. The potential inconveniences will be short-term.

Efforts will be made to assure safety and to promptly address concerns during the construction process.

The project area is near the Kapalua Airport. As required pursuant to the Code of Federal Regulations, Title 14, Part 77.9, the Federal Aviation Administration (FAA) will be notified of proposed construction.

4.1.4 Night Work

As mentioned in **Section 4.1.3**, some work may occur within Honoapiilani Highway at night in order to minimize traffic impacts. No other night work is anticipated. Night work can negatively affect seabirds, which are nocturnal and can be disoriented by artificial lights. Responsible lighting practices (downward facing, shielded lights) will be implemented to minimize disturbance to nocturnal birds. Lighting shall comply with Maui County Code Chapter 20.35 on Outdoor Lighting.

4.1.5 Erosion

The proposed project includes earth-disturbing activities. Erosion control measures will be implemented.

A COM Grading Permit will need to be obtained for the proposed project. The COM Grading Permit requires compliance with Maui County Code Chapter 20.08. One of the chapter's requirements is that all grading, grubbing and stockpiling activities provide best management practices (BMPs) to the maximum extent practicable to prevent damage by sedimentation to streams, watercourses, natural areas and the property of others. BMPs may include clearing only areas essential for construction, installing and maintaining erosion control barriers, and stabilizing denuded areas.

The project shall comply with HAR Chapter 11-54, "Water Quality Standards" and Chapter 11-55, "Water Pollution Control." In compliance with HAR Chapter 11-55, a National Pollution Discharge Elimination System (NPDES) permit will be obtained for the project.

4.2 Long-Term Impacts

Long-term impacts are generally those impacts that are anticipated due to operation of the recycled water system. These impacts will affect the environment in the project and service areas. The proposed project, as a whole, was initiated to benefit the environment and community, and the most significant long-term impacts anticipated are positive.

4.2.1 Hydrology

Groundwater – Quantity

Positive impacts on groundwater quantity are anticipated to result from the implementation of the proposed project, and this project specifically meets the objectives and policies of the Maui Island Plan and West Maui Community Plan. The proposed improvements will upgrade the recycled water system. Upgrading the system will improve service and increase the availability of recycled water. Increased use of recycled water will replace current and projected potable water use for non-potable demands. This will decrease demand on groundwater resources to serve non-potable water needs, such as irrigation.

Groundwater – Quality

Treated effluent that is not used in the recycled water system is disposed of at the Lahaina WWRF in injection wells. Upgrading the recycled water system will increase the availability and use of recycled water. Increased use of recycled water will decrease effluent disposal through injection wells.

Surface Water – Quantity

Use of recycled water could replace surface water use as the system expands and could have a positive impact on the amount of water that remains in streams.

Surface Water – Quality and Drainage

The recycled water itself is not anticipated to have an impact on surface water quality. The recycled water system is a closed system. The recycled water will be conveyed from the Lahaina WWRF to the Honokowai Reservoir in the proposed 24-inch RW. The Honokowai Reservoir will be covered, and surface runoff will not be able to enter the reservoir. The recycled water will be distributed through a closed pipe system. In addition, the Reuse Guidelines require BMPs for the method and rate of application of recycled water to avoid surface runoff.

In accordance with the COM Grading Permit, the drainage pattern with respect to adjoining, downstream, and surrounding properties will not be altered. The proposed projects are anticipated to have no significant adverse effects on surrounding properties:

- Lahaina WWRF: no changes to drainage pattern with respect to surrounding properties are anticipated.
- Honokowai Reservoir: grading will be done to fortify and improve the reservoir as necessary. Some grading will be done around the reservoir to improve site drainage and to ensure that offsite runoff continues to be diverted away from the reservoir.
- 24-inch RW and access road: some grading will be done to create the access road. The access road will generally follow the existing topography, and the general drainage pattern will be maintained.
- Control valve: Proposed improvements at the Kaanapali Golf Course will be primarily within an existing vault. Some incidental ground-disturbing work may occur within a few feet of the vault. Any disturbed areas will be restored.

- Kaanapali Resort system expansion RW: the ground surface over the proposed RW will be restored after the RW is installed.

Several ordinances, rules, and permit requirements regulate developments with regards to their impact on storm water. COM Grading and Building Permits will need to be obtained for the proposed project and require compliance with the Rules for the Design of Storm Drainage Facilities and the Rules for the Design of Storm Water Treatment Best Management Practices. In general, the intent is to reduce the pollution associated with storm water runoff from new development and redevelopment.

Additional guidance regarding storm water is provided by the State, County, and the Wahikuli-Honokowai Watershed Management Plan (WHWMP). It is the State's position that all projects must reduce, reuse, and recycle to protect, restore, and sustain water quality and beneficial uses of State waters. The State and County promote Low Impact Development (LID). LID, as described in Low Impact Development: A Practitioner's Guide, is a suite of landscaping and design techniques that attempt to maintain the natural, pre-development hydrology of a site and the surrounding watershed. There are three general LID categories: preservation of natural features and conservation design, reduction of impervious cover, and utilization of natural features and source control for stormwater management. The WHWMP recognizes fallow agricultural fields as a primary target of management efforts within the Wahikuli and Honokowai watersheds. WHWMP recommendations include practices such as conservation cover, vegetated filter strips, and retention basins.

The following are examples of measures that will be taken to comply with the regulations and recommendations mentioned above and to mitigate the proposed project's effect on the environment to the maximum extent practicable:

- Minimize impervious surfaces.
- Stabilize all area disturbed by the project with gravel or landscaping.
- Address storm water control requirements.
- Install erosion control products to provide long-term slope protection.

Overall, the proposed project is not anticipated to have a negative impact on surface water quality.

Coastal Waters

In 2012, the University of Hawaii published the ***Lahaina Groundwater Tracer Study – Final Interim Report***, which was prepared for the State DOH, EPA and the US Army Engineer Research and Development Center. The ***Interim Report*** concluded that the studies presented provide ***the positive establishment of hydrologic connections between the municipal wastewater injection from the LWRF and the nearshore region of the Kaanapali coast***. Subsequently, 4 Maui community groups filed a lawsuit with the Federal Court alleging that the COM required a National Pollutant Discharge Elimination System (NPDES) Permit for use of the injection wells. The ***Lahaina Groundwater Tracer Study – Final Report*** was completed in June 2013; based on tracer tests and modeling efforts, the report concluded that ***a hydrogeologic connection exists between LWRF Injection Wells 3 and 4 and the nearby coastal waters of West Maui***. In May 2014, the United States District Court ruled that without an NPDES Permit, the disposal of effluent in the LWRF injection wells is in violation of the Clean

Water Act. The COM appealed this ruling, and on April 23, 2020, the United States Supreme Court summarily vacated the opinion and remanded the matter back to the lower court for further proceedings. Nonetheless, COM is proceeding with this project in order to divert increased volumes of treated R-1 effluent to recycled water customers and significantly reduce disposal of the effluent in the injection wells.

4.2.2 Visual Impacts

Most of the proposed improvements will be within the Lahaina WWRF or below ground and will not have any visual impacts. Visual impacts of improvements at the Honokowai Reservoir and the proposed access road are not expected to be significant. The Honokowai Reservoir is an existing reservoir. Improvements to the reservoir will maintain or decrease the size of the reservoir, and surrounding improvements are not anticipated to have any significant visual impacts. The proposed 12-foot wide access road to the reservoir will provide more reliable access to the reservoir than the existing dirt roads of the former pineapple fields. The access road is also not anticipated to have a any significant visual impact.

4.2.3 Historical, Archaeological, and Cultural Impacts

Based on background information and field inspection, no adverse impacts on historical or archaeological sites or on cultural practices are anticipated. In the event that human skeletal remains are inadvertently discovered during construction, the requirements in HRS Section 6E-43.6 "Inadvertent discovery of burial sites" will be met. The Contractor shall ensure that the remains are not moved. Any activity in the immediate area that could damage the remains or potential historic site shall cease, and the SHPD, the appropriate medical examiner or coroner, and the police department shall be contacted.

4.2.4 Public Health and Safety

Public health and safety is of the utmost importance and measures will be taken to ensure protection. No public health and safety issues associated with the proposed project are anticipated. As mentioned in Section 1.1, facilities that produce and purvey recycled water and sites that use recycled water are required to comply with the Reuse Guidelines. The recycled water system delivers R-1 quality recycled water, the highest grade of non-potable recycled water. R-1 quality recycled water is a valuable resource that is suitable for many uses, including irrigation. Recycled water can only be applied in approved areas as defined by DOH. The Reuse Guidelines include a list of Best Management Practices that new and future users must follow to ensure safe use of the recycled water and limit public exposure. Best Management Practices include providing signs where recycled water is being used, training employees that may be exposed to recycled water, and avoiding excessive irrigation. Sprinkler heads should be selected with an appropriate spray radius and angle to minimize public exposure to recycled water spray or mist in publicly accessible areas, and irrigation with recycled water should be scheduled during times when public exposure to recycled water is minimal (e.g., 11pm to 3am). Cross-connections of recycled and potable water are prohibited, and users of recycled water shall provide proper backflow prevention in accordance with the Reuse Guidelines.

4.2.5 Dam Safety

The purpose of the Hawaii Dam and Reservoir Safety Act of 2007 is to provide for the inspection and regulation of construction, enlargement, repair, alteration, maintenance, operation, and removal of all dams or reservoirs to protect the health, safety, and welfare of the citizens of the State by reducing the risk of failure of the dams and reservoirs.

The existing Honokowai Reservoir is currently a state regulated dam. Since it is currently regulated, a dam safety permit will be required to alter the reservoir. The proposed project will fortify and improve the dam and reservoir as necessary, and the project will decrease the storage capacity significantly. These improvements will have a positive impact on dam safety, and the smaller reservoir will have a storage capacity well less than 15 acre-feet. Reservoirs smaller than 15 acre-feet (or 4.9 MG) are typically not regulated.

4.3 Secondary Impacts

4.3.1 Population Growth

Secondary growth impacts are not anticipated as a result of this project. Development of the surrounding areas is independent of the implementation of the recycled water system.

4.4 Cumulative Impacts

The proposed projects will be the backbone of the recycled water system and will upgrade the system to a distribution system that is pressurized continually, which will facilitate future expansion of the recycled water system. The recycled water system, including the proposed project and future expansions, is anticipated to be beneficial to the environment and community. Increased use of recycled water will replace current and projected potable water use for non-potable demands. This promotes the proper management of Hawaii's water resources by providing an alternate source so that water is put to its best and highest use, i.e., potable water available for drinking water purposes. Increased use of recycled water will also result in a decrease of effluent disposal through injection wells.

5 FEDERAL CROSS-CUTTING AUTHORITIES

The projects are not currently planned to be funded by federal funds. If the projects are funded by federal funds through the State of Hawaii's Clean Water State Revolving Fund (SRF) Program, which would constitute a federal action, this will require the project to meet the National Environmental Policy Act (NEPA) and Hawaii SRF program requirements. The Clean Water SRF was established by the U.S. Congress in 1987 under the Water Quality Act. The intent of the Clean Water SRF is to assist with the construction of publicly owned treatment facilities, implementation of non-point source projects to address pollution, and the development and implementation of estuary comprehensive conservation and management plans.

5.1 Archaeological and Historic Preservation Act (54 USC §312502); National Historic Preservation Act (54 USC §306108)

The Archaeological and Historic Preservation Act protects against irreparable loss or destruction of significant scientific, prehistorical, historical, or archaeological data. Section 106 of the National Historic Preservation Act requires the consideration of the effect of a proposed Federal or federally assisted undertaking on historic properties. A historic property is any prehistoric or historic district, site, building, structure, or object included on, or eligible for inclusion on, the National Register, including artifacts, records, and material remains relating to the district site, building, structure, or object.

As discussed in **Section 3.2**, a literature review and field inspection were performed for the project sites. No historic properties were identified during the field inspection. The entirety of the project area is a previously utilized environment, with agricultural lands formerly used for the cultivation of pineapple to the north and urbanized development to the south. No sensitive areas that may require further investigation or mitigation before the project proceeds were identified. SCS recommends a determination of "no historic properties affected."

If the projects are funded by federal funds, the Section 106 review process will be initiated for this project in accordance with 36 CFR Part 800. Section 106 consultation letters will be sent to organizations or individuals that might attach significance to the Area of Potential Effect (APE), defined as the project sites, inviting them to participate in the process and identify any historic properties that may possess Native Hawaiian traditional religious and cultural significance or other Native Hawaiian cultural concerns.

5.2 Clean Air Act (42 U.S.C. §7506(c))

The Clean Air Act regulates air emissions and authorizes the Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards. The act directs states to develop State Implementation Plans to achieve these standards and requires that no department, agency, or instrumentality of the Federal Government engage in, support or provide financial assistance for, license or permit, or approve any activity which does not conform to an approved State Implementation Plan.

As discussed in **Section 4.1.2**, potential short-term effects from dust and exhaust due to construction activities will be mitigated with BMPs such as water sprinkling and proper equipment maintenance. No long-term impacts on air quality resulting from the proposed projects are anticipated.

5.3 Coastal Barrier Resources Act (16 U.S.C. §3501)

The Coastal Barrier Resources Act designated various undeveloped, unprotected coastal barriers on the Atlantic Ocean and Gulf of Mexico coasts, and is not applicable to the State of Hawaii.

5.4 Coastal Zone Management Act (16 U.S.C. §1456(c)(1))

As discussed in **Section 2.9**, HRS Chapter 205A sets forth Hawaii's CZM Program, which is in compliance with the Coastal Zone Management Act. HRS §205A-2 describes the CZM program, its objectives, and policies.

As discussed in **Section 2.9**, the proposed projects are consistent with CZM objectives and policies. The proposed Kaanapali Resort R-1 Water Distribution System Expansion project area is within the SMA. However, the project is to install an underground RW, and installation of underground utility lines generally is not considered "development" per HRS Chapter 205A-22 and typically does not require a SMA permit. The COM Planning Department will be consulted as details of the alignment are developed to confirm if the Kaanapali Resort R-1 Water Distribution System Expansion project will not require a SMA permit.

5.5 Endangered Species Act (16 U.S.C. §1536(a)(2) and (4)), Essential Fish Habitat (16 U.S.C. §1801), and Fish and Wildlife Coordination Act (16 U.S.C. §662(a))

The purpose of the Endangered Species Act is to protect and recover endangered species and the ecosystems upon which they depend. The Endangered Species Act is administered by the United States Fish & Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service. The USFWS has primary responsibility for terrestrial and freshwater organisms, while NOAA is mainly responsible for marine wildlife. NOAA is also the agency consulted under the Essential Fish Habitat (EFH) consultation process under the Magnuson-Stevens Fishery Conservation and Management Act. The NOAA EFH Mapper identifies two essential fish habitats in offshore waters: Hawaii Bottomfish and Main Hawaiian Islands Coral Reef Ecosystem. No Habitat Areas of Particular Concern or EFH Areas Protected from Fishing were identified. The Fish and Wildlife Coordination Act requires that the USFWS be consulted whenever the waters of any stream or other body of water are controlled or modified by any department or agency of the United States or by any public or private agency under Federal permit or license. As discussed in **Section 3.1.6**, the 24-inch RW will cross Honokowai Stream where it is an existing concrete channel. However, the RW is proposed to cross over the top of the concrete channel walls, and therefore, it is not anticipated to require a Department of Army permit.

As discussed in **Section 3.1.5**, all projects sites are developed or have been previously disturbed. General BMP recommendations were provided by USFWS PIFWO to avoid impact to listed species.

In addition, the proposed project is anticipated to have, if any, a positive impact on surface and coastal waters as described in **Section 4.2.1**.

5.6 Environmental Justice (Executive Order 12898)

Executive Order 12898, signed in 1994, directs federal agencies to identify and address disproportionately high adverse human health or environmental effects of its activities on minority and low-income populations.

The design and operation of recycled water facilities and allowable uses of recycled water are highly regulated and monitored in accordance with the HAR 11-62 Wastewater Systems and the 2016 Hawaii State DOH Reuse Guidelines. As discussed in **Section 4.2.4**, all sites that use recycled water are required to comply with the Reuse Guidelines, which includes a list of Best Management Practices that new and future users must follow to ensure safe use of the recycled water and limit public exposure. Negative health impacts associated with this project are not anticipated. Therefore, no disproportionately high adverse human health or environmental effects on anyone, including minority and low-income populations, is anticipated.

5.7 Farmland Protection Policy Act (7 U.S.C. §4202(b))

The purpose of the Farmland Protection Policy Act (FPPA) is to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to assure that Federal programs are administered in a manner that, to the extent practicable, will be compatible with State, unit of local government, and private programs and policies to protect farmland. The program is a reporting mechanism and is not regulatory. It is administered by the USDA NRCS.

Farmland does not include land already in or committed to urban development or water storage. The only project area that is not in urban development or water storage is the proposed 24-inch RW and access road alignment. The 24-inch RW and access road roughly follows the boundary between soils classified as LaB and rRk. LaB is classified as "prime farmland if irrigated" and rRk is classified as "not prime farmland." The proposed 24-inch RW and access road runs along the boundary between "Prime" and unclassified lands in the ALISH system and the boundary between "A" and "E" in the LSB system. Based on this proposed alignment that abuts or is within unclassified farmland, adverse impacts to agricultural productivity will be minimal. Moreover, the net impact to agricultural productivity will be positive since the project will increase the supply of recycled water for irrigation and there is potential for nearby lands to be irrigated with the recycled water.

5.8 Floodplain Management (Executive Order 11988)

The purpose of Executive Order 11988 is to avoid to the extent possible the adverse impacts associated with the occupancy and modification of flood plains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. For Federally undertaken, financed, or assisted construction and improvements, action shall be taken to reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by flood plains in carrying out its responsibilities."

As discussed in **Section 2.7**, the projects sites are generally located in Zone X, which is an area determined to be outside the 0.2% annual chance floodplain. The projects in Zone X will not have an effect on the flood plain. There is one project area that crosses through Zone A. The 24-inch RW is proposed to cross Honokowai Stream where it is a concrete channel (TMKs (2)4-4-001:015 and (2)4-4-001:108). FIRM panel 15000030351F indicates that the "1% annual chance flood discharge (is) contained in channel" and the channel is Zone A. A special flood hazard area development permit from the County of Maui will be required for the 24-inch RW crossing. However, since the development is a 24-inch RW crossing over the top of a concrete channel, it will

not affect the flood plain and is not anticipated to have any impact on flood loss or human safety, health, and welfare.

5.9 Safe Drinking Water Act (42 U.S.C. §300f)

The Safe Drinking Water Act was established to protect public drinking water supplies. Under the act, EPA sets standards for drinking water quality and with its partners implements various programs, such as the Underground Injection Control (UIC) program and the Sole Source Aquifer program, to ensure drinking water safety.

As discussed in **Section 2.10**, the proposed project does not include work related to locating, constructing, or operating an injection well. Further, the majority of the proposed improvements are located below the UIC line where the underlying aquifer is not considered a drinking water source. At present, there are two sole source aquifers in the State of Hawaii: the Southern Oahu Basal Aquifer on the island of Oahu and the Molokai Aquifer on the island of Molokai. The proposed sites are on the island of Maui and not within either sole source aquifer.

5.10 Protection of Wetlands (Executive Order 11990)

The purpose of Executive Order 11990 is to avoid to the extent possible the long and short term adverse impacts associated with the destruction and modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. For Federally undertaken, financed, or assisted construction or improvements, action shall be taken to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands. Wetlands are defined as those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Factors that should be considered regarding a project's effect on wetlands include public health, safety, and welfare, including water supply and quality, pollution, flood and storm hazards, and sediment and erosion; maintenance of natural systems; and other wetland uses.

As discussed in **Section 3.1.6**, there are no wetlands in the vicinity of the project sites. Therefore, no adverse impacts to wetlands are anticipated.

5.11 Wild and Scenic Rivers Act (16 U.S.C. §1271)

The Wild and Scenic Rivers Act declares that certain selected rivers with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historical, cultural, or other similar values, shall be preserved in their free-flowing condition for the enjoyment of present and future generations.

The State of Hawaii has approximately 3,905 miles of river, but no designated wild and scenic rivers. The Wild & Scenic Rivers Act is not applicable to this project.

6 ALTERNATIVES TO THE PROPOSED ACTION

6.1 No Action

Under the No Action alternative, the recycled water system would continue to be pressurized only while the Lahaina WWRF reuse pumps are operating. Recycled water is therefore only available to users during limited periods only while the Lahaina WWRF reuse pumps are running. Continued operation in this manner makes it impractical to serve additional users. Additionally, without the reservoir, there will be no storage for the treated recycled water, and the quantity of recycled water available for use will be limited by the instantaneous rate of wastewater flow into the WWRF and rate of treatment, which is relatively low at night when the demand for recycled water is typically its highest. Under these conditions, recycled water use would not increase, potable water use will not decrease, and the use of injection wells for effluent disposal will not decrease. As a result, MIP and West Maui Community Plan objectives and policies will not be met.

6.2 Site Alternatives

There are two major landowners with available land area that can meet the planning and design parameters for elevated storage in the vicinity of the Lahaina WWRF. These include the DHHL and KLMC. DEM-WWRD originally pursued a site on DHHL land; however, due to land acquisition issues, an alternate storage site had to be pursued. DEM-WWRD then proceeded to pursue a site on KLMC land. The site was located adjacent to Puukolii Road at approximately 200 feet elevation. The site was acceptable to KLMC and was selected due to its elevation and proximity to an existing road and utilities. However, the land acquisition process for this site was put on hold after protest from a nearby community.

The proposed project is vital to increasing the availability of reliable recycled water resources for use in West Maui. The DEM-WWRD therefore continued to explore alternative sites. The existing Honokowai Reservoir was then identified for the proposed site for needed elevated recycled water storage.

7 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

There are several irreversible commitments of resources including land and the financial resource to construct capital improvements, and to operate and maintain the facilities. The commitment of land, labor, materials, energy, equipment and financial resources that are practically irreversible and irretrievable is warranted to achieve the long-term commitment to reduce the reliance on deep injection wells and to conserve water supports the implementation of the environmentally safe recycled water system

8 DETERMINATION

In accordance with HAR Section 11-200-12, the potential effects of the proposed project are evaluated for the Thirteen Administrative Criteria for Significance as summarized below:

1. Involves an irrevocable commitment to loss or destruction of any natural or cultural resource:

   No natural or cultural resource was identified in or is anticipated to be affected by the proposed project. The proposed project is therefore not expected to cause a loss or destruction of any natural or cultural resources.

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

   The proposed project is anticipated to enhance the beneficial uses of the environment. The proposed project, as a whole, was initiated to benefit the environment and community, and the most significant long-term impacts anticipated are positive. The proposed project will upgrade the West Maui Recycled Water System and expand the use of recycled water from the Lahaina WWRF. Increased use of recycled water to serve non-potable needs will promote reserving potable water for its best and highest use (e.g., drinking water for human consumption) and will also decrease the use of injection wells. Short-term construction-related impacts on the environment related to water quality, air quality, and noise quality will be mitigated by the implementation of BMPs as indicated in the respective sections. The proposed project will not curtail the range of beneficial uses of the environment.

3. Conflicts with the state's long term environmental policies or goals and guidelines as expressed in chapter 344, HRS and any revisions thereof and amendments thereto, court decisions, or executive orders:

   The proposed project is in conformance with the guidelines set forth in the State Environmental Policy Chapter 344, HRS. All permits and approvals in accordance with State and County rules and regulations will be obtained. BMPs will be implemented to prevent degradation of the environmental conditions.

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

   The proposed project will serve to upgrade the West Maui Recycled Water System. Upgrading the system will improve service and increase the availability of recycled water. Increased use of recycled water will allow for less dependency on potable water resources and decrease effluent disposal into injection wells. The proposed project will indirectly have a positive effect on the economic and social welfare of the community. The proposed project provides non-potable water service that supports a growing community.

5. Substantially affects public health:

   Public health and safety are of the utmost importance, and measures will be taken to ensure protection. Negative impacts on public health resulting from the proposed project are not anticipated. The proposed project will comply with the Reuse Guidelines of DOH. In addition, end users must also meet the requirements of the Reuse Guidelines. The Reuse

Guidelines includes a list of BMPs that are to be implemented to ensure safe use of the recycled water and limit public exposure.

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

   The proposed project is limited to upgrading the West Maui Recycled Water System. A substantial increase in population is unlikely as a result of the proposed project.

7. Involves a substantial degradation of environmental quality:

   BMPs will be implemented to mitigate potential short-term impacts which may occur during construction. The project will enhance the environment, supporting the expanded use of a valuable alternative water resource and limiting disposal of treated effluent.

8. Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions:

   The recycled water system, including the proposed project and future expansions, is anticipated to be beneficial to the environment. Increased use of recycled water will replace current and projected potable water use for non-potable demands. This promotes the proper management of Hawaii's water resources by providing an alternate source so that water is put to its best and highest use, i.e., potable water available for drinking water purposes. Increased use of recycled water will also result in a decrease of effluent disposal through injection wells.

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

   General information on state listed and/or federally listed species that have the potential to occur or transit through the vicinity of the proposed project area is provided in **Section 3.1.5**. BMP measures shall be implemented to minimize any impact, and therefore, it is anticipated that the project will not substantially affect a rare, threatened, or endangered species, or its habitat.

10. Detrimentally affects air or water quality or ambient noise levels:

    Short term effects on air quality, water quality, and noise impacts during construction will be addressed by BMPs and by compliance with applicable permits.

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

    The proposed improvements at the Lahaina WWRF, the 24-inch RW, the Honokowai Reservoir, and the control valve at the golf course vault are located mauka of Honoapiilani Highway away from the coastline and outside of the SMA and Shoreline Setback, and are not anticipated to have adverse impacts on coastal waters or resources. The proposed Kaanapali Resort R-1 Water Distribution System Expansion project area is within the SMA. However, as discussed in **Section 2.9**, the project is to install an underground RW which is

not anticipated to require an SMA permit. In addition, as discussed in **Section 2.7**, the proposed project, with the exception of the Honokowai Stream crossing, is located outside of the 0.2% annual chance floodplain and are not considered vulnerable to flood. The Kaanapali Resort R-1 Water Distribution System Expansion is within the Tsunami Evacuation Zone. However, as discussed in **Section 2.7**, since the proposed RW will be below ground, damage due to a tsunami is not anticipated.

12. Substantially affects scenic vistas and view planes identified in county or state plans or studies:

    Most of the proposed improvements will be within the Lahaina WWRF or below ground and will not have any visual impacts. The improvements at the existing Honokowai Reservoir and the proposed access road to the reservoir are not anticipated to affect scenic vistas and view planes.

13. Requires substantial energy consumption:

    Two existing 250 horsepower pumps at the Lahaina WWRF currently deliver recycled water to users. The proposed improvements include replacing the existing pumps with two 250 horsepower pumps that will be selected for the improved recycled water system. The new pumps will require energy to deliver the recycled water to the elevated storage; however, this is necessary to improve service and increase the availability of recycled water. Energy consumption at the reservoir site will be minimal.

This Environmental Assessment has determined that the proposed project will not have significant impact on the environment, and an Environmental Impact Statement is therefore unwarranted. It is anticipated that a Finding of No Significant Impact (AFONSI) will be issued for the proposed project.

9 LIST OF PERMITS AND APPROVALS

The following list of permits and approvals are anticipated to be required for the proposed project:

State of Hawaii

1. National Pollutant Discharge Elimination System (NPDES) Permit.
2. Community Noise Permit, if applicable.
3. Department of Health Approval to Construct.
4. Department of Health Approval to Use.
5. Department of Transportation, Permit to Perform Work Upon State Highways (for Kaanapali Resort R-1 Water Distribution System Expansion connection to the 16-inch RW in Honoapiilani Highway).
6. Dam Safety Permit (for the construction, enlargement, repair, alteration, or removal of dams and reservoirs)

County of Maui

1. Construction Permits, as applicable.
2. Special Flood Hazard Area Development Permit (for 24-inch RW crossing Honokowai Stream).
3. Special Management Area Use Permit, if applicable (for the Kaanapali Resort R-1 Water Distribution System Expansion Project).

10 CONSULTED PARTIES

An Early Consultation Letter was sent to various agencies and interest parties for the opportunity to provide preliminary comments prior to completing the Draft Environmental Assessment. The agencies and parties are listed below. Comments received and responses provided are incorporated in **Appendix B**.

Federal Agencies

U.S. Army Corps of Engineers, Honolulu District, Regulatory Branch

U.S. Department of Agriculture, Natural Resources Conservation Service, Pacific Islands Area

U.S. Department of the Interior, Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office

State Agencies

Department of Accounting and General Services

Department of Agriculture

Department of Business, Economic Development, and Tourism, Office of Planning

Department of Education

Department of Hawaiian Home Lands

Department of Health, Clean Air Branch

Department of Health, Clean Water Branch

Department of Health, Safe Drinking Water Branch

Department of Health, Solid and Hazardous Waste Branch

Department of Health, Wastewater Branch

Department of Health, Office of Environmental Quality Control

Department of Land and Natural Resources, Land Division

Department of Land and Natural Resources, State Historic Preservation Division

Department of Transportation

Department of Transportation, Maui Highways Division

Office of Hawaiian Affairs

County of Maui Agencies

Council of the County of Maui

Department of Environmental Management

Department of Fire and Public Safety

Department of Parks and Recreation

Department of Public Works

Department of Transportation

Department of Water Supply

Planning Department

Police Department

Other Individuals/Organizations

University of Hawaii, Water Resource Research Center

West Maui Preservation Association

West Maui Taxpayers Association

Kaanapali Land Management Corporation

Kaanapali Golf Courses

Maui Land and Pineapple Company, Inc.

Kaanapali Beach Resort Association

Maui Hotel and Lodging Association

Maui Electric Company

Hawaiian Telcom

Hawaii Water Service Company

11 REFERENCES

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3 County of Maui, Office of Economic Development, *Maui County Data Book 2019*.

4 County of Maui, *2030 General Plan, Countywide Policy Plan*. March 2010

5 County of Maui, *2030 General Plan, Maui Island Plan*. December 2012.

6 County of Maui, *West Maui Community Plan*. 1996.

7 Federal Emergency Management Agency (FEMA) Flood Insurance Map (FIRM) Panel 15000030351F. September 2012.

8 Federal Emergency Management Agency (FEMA) Flood Insurance Map (FIRM) Panel 15000030353F. September 2012.

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19 U.S. Department of Agriculture, Soil Conservation Service, Soil Survey, Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii, August 1972.

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APPENDIX A:

Archaeological Literature Review and Field Inspection

SCS PROJECT 2502-LRFI-2

A LITERATURE REVIEW AND A FIELD INSPECTION FOR THE WEST MAUI RECYCLED WATER AND KĀ‘ANAPALI RESORT R-1 WATER DISTRIBUTION EXPANSION PROJECT, HONOKŌWAI AHUPUA‘A, KĀ‘ANAPALI DISTRICT, ISLAND OF MAUI, HAWAI‘I [TMK:(2) 4-4-001:015, 104, 108, 4-4-002:018, 019, 029, 4-4-003:001, 4-4-006:010, 4-4-008:009, 011, 014, 4-4-013:011, 013]

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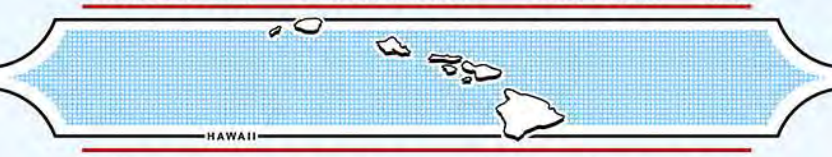

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INTRODUCTION

At the request of Fukunaga & Associates, Inc., Scientific Consultant Services, Inc. (SCS) has prepared this literature review and field inspection for the West Maui Recycled Water Expansion and the Kāʻanapali Resort R-1 Water Distribution System Expansion Project proposed by the County of Maui Department of Environmental Management, Wastewater Reclamation Division (DEM-WWRD). The project involves improvements in the Honokōwai Reservoir, the Lahaina Wastewater Reclamation Facility (WWRF), the waterlines connecting them, as well as the addition of new waterlines at the Kāʻanapali Resort. The project area is located in Honokōwai Ahupuaʻa, Kāʻanapali District, Island of Maui, Hawaiʻi [TMK:(2) 4-4-001:015, 104, 108, 4-4-002:018, 019, 029, 4-4-003:001, 4-4-006:010, 4-4-008:009, 011, 014, 4-4-013:011, 013] (Figures 1 through 3).

Concerning the West Maui Recycled Water Expansion DEM-WWRD suggests (1) acquisition and renovation of the Honokōwai Reservoir, at present owned by the Maui Land and Pineapple Company, (2) replacement of the reuse water pump station and the construction of a new covered storage basin for recycled water at the Lahaina WWRF, and (3) upgrade of the existing waterlines from to the Honokōwai Reservoir from 20 to 24 inches. Concerning the Kāʻanapali Resort R-1 Water Distribution System Expansion Project, DEM-WWRD proposes (4) providing a control valve on the 16-inch waterline at the Kāʻanapali Golf Course. The purpose of the overall project is to interconnect the two existing recycled water distribution systems (Mauka and South) allowing continuous supply of pressurized wastewater treated to the highest non-potable grade R-1.

This report is not intended to meet HAR§13-276 requirements for an archaeological inventory survey, but to identify potential cultural resources in the project area and its vicinity, as well as to provide in brief its cultural history. Thus, the scope of work for the current investigation includes the following two aspects:

- Historical research including study of archival sources, historic maps, Land Commission Awards, secondary historical source and previous archaeological reports. This research is conducted in order (1) to construct a history of land use and (2) to determine if archaeological sites have been recorded on or are likely to be recorded on the subject property and the terrain adjacent to it.

- Field inspection via pedestrian survey of the project area. This inspection is conducted in order (1) to identify any surface archaeological features and (2) to investigate and assess the potential for impact to such sites. This assessment will also identify any sensitive areas that may require further investigation or mitigation before work on the project proceeds.

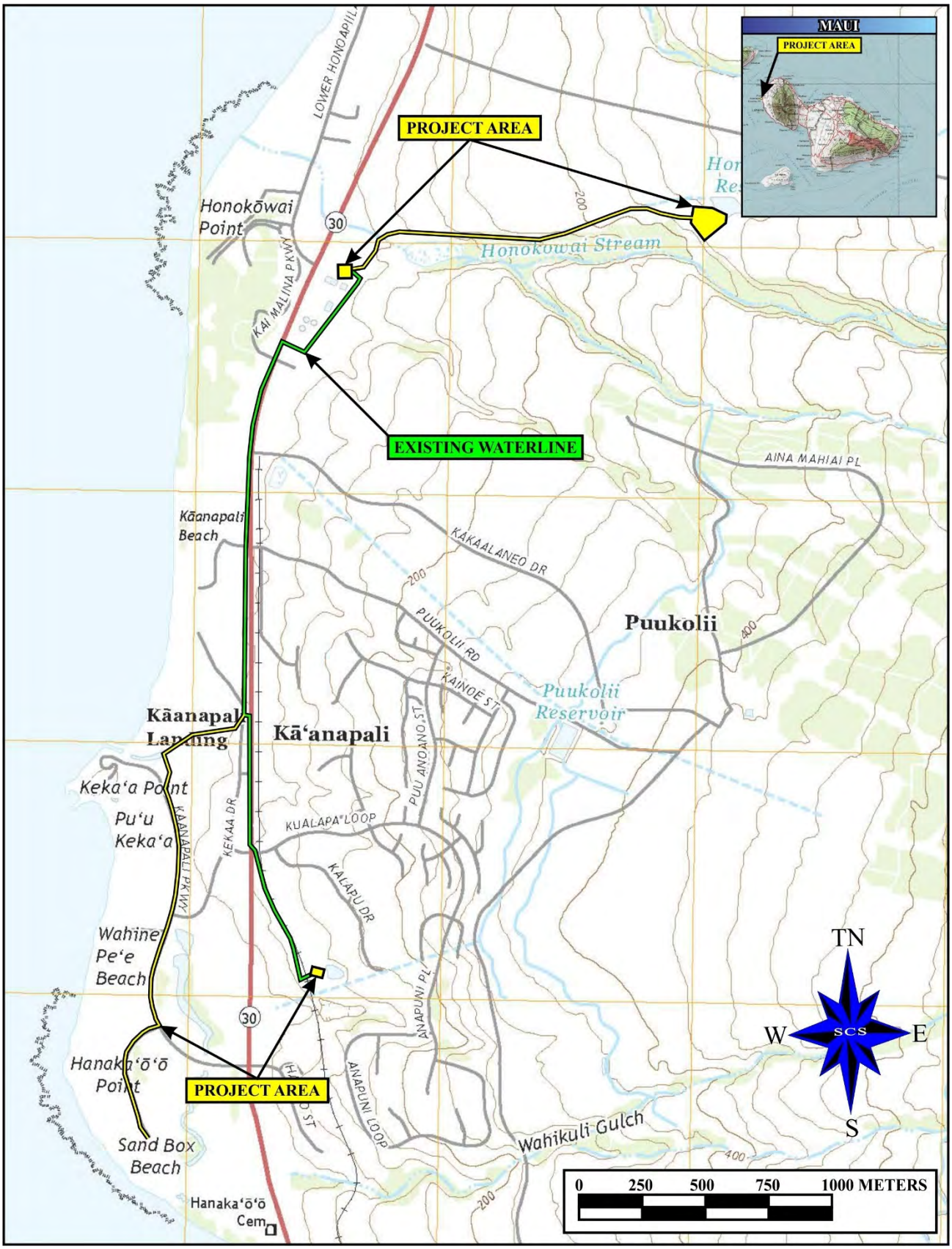

Figure 1:2017 USGS Quadrangle topographic map showing the location of the project area.

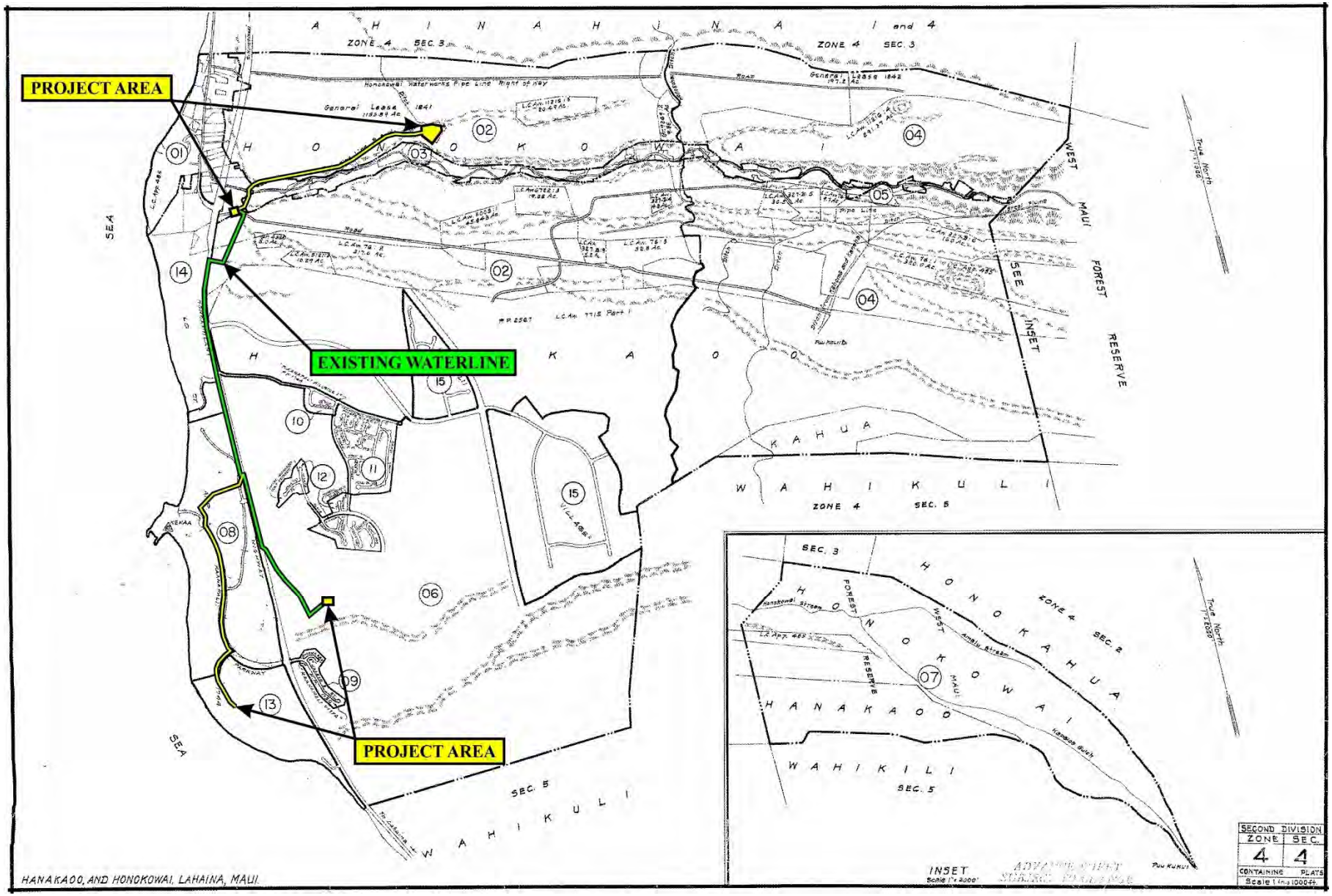

Figure 2:Tax Map Key (TMK) showing location of the project area in the context of coastal Honokōwai Ahupua‘a, Kā‘anapali District, Island of Maui.

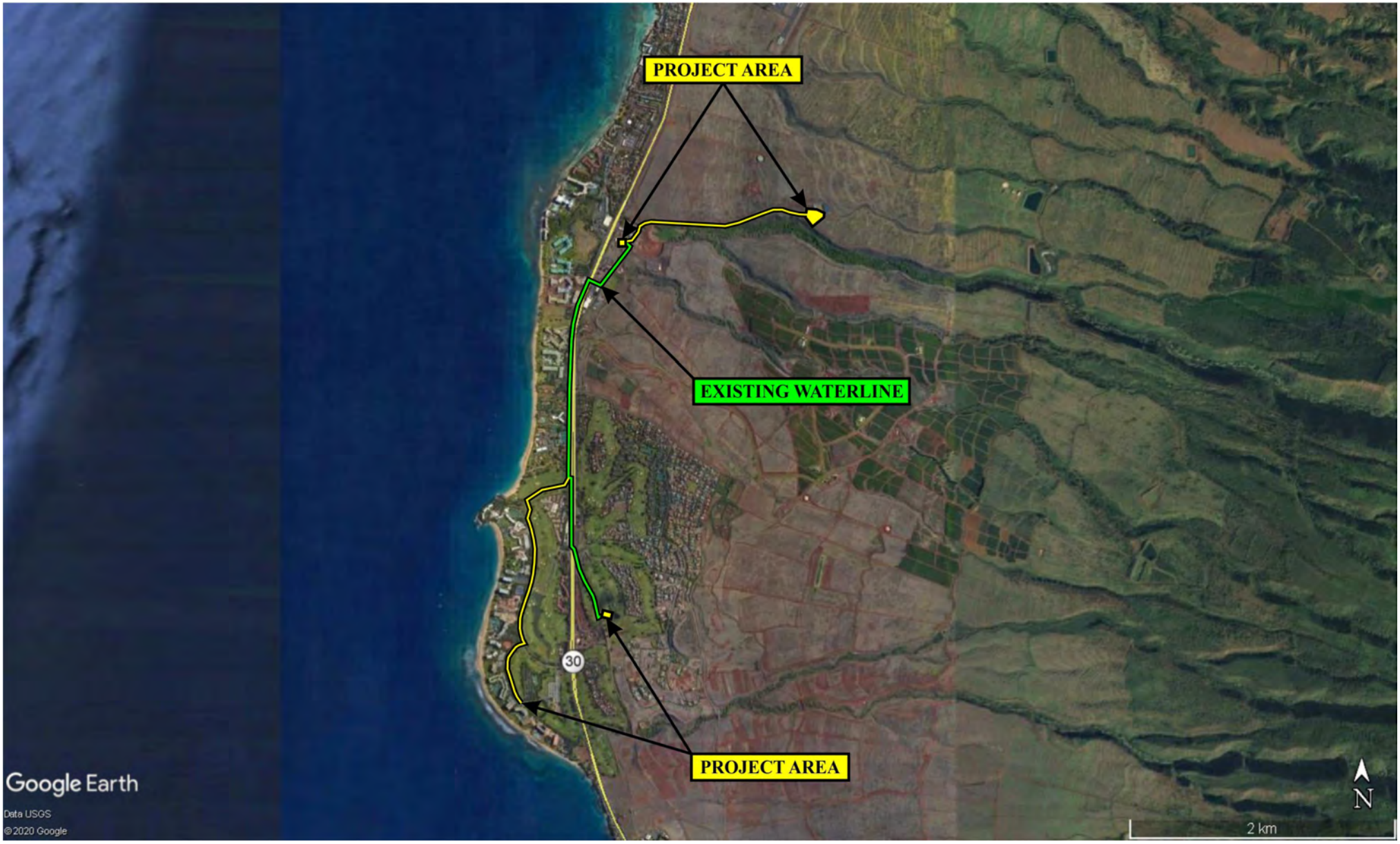

Figure 3:2020 Google Earth aerial photograph showing the location of the project area in the context of the Honokōwai and Kā‘anapali neighborhoods.

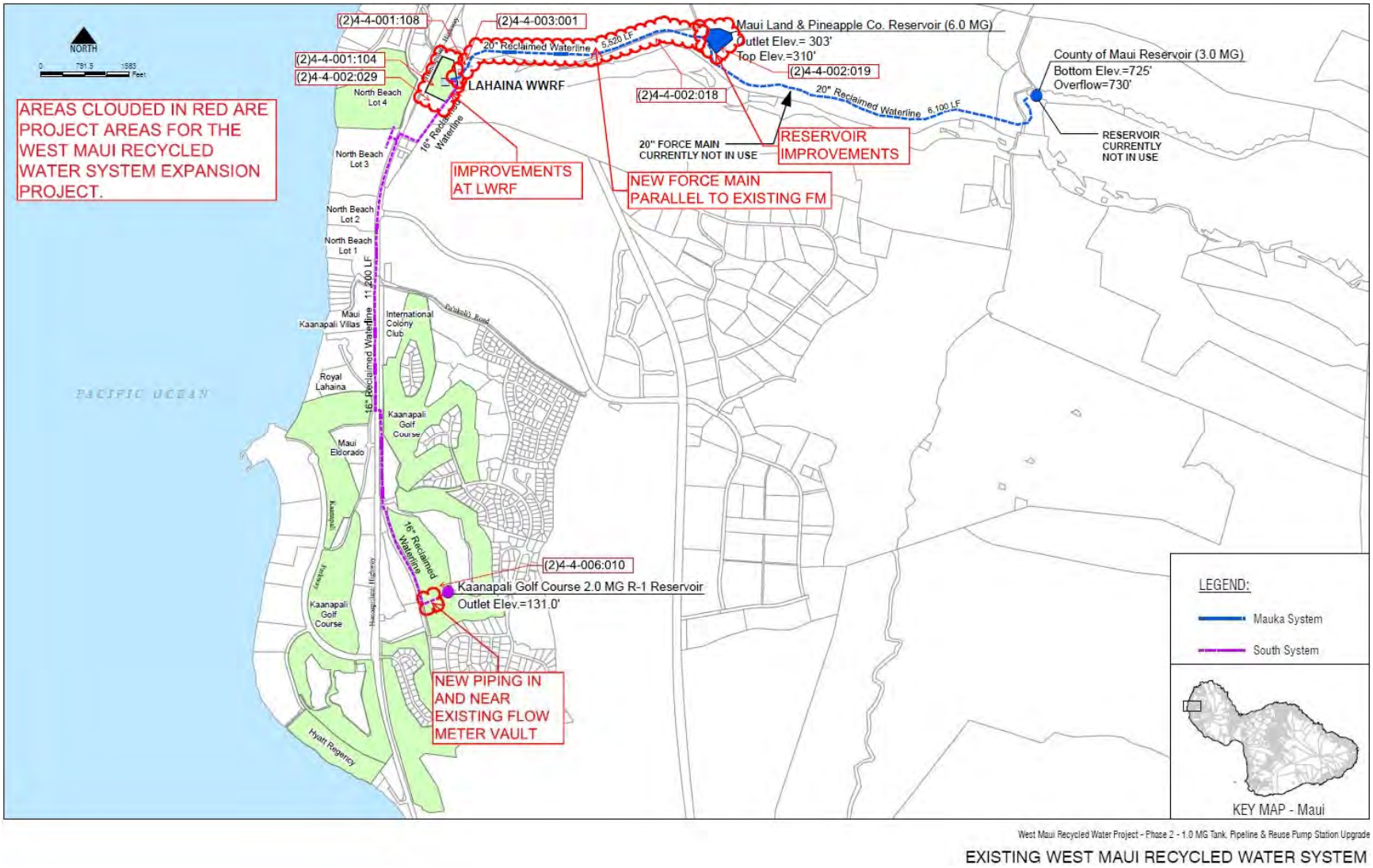

Figure 4: A map of the existing Mauka and South recycled water systems with the proposed renovation associated with the West Maui Recycled Water System Expansion Project. Image courtesy of Fukunaga & Associates, Inc.

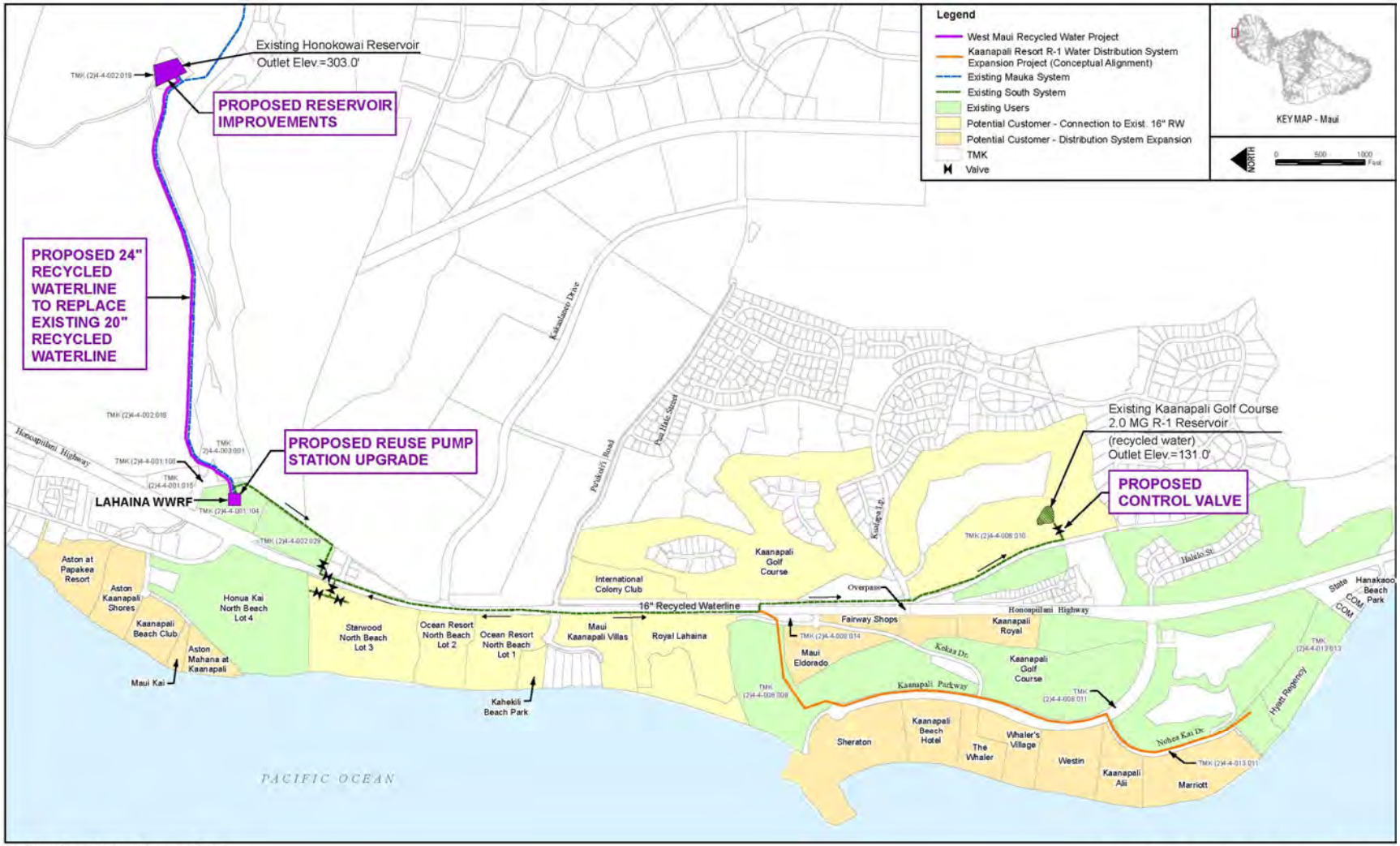

Figure 5: A map of the proposed unified West Maui Recycled Water System and the Kā'anapali Resort R-1 Water Distribution System, along with existing and potential customers along the waterlines. Image courtesy of Fukunaga & Associates, Inc.

ENVIRONMENTAL SETTING

Maui is the second largest island of the Hawaiian Archipelago. It was formed by two volcanoes, the older and extinct Puʻu Kukui in the west and the younger dormant Haleakalā in the east, joined together by an isthmus of dry, open country. Puʻu Kukui (from Hawaiian, "candlenut peak"), rising to 1,764 m (5,788 ft) above mean sea level (amsl), is surrounded by large, heavily eroded amphitheater valleys that support permanent streams watering the fertile agricultural lands along the coasts. The deep valleys of the West Maui Mountains (Mauna Kahālāwai) and their coastal regions, inclusive of the project area, have been contested and coveted lands remarkable for their productivity. Haleakalā (from Hawaiian, "house of the Sun") is the larger of the two volcanoes, as it dominates the larger southeastern section of the island soaring 2,727 m (10,023 ft) amsl. Unlike the amphitheater valleys of West Maui, the flanks of Haleakalā are distinguished by their gentle slopes toward the isthmus. The lands in between the two orographically most prominent features of Maui are formed by erosional deposits from Haleakalā against the slopes of Mauna Kahālāwai.

LOCATION

The project area is located on a number of parcels stretching from the Honokōwai Reservoir [TMK (2) 4-4-002:019] to the Hyatt Regency Resort [TMK (2) 4-4-013:013] (Figures 4 and 5). The immediate West Maui Recycled Water Project involves about 5,200 feet of 24-inch waterlines tracing the existing 20-inch lines ("Mauka System") downslope from Honokōwai Reservoir (elevation 303 ft amsl) following Honokōwai stream (from Hawaiian, "bay drawing water") through TMK (2) 4-4-002:018 and 4-4-003:001 to the Lahaina WWRF [TMK (2) 4-4-001:104]. The project also proposes a control valve at the existing Kāʻanapali Golf Course Reservoir [TMK (2) 4-4-006:010] at elevation of 131 ft amsl. The future Kāʻanapali Resort R-1 Water Distribution System Expansion Project will extend a recycled waterline from Honoapiʻilani Highway [TMK (2) 4-4-999:999] for about 1.32 miles, to the Kāʻanapali Resort area through the Kāʻanapali Golf Course [TMK(2) 4-4-008:009], Kāʻanapali Parkway [TMK(2) 4-4-008:011] and Nohea Kai Drive [TMK(2) 4-4-013:011].

All of the project area is located in the Honokōwai Ahupuaʻa, which is the southernmost section of the traditional Kāʻanapali District (from Hawaiian, "division cliffs") in Western Maui. The project area ranges from about a mile inland at the Honokōwai Reservoir to about 560 feet from the nearest shoreline (May's Beach) at Kāʻanapali Golf Course behind Sheraton Maui Resort. The main transportation artery connecting its different parts is Honoapiʻilani Highway (Hawaii Route 30), which links the neighborhoods of Honokōwai and Kāʻanapali with Kahekili Highway to the north and with Wailuku through Māʻalaea.

CLIMATE AND HYDROLOGY

As the project area is located along the western coast of West Maui on the leeward side of Mauna Kahālāwai, it experiences a rain shadow effect that impacts not only the amount of rainfall, but also the air temperature, relative humidity and cloud cover. The average air temperature at the Honokōwai Reservoir is 22.13°C (71.83°F) (Giambelluca et al. 2014). August is the hottest month with an average air temperature of 24.09°C (75.36°F), and February is the coldest with an average at 20.17 °C (68.31°F). These values change with increased proximity to the ocean. At the location closest to the shoreline next to Sheraton, the average temperature is 23.74°C (74.73°F), and at the proposed control valve in the Kāʻanapali Golf Course it is 23.63°C (74.53°F). Both cloud frequency and relative humidity decrease closer to the shoreline (Giambelluca et al. 2014).

The mean annual rainfall at the Honokōwai Reservoir is approximately 1029.9 mm (or 40.55 in) (Giambelluca et al. 2013). Most of it occurs over the winter months (November through March), while the driest month is September with mean monthly rainfall of 35.8 mm (1.41 in). Rainfall decreases closer to the shore. Next to Sheraton, the average annual rainfall is 458.7 mm (18.06 in), and at the proposed control valve it is 463.3 mm (18.28 in) (Giambelluca et al. 2013). Thus, seasonal variation in rainfall amount follows normal orographic patterns for Maui.

SOILS

According to Foote et al. 1972, Sheet Number 93, the project area contains eight distinct soil types (Figure 6). (1) Rough and Broken Land (rRR) comprises northern portions in the vicinity of the Honokōwai Reservoir. It is characterized by "very steep land broken by numerous intermittent drainage channels" (Foote et al. 1972: 119). (2) Rock Land (rRK) is common along Honokōwai Stream in the northern sections. Exposed rock covers 25% to 90% of the surface (Foote et al. 1972: 119). (3) Soils of the Lahaina Series are represented with the silty clay, 3% to 7% slopes variety (LaB). These soils have been frequently used for sugarcane and pineapple cultivation (Foote et al. 1972: 78–79). (4) Soils of the Molokai Series, specifically Molokai silty clay loam, 3% to 7% slopes (MuB), are located in the northern portion close to the Lahaina WWRF. The Molokai Series is described as well-drained, formed from igneous rock, and used for agriculture, pasture, wildlife habitat, and homesites. (Foote et al. 1972:96). Soils of the Wahikuli Series are represented on long stretches along Honoapiʻilani Highway. There are two varieties: (5) "silty clay, 3% to 7% slopes" (WbB), and (6) "stony silty clay, 7% to 15% slopes" (WcC). Both are well-drained and developed from basic igneous rock. The difference between them is that WcC contains enough stones to hinder cultivation (Foote et al. 1972:125–126). (7) Soils of the Ewa Series, specifically Ewa silty clay loam, 0% to 3% slopes (EaA), are located sparingly throughout the central parts of the project area along Honoapiʻilani Highway. They tend to be well-drained, fertile and are used for sugarcane cultivation (Foote et al. 1972:30). (8) Finally, soils of the Kealia Soil Series, specifically Kealia silt loam (KMW), are present in the southwestern portion. These soils are poorly drained and tend to have high salt content (Foote et al. 1972:67).

Figure 6:2020 Google Earth aerial photograph showing the soil series in the project area and in its vicinity (USDA-NCSS SSURGO and STATSGO Soil Survey Products).

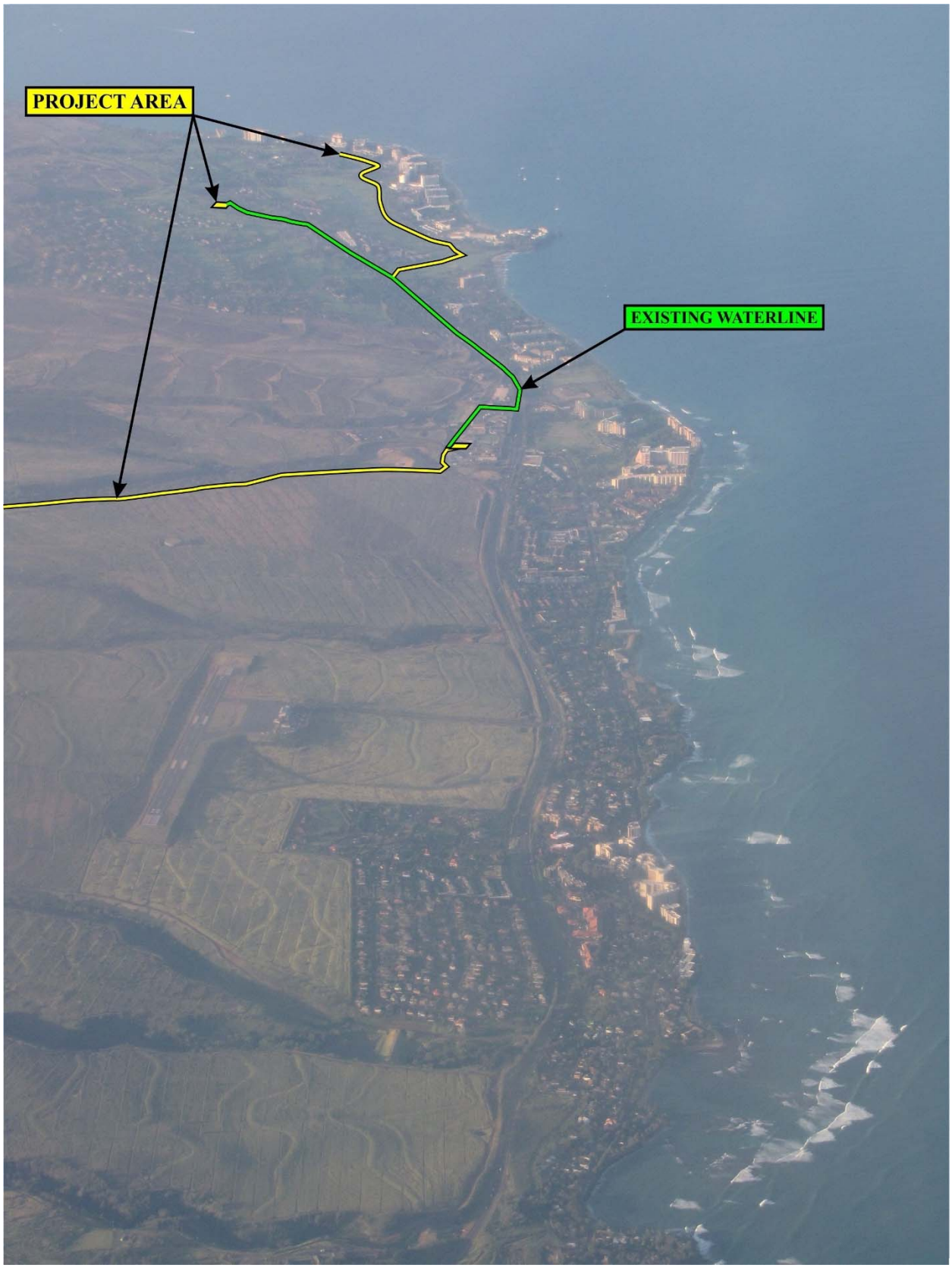

Figure 7:2013 aerial view of Honokōwai and Kāʻanapali with the project area highlighted. Photograph courtesy of Forest and Kim Starr.

HISTORICAL SETTING

Traditionally, Maui was divided into *moku* (districts) and *ahupua'a* (subdistricts) by a *kahuna* (from Hawaiian, "priest") named Kalaiha'ōhia during the time of the *ali'i* ("chief") Kaka'alaneo (Beckwith 1940:383). Fornander places Kaka'alaneo at the end of the 15th or the beginning of the 16th century (Fornander 1916/17, Vol. 6:248). The *ahupua'a* subdivisions were meant to incorporate all of the natural resources relevant to traditional subsistence stretching from the ocean to the mountain peaks (Lyons 1875:111). These ancient divisions have remained the same and are still commonly used to locate and refer to geographical features of the islands, even though land tenure has gone through radical changes (Sterling 1998:3). The *'ili* were smaller land divisions administered by the chief who controlled the corresponding *ahupua'a* (Lyons 1875:33; Lucas 1995:40). Finally, the *mo'o* were narrow strips of land within an *'ili*. The land holding of a tenant (in Hawaiian, *hoa 'āina*) was called a *kuleana* (from Hawaiian, "right, privilege") (Lucas 1995:61).

The project area is located north of Lāhainā, in the *ahupua'a* of Honokōwai, district of Kā'anapali, As suggested in the previous section, the leeward coastal parts of the district are characterized by comparatively dry conditions. Nonetheless, the West Maui Mountains provide a number of perennial streams, which make traditional agriculture possible and have contributed to the strategic importance of the district in Maui's history, in addition to its proximity to the traditional capital of the West Maui chiefs Lāhainā (Handy and Handy 1972: 272). As a result, the leeward areas of West Maui contain a substantial archeological and historical record. This section outlines in short the historical context of the project area, the settlement patterns before and after contact with the West, the agricultural practices, and the historical record associated with land ownership.

PRE-CONTACT SETTLEMENT, ECONOMY AND MYTHOLOGY

Archaeological data indicate that the initial settlement of the Hawaiian Islands by Polynesians occurred on the windward shores around the 10th century CE, with populations extending into leeward areas in later periods (Kirch 2011). It is more likely, however, that human presence in the project area is traced to the early period of agricultural development, which on Maui began circa 1200-1400 CE (Kirch 1985).

Traditional Hawaiian economy was based on agricultural production, marine exploitation, and raising livestock, in addition to collecting wild plants and birds. Settlements were concentrated in river valleys most amenable to wet *kalo* (taro, *Colocasia esculenta)* cultivation which also incorporated pond fields and irrigation canals. Areas with higher precipitation permitted the growing of *kalo* (taro, *Colocasia esculenta*), *kō* (sugar cane, *Saccharum officinarum*) and *mai'a* (banana, *Musa spp*.). The Kā'anapali district offers favorable conditions for aqua- and agricultural activity, and once supported a substantial population extending south into the politically significant Lāhainā.

Honokōwai Gulch was one of four valleys of leeward West Maui intensively used for the cultivation of irrigated taro (Handy and Handy 1972:494), and its lower portion was modified with terraced pond-fields and habitation platforms. Despite the dry climate, Lāhainā (from Hawaiian, "cruel sun") was likewise associated with wet taro cultivation (Kirch 1985:220). In general, coastal lands such as the leeward side of West Maui were preferred for chiefly residence because they usually offered both offshore and onshore fishponds, marine fishing and fertile wet taro lands (Kirch and Sahlins, 1992, Vol. 1:19). Lāhainā was known for its extensive breadfruit cultivation and it also likely contained coconut groves (Handy and Handy 1972:153, 173). According to Fornander, the landmark Kekaʻa (Black Rock, located in the vicinity of the project area) was once a capital of West Maui:

> It is said that there were many people there. Many houses were constructed and the people cultivated a great deal of potatoes, bananas, sugarcane, and other things of a like nature. From what I have been told that country from above Kekaa to Hahakea and Wahikuli, that country now covered with cactus in a northwesterly direction from Lahainaluna, was all cultivated (Fornander, 1916-1917, Vol. 5:540–542).

The author also testifies to the reputation of Kekaʻa in the 19th century as a "ghostly place" where the spirits of the dead go and as a location where lone travelers would die "without any apparent cause" (Fornander, 1916-1917, Vol. 5:542). Fornander also writes:

> On account of the great number of people at this place there are numerous skeletons,* as if thousands of people died there; it is there that the Lahainaluna students go to get skeletons for them when they are studying anatomy. The bones are plentiful there; they completely cover the sand. *This was the vicinity of several bloody battles, that doubtless left their toll. (footnote in original; Fornander, 1916-1917, Vol. 5:542).

Kekaʻa is also associated with the cultural hero Māui himself who was believed to have lived at the cliff along with his friend Moemoe, each of them indulging in their favorite pastimes (respectively, traveling and sleeping). After being awaken by a kukui nut growing from his nostrils, Moemoe swore to stop sleeping and to search for his missing friend. Northeast of Kekaʻa in the vicinity of the project area there was a road called "*ke alanui kīkeʻekeʻe a Māui*," or "the zigzag pathway of Māui" (Fornander, 1916-1917, Vol. 5:544).

Another story concerning Puʻu Kekaʻa was related by Thrum (1909) in "Tales from the Temples." A beautiful young woman known only as the "Manuʻa's wife" was badly treated by her husband, so she ran away and hid in the Halulukoakoa Heiau ("a place of worship") breaking the *kapu* ("prohibition") against women entering such structures. After she woke up, an owl-god guided her to Kekaʻa. Before finally escaping, she laid down to rest by a stone that was later called "*pōhaku o wahine o Manuʻa*," or "the stone of Manuʻa's wife" (Thrum 1909:45).

PRE-CONTACT POLITICAL HISTORY

Before the unification by the *aliʻi* Piʻilani in the late 1500s, the whole of Maui was ruled by two separate kingdoms – one centered in Hana on the windward coast and one at different times in Wailuku to the east of the project area, or in Lāhainā. Along with consolidating power on the island, Wailuku's chief Piʻilani raised Maui's political status by ruling judiciously and using his connections with the reigning chiefly families of Oʻahu and Hawaiʻi (Fornander 1916/1917, Vol. 2:87).

Piʻilani's possessions were inherited by his firstborn son Lono-a-piʻilani. According to the oral tradition, after a rift between Lono-a-piʻilani and his younger brother Kiha-a-piʻilani (born c. 1626), the latter traveled to Hawaiʻi Island, which was the kingdom of their brother-in-law Umi. Kiha convinced Umi to send an army to Maui in order to avenge him and dethrone Lono (Fornander 1916/1917, Vol. 5:178–180). The invasion was known in the oral tradition as the "expedition of numberless canoes" because, according to legend, the canoes stretched across the Maui channel from Kohala on Hawaiʻi Island, and Umi's army was able to march on them as on a bridge. According to one version, Lono was eventually captured and killed by Umi's troops in Waiheʻe, northwest of Kahului. According to Kamakau (1961:31), however, the chief died of terror before the invading army reached his residence. In any case, after the successful invasion Kiha-a-piʻilani became Maui's sole ruler. He also became famous as a builder, especially for the construction of a stone-lined path, the *Alaloa* ("main road"), or "the Kiha-a-piʻilani Trail," which for a first time connected both parts of Maui. The chief also moved the royal residence to the eastern part of the island (Kirch 2011:102).

The 18th century was marked by the rivalry between Maui and Hawaiʻi Island. At the end of his reign, the ambitious but ruthless Kekaulike (c. 1700–1736) launched an expedition from his seat at Kaupō to Hawaiʻi. Fearful of retaliation, Kekaulike withdrew to Wailuku, but developed an acute and fatal case of what Kamakau classifies as epilepsy (1961: 69, "*ka maka huki lani*," or "eyes drawn heavenward"). His heir was Kamehemeha-nui, the son of a half-sister of the Hawaiʻi Island chief Alapaʻi. With the help of his uncle, in 1738 Kamehemeha-nui defeated his older half-brother Kaʻuhi and secured his rule over Maui (Kamakau 1961: 74).

Maui enjoyed some time of relative peace and prosperity before the conflict returned with the wars between another of Kekaulike's sons named Kahekili II (c. 1737–1794) and Hawaiʻi chief Kalaniʻōpuʻu. Shortly before Cook's arrival, Kalaniʻōpuʻu's armies from Hawaiʻi Island had landed and plundered the district of Honuaʻula before moving to Maʻalaea Bay from where the chief planned to invade Wailuku (Fornander 1916/1917, Vol. 2:147-157). After losing two battles to Kahekili II, Kalaniʻōpuʻu welcomed a truce, concentrating his efforts on the eastern side of Maui, protecting Hana and Kīpahulu, which were his spoils from an earlier battle in 1759 (Fornander 1916/1917, Vol. 2:147). It was said that on the day of Kalaniʻōpuʻu's departure from Maui, his war canoes covered the sands from Kahului to the west to Pāʻia in the east (Iʻi 1959:11).

EARLY POST-CONTACT HISTORY

The Post-Contact Period in Maui begins on November 26, 1778, with British Explorer Captain James Cook's passing by the island on his way back from the extreme Northern Pacific (Daws 1974: 8; Beaglehole 1967: Part I, Vol. III). Cook's cartographer Henry Roberts created the first known map of the islands (Figure 8), though the expedition left no written records of West Maui and its coast.

At the time of Cook's visit the war between Kalani'ōpu'u and Kahekili II had not been over, and the latter was preparing for another attack (Speakman 1978:26). For a while the internal affairs on the island proceeded independently of any significant Western influence. In fact, the height of Maui's political power was reached during Kahekili II's reign in 1783, just five years after the encounter with Captain Cook (Kolb et al., 1997:3). Upon hearing of the natural death of his rival Kalani'ōpu'u, the ambitious Kahekili II started the so-called "War of Hawaiian Succession" which soon resulted in his conquest of O'ahu (Speakman 1978:48–51). After Kahekili's death at Waikīkī in 1794, his inherently unstable realm succumbed to fratricidal conflicts and the mounting pressure from Hawai'i's vigorous chief Kamehameha I (1758–1819). In the following years, the descendants of Pi'ilani and the chiefly Maui families were for the most part robbed of their possessions unless they surrendered to the conquerors (Fornander 1916/1917, Vol. 6:310).

On May 29, 1786, Jean-François de Galaup, comte de Lapérouse, became the first European in recorded history to have set foot on Maui. Unbeknownst to Lapérouse's crew, former associates of Captain Cook Nathaniel Portlock, then captain of the ship *King George*, and George Dixon, captain of *Queen Charlotte*, sailed along West Maui just a day later. Unfortunately, both expeditions add little to our knowledge of the Lāhainā coast; in addition, the map produced by Lapérouse's hydrographer Sebastian Bernizet is less accurate than the one created by Cook's team (Figure 9).

Captain George Vancouver's second visit in 1793, however, is more helpful. The early descriptions of his crew paint a picture of idyllic tranquility and cooperation among the inhabitants. Surgeon and naturalist Menzies describes a morning tour of the village of Lāhainā on March 17, 1793:

> I accompanied Captain Vancouver and a party of officers, with the two Niihau women, to see the village of Lahaina, which we found scattered along shore on a low tract of land that was neatly divided into little fields and laid out in the highest state of cultivation and improvement by being planted in the most regular manner with the different esculent roots and useful vegetable of the country, and watered at pleasure by aqueducts that ran here and there along the banks intersecting the fields.
>
> ….In short, the whole plantation was cultivated with such studious care and artful industry as to occupy our minds and attention with a constant gaze of admiration. [Menzies 1920:105, 112]

Twenty-six years later Arago, draftsman and artist on Louis de Freycinet's voyage, recorded that the well-kept areas surrounding Lāhainā extended approximately three leagues (10.36 miles) along the coast both sides of the village and about a league (3.45 miles) at their greatest length inland. These parameters include the project area whose most northernly location is about 5.27 miles from Lāhainā Harbor. Beyond that, according to Arago, the land was "dry and barren" at the time of contact with Westerners. Upon visiting the area in 1819, Arago described an orderly system of cultivated taro, bananas, breadfruit, coconut, and *wauke* (paper mulberry, *Broussonetia papyrifera*) similar to that in Menzies:

> The environs of Lahaina are like a garden. It would be difficult to find a soil more fertile, or a people who can turn it to greater advantage; little pathways sufficiently raised, and kept in excellent condition, serve as communications between the different estates. These are frequently divided by trenches, through which a fresh and limpid stream flows tranquilly, giving life to the plantations, the sole riches of the country…. Every cabin has its enclosure, and every enclosure is well taken care of; it seems to suffice for the wants of the family. [Arago 1823:119-120]

After Kamehameha II (r. 1819–1824) died in London, reigning monarch became his younger brother Kauikeaouli (under the guidance of Ka‘ahumanu), then only nine years old. During his reign, Lāhainā became the capital of the Hawaiian Kingdom and a favorite headquarters of the *ali‘i*. According to Kamakau:

> Lāhainā was in those days a popular resort for the chiefs...None of these paid any attention to the word of God but amused themselves at their gatherings with liquor drinking, dancing, gambling, sensual indulgence, and all kinds of such devilish doings. [Kamakau 1961:262]

In 1823, Keōpūolani, the sacred wife of Kamehameha I and the mother of his two royal sons, brought reverends Stewart and Richards and with their families to Lāhainā. They were given land along what was to become Front Street. With the arrival of the missionaries and the conversion of several powerful *ali‘i* such as Ka‘ahumanu and Keōpūolani to Christianity, a cultural shift was started. In the following decades the traditional way of life was changed as Lāhainā's new buildings began to reflect Western influence. The first stone dwelling in Hawaii, located on Front Street in Lāhainā and belonging to Rev. Richards, was completed in 1827. Clustered along or near Front Street besides the mission houses were several other buildings such as the Marine hospital. Dr. Baldwin constructed a medical office in conjunction to his residence on Front Street in 1834. By the late 1820s, stone houses were being built by many of the *ali‘i*.

At the same time, the environs of Lāhainā remained attractive and hospitable. In 1823, Rev. Stewart commented:

> The settlement is far more beautiful than any place we have yet seen on the Islands. The entire district, stretching nearly three miles along the sea-side, is covered with luxuriant groves, not only of the cocoanut, (the only tree we have before seen except on the tops of the mountains,) but also of the breadfruit and of the kou…[while] the banana plant, kappa, and sugar-cane, are abundant, and extend almost to the beach, on which a fine surf constantly rolls.
>
> The breadfruit trees stand almost as thickly, as those of an irregularly planted orchard, and beneath them are taro patches and fish ponds, 20 or 30 yards square, filled with stagnant water, and thickly interspersed with clumps of the tapa tree, groves of the banana, rows of the sugar cane, and bunches of the potatoe and melon. It scarce ever rains, not oftener, we are told, than a half a dozen times during the year, and the land is watered entirely by conducting the streams, which rush from the mountains, by artificial courses, on every plantation. Each farmer has a right, established by custom, to the water every fifth day. [Taylor 1928:42–43]

Whaling ships filled the anchorage in the spring and fall from the 1820s through the 1860s. Lāhainā had been providing supplies, sailors, and recreation for voyagers participating in the trans-Pacific fur or sandalwood trade since the beginning of the century, but by the 1830s the advantages of its harbor over that in Honolulu were apparent. Because Lāhainā was a roadstead, no pilot was needed to guide the ships, as was required for Honolulu, and ships could come and go as they pleased. In addition, smaller boats would travel up the canal (what is now Canal Street) and barter in the government-regulated market place. At its peak in 1846, Lāhainā received 429 whale ships, compared to the just 167 that visited Honolulu (Speakman 1978: 98).

Dr. Dwight Baldwin, a missionary doctor in the 1830s whose residence was the old Richard's house located on Front Street, recorded the main food items supplied to the ships were:

> water, hogs, goats, bananas, melons, pumpkins, onions, squashes, sweet potatoes, young turkeys, ducks, fowls and beef, all of which can be had in abundance; but the greatest article or which they come is Irish potatoes which grow plentifully in the interior of this island" [Maui Historical Society 1971:7].

The traditional subsistence economy had been quickly changing to a market economy over the first half of the 19th century, and Lāhainā was at the center of activity. The buying and selling of produce had been strictly regulated under Kamehameha I. His successors, however, quickly gave into the pressure of the lesser chiefs to share in the bounty and their desire for exotic merchandise. As a result, by the reign of Kauikeaouli (Kamehameha III, r. 1825–1854), free enterprise dominated commerce. In 1833, Ladd, Brinsmade, and Hooper established a large store and hotel in Lāhainā. In 1841, Ladd & Co. negotiated a secret contract with the king with which they were given access to “all unoccupied and unimproved lands in the kingdom” (Daws 1974:121). Due to mismanagement, however, the scheme never worked, and Ladd & Co. declared bankruptcy in 1844 (Daws 1974:122).

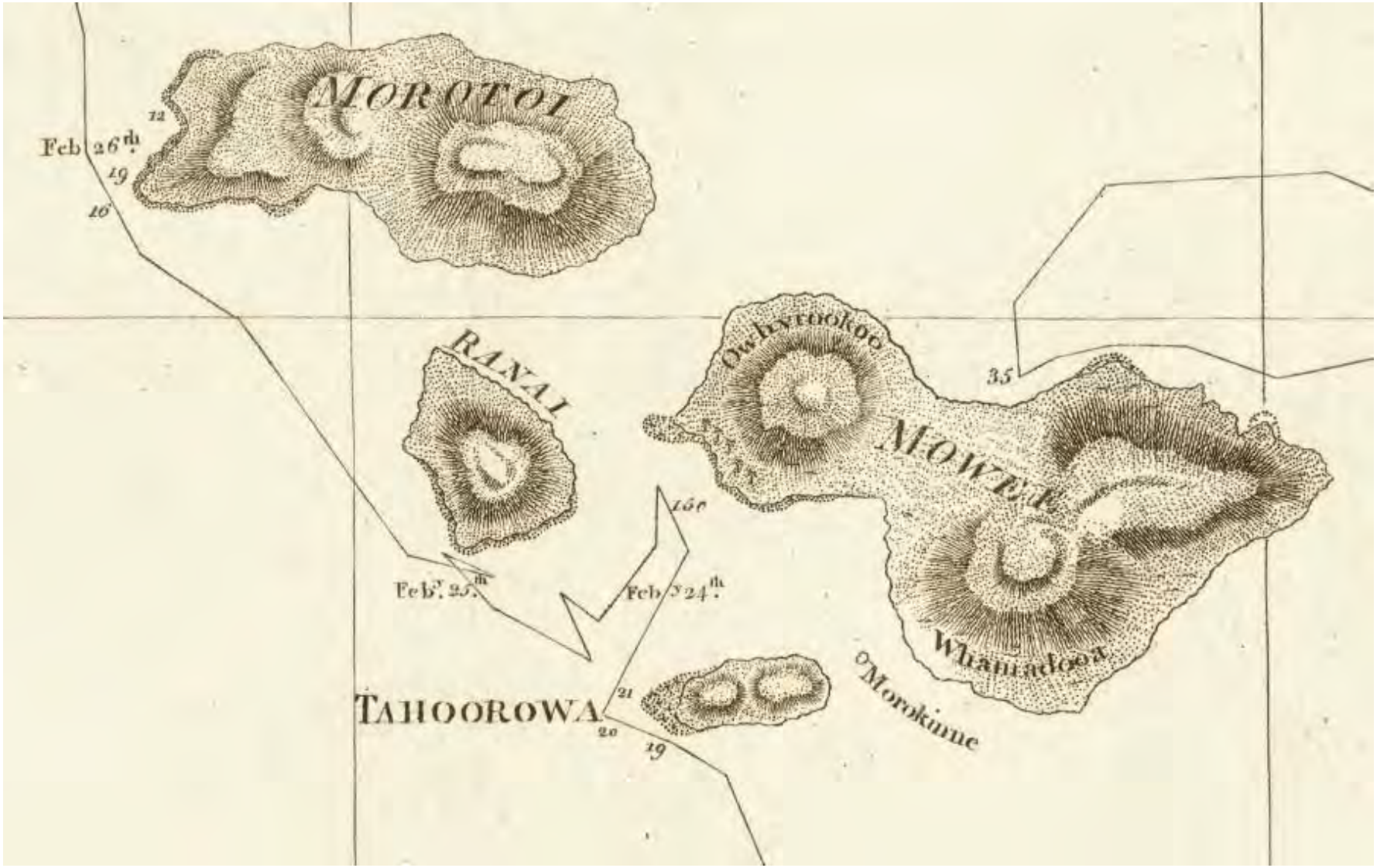

Figure 8: ***Chart of the Sandwich Islands*****, detail. Henry Roberts, 1778–1779.**

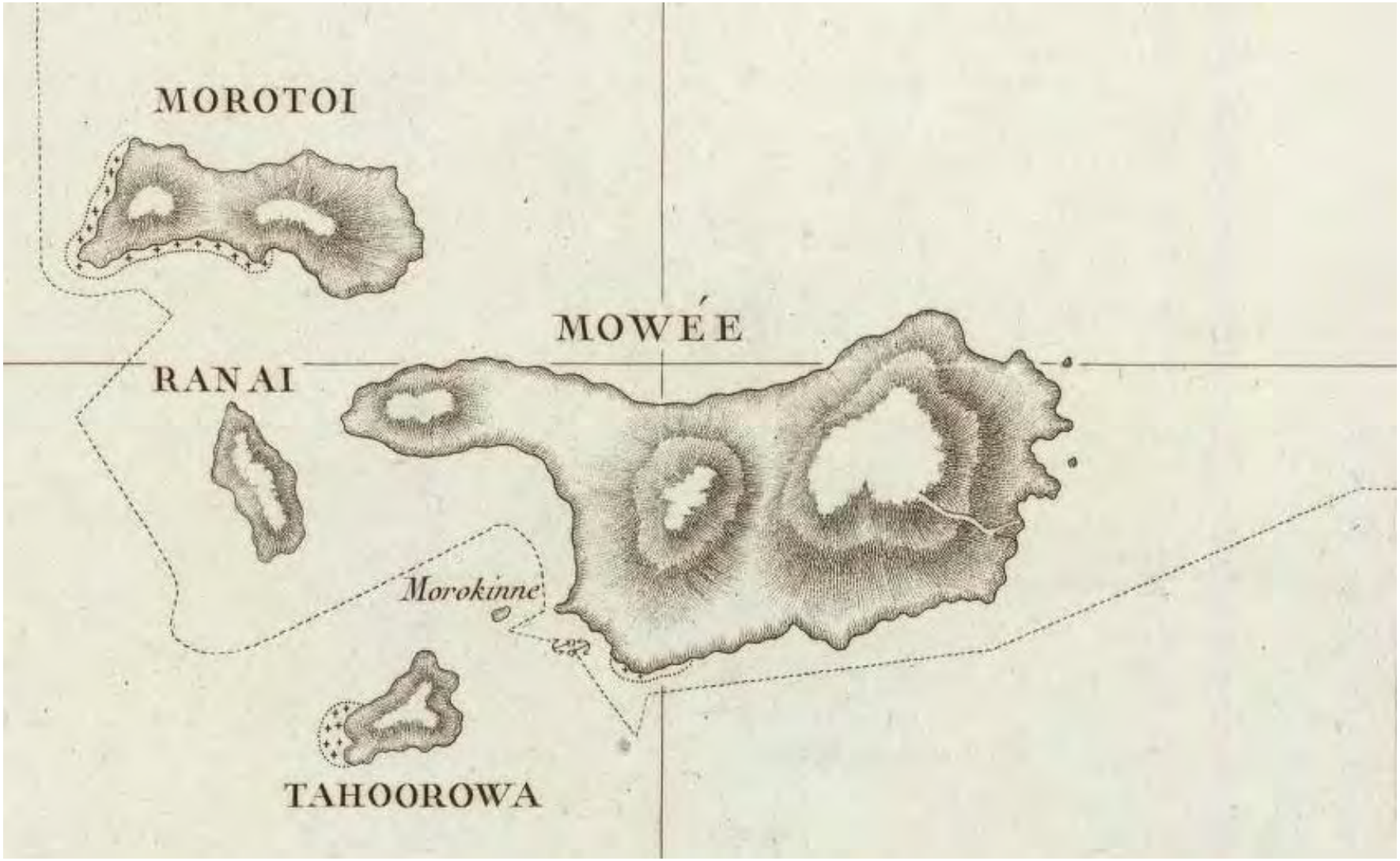

Figure 9: ***Carte des Iles Sandwich*****, detail. Sebastian Bernizet, 1786.**

THE MĀHELE

In the 1840s, traditional land tenure shifted drastically with the introduction of private land ownership based on Western legal practices. Kamehameha III put forward laws aiming to change the traditional Hawaiian subsistence-based economy to a capitalist market economy. The transition from communal land use to private ownership is commonly called the Māhele (from Hawaiian, "division"). It set the stage for consequential changes to property possession in the islands as it introduced the concept of land ownership. Although it remains a complex issue, many scholars believe that in order to protect Hawaiian sovereignty from foreign powers, Kauikeaouli proceeded to alter the traditional system of land tenure intending to keep the land in native hands. The laws, however, backfired, as they provided an opportunity for foreigners to obtain land (Kuykendall Vol. I, 1938:145 footnote 47, 152, 165–166, 170; Daws 1974:111; Kelly 1983:45; Kameʻeleihiwa 1992:169–170, 176).

As early as 1841, the legislature allowed island governors to lease lands to foreigners for up to fifty years. These leases were then to be registered "in writing so that there be no misunderstandings about terms and rents" (Daws 1974: 125). The question of land reform was set aside in 1843 because of the five-month occupation of the islands by British naval officer George Paulet, but once the kingdom was stable again and Kauikeaouli felt secure at its helm it was brought back. By 1844 many chiefs were warming up to the proposal for a formal land division, and in 1845 the Board of Commissioners to Quiet Land Titles (the Land Commission), was established for "the investigation and final ascertainment or rejection of all claims of private individuals, whether natives or foreigners, to any land property" (Chinen 1958:8).

The Māhele of 1848 divided Hawaiian lands between the king, the chiefs, and the government, and instituted private land ownership. The subsequently awarded parcels were called Land Commission Awards (LCAs). Once lands were made available and private ownership was instituted, the *makaʻāinana* (commoners) were able to claim the plots on which they had been living and which they had been cultivating through the Kuleana Act of 1850. These claims did not include any previously cultivated but presently fallow land, stream fisheries (known in Hawaiian as *okipū*), or many other resources necessary for traditional survival strategies (Kelly 1983; Kameʻeleihiwa 1992:295; Kirch and Sahlins 1992). If occupation could be established through the testimony of two witnesses, the petitioners were awarded the claimed LCA and issued a Royal Patent after which they could take legal possession of the property (Chinen 1961:16). Foreigners in Hawaii could acquire land through the Alien Landownership Act of 1850. Oftentimes, they were simply given lands by the *aliʻi*. Commoners, however, would only make claims if they had first been made aware of foreign procedures such as the awarding of *kuleana* lands (from Hawaiian, "right, privilege") and LCAs. In addition, those claiming house lots in Honolulu, Hilo, and Lāhainā were required to pay commutation to the government before obtaining a Royal Patent on their awards (Chinen 1961:16).

According to the Office of Hawaiian Affairs' Kipuka Online Database (2020), the project area overlaps to a great extent with property owned by the Department of Hawaiian Home Lands (DHHL) pursuant to §5(b) of HRS §171-18. (Figure 10). This encompasses the first segment of the project consisting in the proposed replacement of the existing 20″ recycled waterlines from the Honokōwai Reservoir to the Lahaina Wastewater Reclamation Facility (WWRF). Meanwhile, according to its website (2020) DHHL is planning to develop these parcels into the so-called Honokōwai Homestead Community. Lahaina WWRF is itself partially located on land granted with LCA No. 5002:2 and in accordance with royal patent No. 3559 to Kahanaumaikai in 1857, and partially on land granted with LCA 5005:2, patent 1684, to John White in 1854. White was the father of Hawaiian senator, Maui County sheriff and newspaper editor William Pūnohu White.

The project area follows the existing South System of the waterlines through more trust lands owned by DHHL before entering parcels awarded to William Shaw with LCA 76:1.2, patent 7661, in 1883. The entirety of the Kā‘anapali Resort R-1 Water Distribution System Expansion Project is on the sizable LCA 7715:1 granted with patent 2567 to Lot Kapuāiwa (Kamehameha V, r. 1863–1872) in 1856. The greatest landowners in the vicinity of the project area today are DHHL and Kaanapali Land Management Corp. (Figure 10).

MID 19TH CENTURY TO EARLY 20TH CENTURY

As Western influence on the islands grew, the importance of Lāhainā and its environs waned. The town had been a capital of the unified Hawaiian Kingdom once in the very beginning of the 19th century and again from 1820 to 1845 before it was permanently replaced by Honolulu. But along with the diminished importance of the town in Hawaiian politics, there came the end of the whaling era starting in the late 1850s (Speakman 1978:111). As a result, the economy of West Maui began to restructure itself. By 1847 the cultivation of coffee, for example, had expanded to favorable Maui lands (Thrum 1876:46-48), which most likely included the leeward valleys above the project area.

Sugar, however, dominated Maui's economy for nearly a century starting in the 1860s. As early as 1837, three sugar mills had been reported in Lāhainā, two of which were owned by Hawaiians. The Lahaina Sugar Mill, owned by Judge Alfred W. Parsons, began operation in 1849. In 1861, James Campbell began a sugar plantation and eventually established a mill in Lāhainā. Because of the Māhele, land was easier to obtain, and vast areas were purchased for sugar cultivation. The largest and most successful company became the established in 1859 Pioneer Mill Company, which owned 900 acres and was able to produce 2000 tons of sugar in 1884. By 1883, the company had assets in excess of $50,000,000 (Simpich 1974), and owned railroad extending from the center of Lāhainā to a point north of the town of Pu‘ukoli‘i in Hanaka‘ō‘ō (Condé 1975).

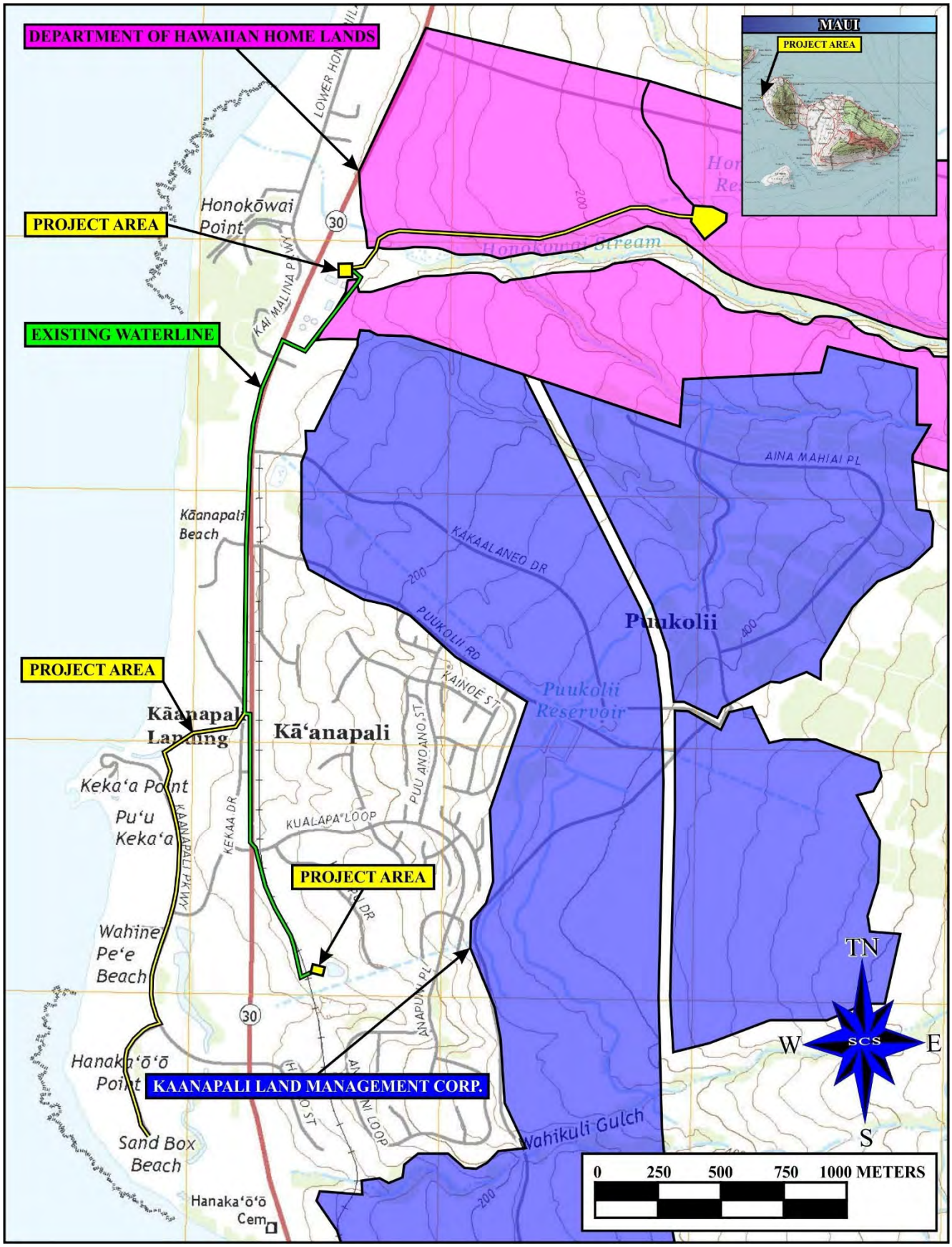

Figure 10: Largest landowners in the vicinity of the project area today.

EARLY 20TH CENTURY TO PRESENT

Pioneer Mill Co. reorganized in 1900 at a time when its cane fields were located for 10 miles along the coast with some areas extending back as far as 2.5 miles inland, inclusive of the project area. Sugar would be processed and bagged at the mill in Lāhainā and then taken by train to a landing on the north side of Puʻu Kekaʻa. In addition to the landing, the company constructed oil and molasses tanks, as well as a pavilion and some beach cottages for the use of its personnel. There was even a quarter-mile track for holiday horse racing on the tidal flats behind Hanakaʻōʻō (Clark 1989:61), at the southern end of the project area.

Pioneer Mill Company's railroad began operations in May 1882 when the Minister of the Interior of the Kingdom of Hawaii granted permission to Henry Turton, one of the originators of the Lahaina Sugar Plantation, to proceed with construction. By the following summer it was completed, running from its terminus at Honokōwai along the coast to the mill at Lāhainā (Condé 1973:252-253). In 1919, the railroad was extended to Kahana and beyond, though the service was no longer utilized by 1953. The equipment was then sold and the railway bed was leveled, cindered, and rolled into truck hauling roads, even though remnants still exist today.

The Kāʻanapali Landing was abandoned before World War II, and by 1957 the owner of Pioneer Mill Co. had plans for a multi-million-dollar resort behind the beaches on both sides of Puʻu Kekaʻa. The shift to tourism in the 1950s and 60s contributed to the decline of the plantations. The first hotel was opened in 1962, followed by the Sheraton in 1963 and Hyatt Regency in 1980 (Clark 1989:61), both of which are in the immediate vicinity of the project area and are considered potential customers to the completed West Maui Recycled Water Expansion Project.

Along with the political and economic changes, the 20th century also brought a dramatic shift in Maui's demographics. Because of rampant diseases among the native population and the resulting labor shortage, Maui's plantations, including those of Pioneer Mill Co. began importing foreign workers. Most of the Chinese came in the 19th century, followed by the majority of the Portuguese and the Japanese at the turn of the 20th century. After Japan was closed as a source of immigration to Hawaiʻi in 1907, nearly 120,000 Filipinos moved to the Territory until 1931 (Speakman 1978: 151). Finally, Caucasians began moving to the islands in greater numbers only after Hawaiʻi "began to figure prominently as a military and tourist frontier" (Speakman 1978: 161).

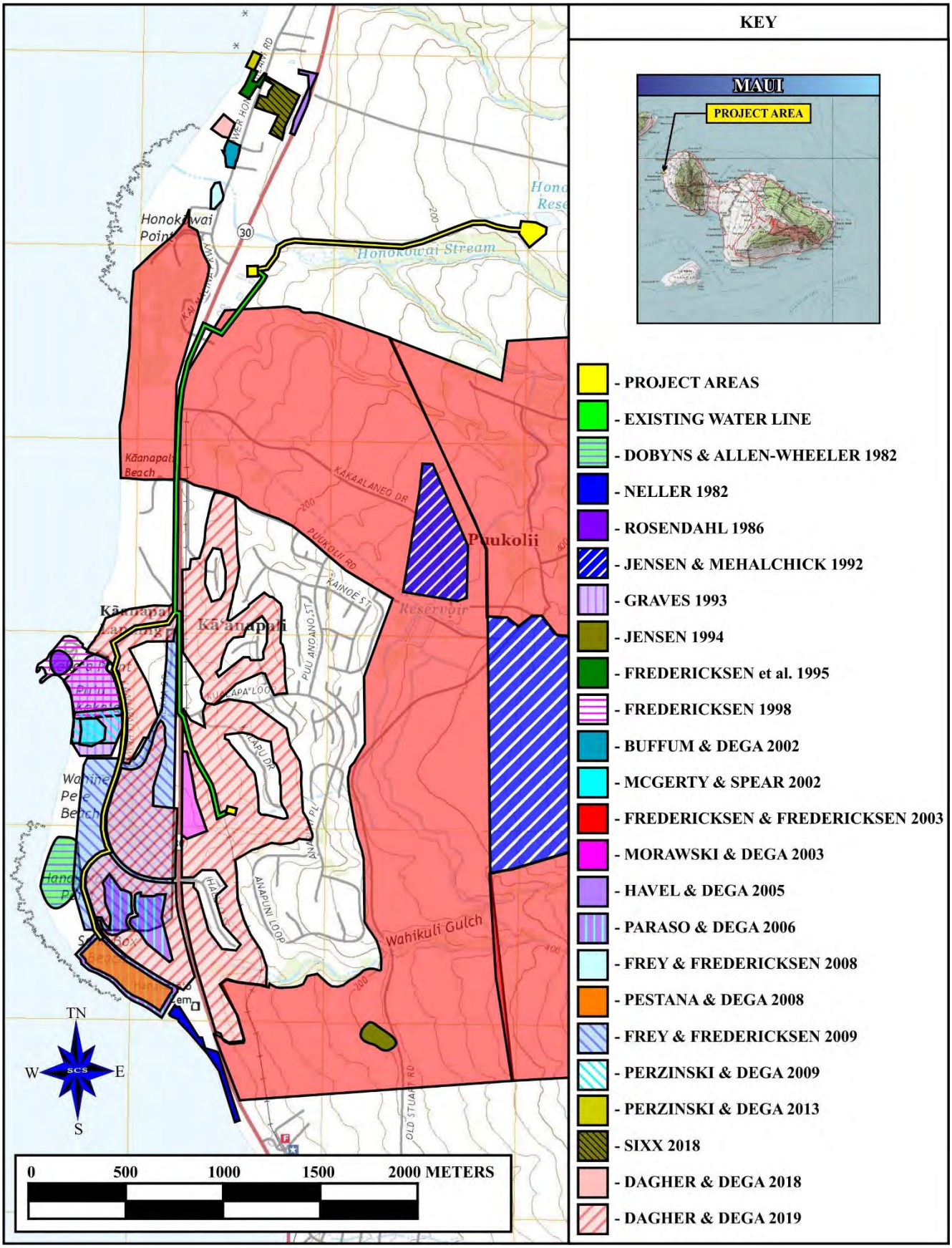

Figure 11: Map showing previous archaeology in the vicinity of the project area.

PREVIOUS ARCHAEOLOGY

A number of archaeological projects have been conducted on the project area and its vicinity. They are briefly described in this section and depicted on Figure 11. The majority of them has been completed in and around Kā‘anapali town because of the concentration of modern development close to the shoreline. Archeological findings confirm the rich historical record of West Maui briefly outlined in the previous section.

The earliest archaeological endeavors on Maui in general were undertaken by Thrum (1909) and Walker (1931) with the sponsorship of the Bishop Museum. Although these studies remain useful with their identification of a number of *heiau* and other religious features, it wasn't until the 1970s and 1980s that archaeological research in the vicinity of the project area accelerated following the rise of urbanization and resort development.

In one of the earliest archeological surveys associated with recent urbanization, Dobyns and Allen-Wheeler (1982) monitored construction work along the beachfront at the site of Kaanapali Alii Condominiums, immediately *makai* (seaward) of the project area (TMK: 4-4-08). They discovered two Pre-Contact *in situ* burials of a young male and a middle-aged female (State Site No. 50-50-03-2940), which remain in place. Additional human skeletal remains were removed by bulldozers (Dobyns and Allen-Wheeler 1982).

A reconnaissance survey of a 3.7-acre parcel corresponding with the Hanaka‘ō‘ō Beach Park was completed in 1982 (Neller 1982). Located south of the project area and previously known as "Sand Box," the park was popular before the 1950s for nighttime pole casting for *ulua* (giant trevally, *Caranx ignobilis*), *papio* (young *ulua*), *awa* (milkfish, *Chanos chanos*), and *‘ō‘io* (bonefish, *Albula Vulpes*). The survey recorded the gathering of *limu* (from Hawaiian, "seaweed") from the coast, though it failed to locate any saltpans despite local testimony for previous salt making in the area. At the time of the survey, the Beach Park was used by the Lāhainā Civic Club who had built their *hālau wa‘a* (from Hawaiian, "canoe shed") on its shores. The only sites of historic/archaeological significance identified by the survey are the Hanaka‘ō‘ō grinding stones (Site 50-03-1204), the Chinese cemetery, and the rock crusher ruins. It was recorded that there might have previously been a Pre-Contact house site in the area of the Hyatt Regency Hotel because of the identification of traditional artifacts, including a stone adze and a stone poi pounder. Neller noted:

> Most of the park area has been subject to extensive land modification activities in the past, especially wave action, sheet erosion, road construction, grading, dumping, canoe landing, grave digging, picnicking, camping, and rock crushing. Such ground-disturbing activities destroy the integrity of most archaeological sites, but they also help to make certain kinds of sites visible. [Neller 1982:1]

A reconnaissance survey conducted in 1986 on portions of the site of Sheraton Maui hotel, immediately *makai* of the project area, revealed that its vicinity had been fully developed except for the barren coastal flats and the exposed faces of Puʻu Kekaʻa (Rosendahl 1986).

Paul H. Rosendahl, Inc. (Jensen and Mehalchick 1992) conducted an archaeological inventory survey of the c. 250-acre Puʻukoliʻi Village project area, situated in the upper elevations of the *ahupuaʻa*. During the survey, one agricultural site previously identified as Pre-Contact (State Site 50-50-03-2491) was relocated and reevaluated in relation to the National Register of Historic Places significance criteria. Based on the reevaluation, the site was interpreted as Post-Contact and not significant for informational or other reasons (Jensen and Mehalchick 1992).

Not all archeological surveys in the vicinity of the project area have yielded any findings. During a subsurface inventory survey at the Sheraton Maui, Graves (1993) excavated a total of 15 backhoe trenches in three areas to test for possible cultural deposits. Stratigraphic deposits within the trenches varied from as few as five to as many as nine layers, most of which appeared to be introduced fill. No prehistoric subsurface cultural deposits were identified (Graves 1993).

An archaeological inventory survey for the Lāhainā Bypass Highway project southeast of the project area included the c. 5,500-foot-long Kāʻanapali Connector Road (Jensen 1994). The survey used both a pedestrian field methods and backhoe trenching. No significant cultural materials were identified primarily because of the extensive disturbance in the project area (Jensen 1994).

In 1995, Xamanek Researches, LLC (Fredericksen et al. 1995) conducted an archaeological inventory survey (AIS) on an approximately 2-acre shorefront parcel located north of the project area [TMK: (2) 4-4-001: 046]. The AIS consisted of a pedestrian survey and subsurface testing in the form of 19 mechanically excavated trenches and eight manual auger tests. The focus of Fredericksen et al. was the c. 500-foot shoreline area, though it yielded no findings. The results of the subsurface testing indicated that since the rnid-1900s the shoreline area of the Honokowai Beach Park has been filled to depths as great as 2 meters. In addition, the subsurface testing indicated that approximately 40 percent of the stratigraphic trenches contained intact beach sand deposits overlain by fill material (Fredericksen et al. 1995).

A subsequent monitoring project for Sheraton Maui resulted in nine finds of human remains, seven primary burials, including casket burials, and remains of grave markers that had been part of a Japanese cemetery previously located on the site (Fredericksen 1998). Oral testimonies indicated that finds of human remains were common during the initial hotel construction in the 1960s, as there had been one large Japanese cemetery south of and another on top of Puʻu Kekaʻa (Fredericksen 1998).

In 2002, SCS (Buffum and Dega 2002) conducted archaeological monitoring during ground alterations associated with the construction of a small strip mall in Honōkowai Ahupuaʻa north of the project area [TMK: (2) 4-4-001:057, 058, and 059]. No historic properties were identified (Buffum and Dega 2002).

In 2002, SCS (McGerty and Spear 2002) conducted an archaeological inventory survey at the Maui Marriott Ocean Club, located *makai* of the project area. The four backhoe trenches revealed natural pockets of sand though the layers consisted mainly of imported fill. No cultural materials were identified (McGerty and Spear 2002).

In 2002, Xamanek Researches (Fredericksen and Fredericksen 2003) conducted an archaeological inventory survey on 2,700 acres mostly in the upland areas of Honokōwai Ahupuaʻa as a part of the Kāʻanapali 2020 project. A total of 81 new sites (State Sites 50-50-030-5241 through 5321) were identified during this large-scale survey. Site types included dry land and wetland agricultural complexes, temporary and permanent habitation areas, petroglyph panels, and sites relating to the plantation era (Fredericksen and Fredericksen 2003).

In 2003, SCS (Morawski and Dega 2003) conducted an archaeological inventory survey of a 7.65-acre property at Kāʻanapali Lot 10-H, *makai* of the project area [TMK: (2) 4-4-006:056]. No historic properties were identified. The absence of subsurface cultural deposits is attributed to the extensive disturbances the parcel has undergone during development of the adjacent Kāʻanapali Golf Course and the associated utilities and infrastructure. The natural topography has been almost completely altered and fill soils have been redeposited over the parcel (Morawski and Dega 2003).

In 2005, SCS (Havel and Dega 2005), conducted an archaeological inventory survey of 0.11 acres of land in Honokōwai Ahupuaʻa north of the project area [TMK: (2) 4-4-001:106]. No historic properties were identified (Havel and Dega 2005).

In 2006, SCS (Paraso and Dega 2006) conducted an archaeological inventory survey at the Hyatt Regency Resort of Kāʻanapali [TMK: (2) 4-4-013:004, 005, 008] immediately adjacent to the project area. Eighteen backhoe trenches in three parcels were excavated, but no historic properties were identified. The researchers found evidence of a disturbed cultural layer (Paraso and Dega 2006).

In 2008, Xamanek Researches, LLC (Frey and Fredericksen 2008) conducted archaeological monitoring during roadway improvements fronting the Kaanapali Shores Condominium in Honokōwai Ahupuaʻa, north of the project area [TMK: (2) 4-4-001: 097 and 4-4-001]. The proposed improvements included installation of an approximately 200-foot-long sidewalk along the *makai* shoulder of the road, relocation of a fire hydrant, construction of a catch basin and a c. 20-foot- long drain line on the property. No historic properties were identified (Frey and Fredericksen 2008).

In 2009, Xamanek Researches (Frey and Fredericksen 2009) conducted archaeological monitoring during ground altering activities for the Kaʻanapali-Hyatt Force Main Replacement Project, located at the Kāʻanapali Resort Complex, Honokowai Ahupuaʻa [TMK: (2) 4-4-008: portions of 010, 016 and 023 and TMK: (2) 4-4-013: portions of 003, 004 and 005]. The monitoring identified several disarticulated human skeletal remains in the backdirt matrices located on TMK: (2) 4-4-013: 004. State Site 50-50-03-6663 consisted of the lower half of an adult human radius (left) and a probable adult human tibia, which were interpreted as Native Hawaiian. State Site 50-50-03-6664 consisted of two cranial fragments (Frey and Fredericksen 2009).

In 2009, SCS (Perzinski and Dega 2009) conducted archaeological monitoring at the Maui Marriot Vacation Club and documented two archaeological sites (SIHP No. 50-50-04-6279 Features A-E; and 50-50-04-6586 Features A and B). The two sites are comprised of a total of seven human burials as well as numerous isolated skeletal remains (SIHP No. 50-50-04-6279A) encountered in the northern (-6279) and southwestern (-6586) portion of the project area. The *in situ* burials were found in disturbed Jaucas sand deposits and in areas where most likely modern mechanical mixing had taken place during construction (Perzinski and Dega 2009).

In 2013, SCS (Perzinski and Dega 2013) conducted an archaeological inventory survey for a seawall/revetment at 3691 Lower Honoapiʻilani Highway in Honokōwai Ahupuaʻa north of the project area [TMK (2) 4-4-001:042]. The AIS was conducted in an effort to provide a brief description of the condition of the existing seawall/revetment and provide information regarding its historic preservation significance. No archeologically significant properties were identified (Perzinski and Dega 2013).

In 2018, Sixth Sense Archaeological Consultants LLC (Sixx 2018) conducted an archaeological inventory survey of TMK: (2) 4-4-001:029 and 034 (por.), located in Honokōwai Ahupuaʻa north of the project area. No historic properties were identified (Sixx 2018).

Also in 2018, SCS (Dagher and Dega 2018) conducted archeological monitoring associated with proposed repairs to 275-feet long a sea wall of a 1.61-acre property north of the project area [TMK: (2) 4-4-001:053]. No historic or other archeologically significant features have been identified (Dagher and Dega 2018).

Finally, in a recent literature review, SCS (Dagher and Dega 2019) researched the entirety of the approximately 304-acre Kāʻanapali Golf Course, partially overlapping with the project area.

RESULTS OF THE FIELD INSPECTION

The environment along the first stage of development in the project area from Honokōwai Reservoir to the Lahaina WWRF is heavily disturbed because of its previous use for pineapple cultivation. Vegetation in the area is dominated by dry cane grass and other assorted weeds, though there is a large amount of abandoned or leftover agriculture materials. In addition, a few homeless camps were observed as well as the associated trash which often comes along with such encampments.

The proposed 24" utility line corridor follows the northern edge of Honokōwai Gulch (Figure 12). The corridor itself is very roughly graded and barely accessible even by a four-wheel vehicle; it does not appear to be maintained, although it is probably often used by dirt bikers. The reservoir, while being close to empty, does appear to be in working order and be usable if additional maintenance or repairs are conducted.

The proposed corridor of the Kāʻanapali Resort R-1 Water Distribution System Expansion Project starting at Honoapiʻilani Highway consists of a heavily built and urbanized environment utilized by the hotel industry and the Kāʻanapali Golf Courses. The corridor passes to the north of the El Dorado resort and heads *makai* through the golf course before tying into an existing pump station adjacent to the Sheraton Resort. The line then follows Kāʻanapali Parkway, proceeds south where it passes the Marriott Resort, and finally ties into Hanakaoʻo Beach Park.

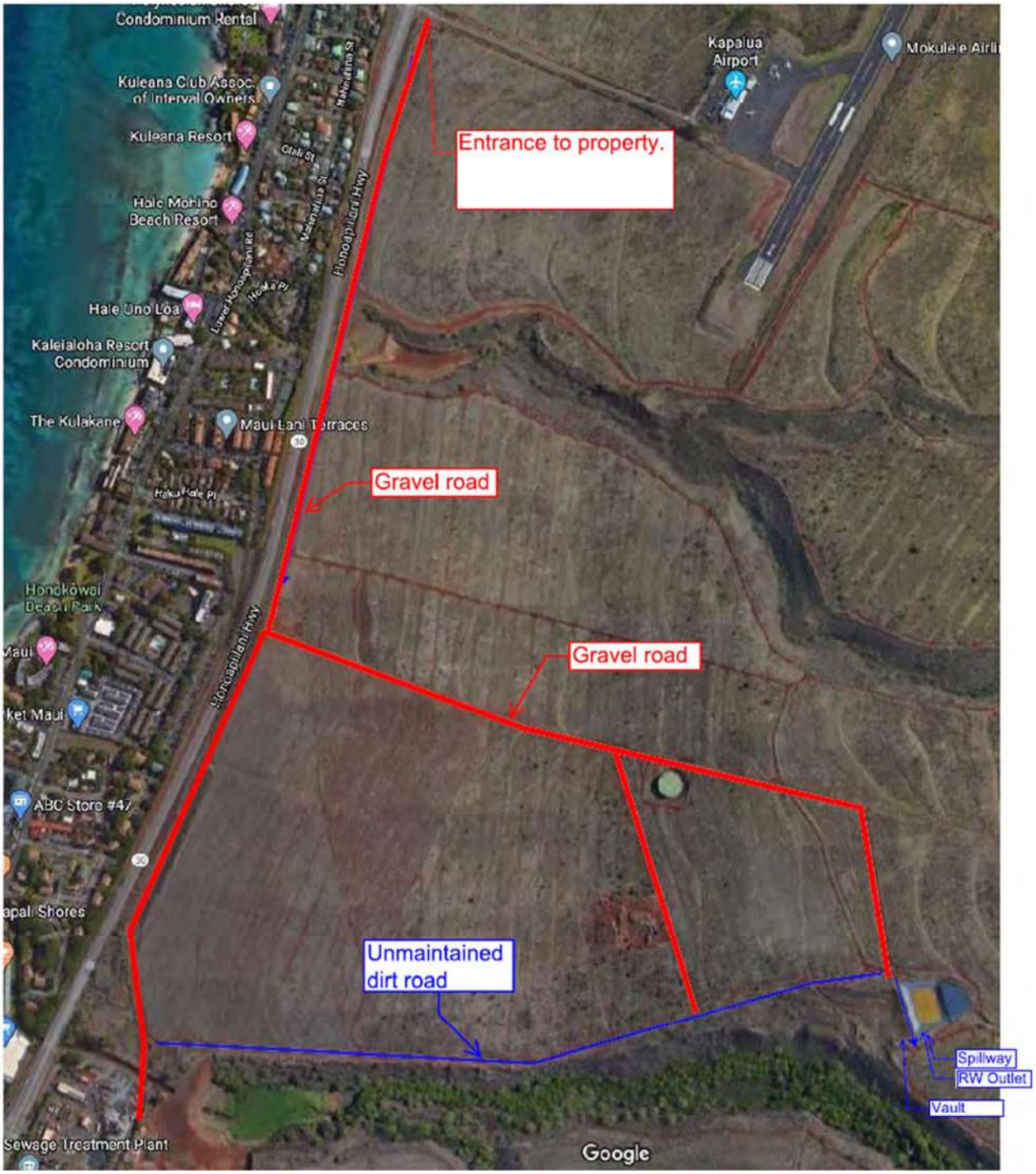

Figure 12: Access roads to the northern portion of the project area from Honokōwai Reservoir to the Lahaina WWRF. Image courtesy of Fukunaga & Associates, Inc.

Figure 13: Current pump site from where the waterlines will lead to the *maikai* reservoir at Lahaina WWRF.

Figure 14: View from the proposed utility corridor over current waterlines.

Figure 15: *Mauka* (mountainward) view of the proposed utility corridor.

Figure 16: *Makai* (seaward) view of the proposed utility corridor.

Figure 17: View of the existing reservoir.

Figure 18: *Makai* view over the project area toward Lahaina WWRF.

Figure 19: *Mauka* view of the proposed utility corridor through Kā‘anapali Golf Course.

Figure 20: Existing pump station and proposed utility route.

Figure 21: Proposed utility corridor along Kaanapali Parkway from the north end at Sheraton Hotel to the south end at Marriott.

Figure 22: Proposed utility corridor along Kaanapali Parkway from the north end at Sheraton Hotel to the south end at Marriott.

Figure 23: Proposed utility corridor along Kaanapali Parkway from the north end at Sheraton Hotel to the south end at Marriott.

Figure 24: Proposed utility corridor along Kaanapali Parkway from the north end at Sheraton Hotel to the south end at Marriott.

Figure 25: Proposed utility corridor along Kaanapali Parkway from the north end at Sheraton Hotel to the south end at Marriott.

Figure 26: Proposed utility corridor along Kaanapali Parkway from the north end at Sheraton Hotel to the south end at Marriott.

DISCUSSION AND CONCLUSION

At the request of Fukunaga & Associates, Inc., Scientific Consultant Services, Inc. (SCS) has conducted this literature review and field inspection for the West Maui Recycled Water Expansion Project proposed by the County of Maui Department of Environmental Management, Wastewater Reclamation Division (DEM-WWRD). This report is not intended to meet HAR§13-276 requirements for an archaeological inventory survey, but to identify potential cultural resources in the project area and its vicinity, as well as to provide in brief its cultural history.

The field inspection was conducted of the entire parcel via pedestrian survey. No historic properties were identified. The entirety of the project area is a previously utilized environment, with agricultural lands to the north and urbanized development related to tourism to the south. The northern stretch of the project area from the Honokōwai Reservoir to the Lahaina Wastewater Reclamation Facility is located on former agricultural lands associated with the cultivation of pineapple. No sensitive areas that may require further investigation or mitigation before the project proceeds were identified.

SCS recommends a determination of "no historic properties affected" pursuant to Hawaii Revised Statutes Chapter 6E-42 and Hawaii Administrative Rules Chapter 13-284 should there be permitting activities required at the local level for this work, and recommends a determination of "No Historic Properties Affected" pursuant to Section 106 of the National Historic Preservation Act. No further work is recommended for this project area.

Nonetheless, because of the corridor's location and the known historic properties on neighboring parcels, it is highly recommended that archeological monitoring take place during the building phase of the project (Figures 13 through 26).

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APPENDIX A: PROJECT OVERVIEW

1.1 Proposed Action

The West Maui Recycled Water Expansion Project is proposed by the County of Maui (COM), Department of Environmental Management, Wastewater Reclamation Division (DEM-WWRD). The proposed project includes work as described below and shown on **Figure 1**:

- Renovate the Honokowai Reservoir (TMK (2)4-4-002:019). The reservoir and property are presently owned by the Maui Land and Pineapple Company (MLP). The DEM-WWRD is negotiating with MLP to acquire the reservoir and property. The water in the reservoir was used by MLP for irrigation, and an existing recycled waterline connection supplied recycled water from the Lahaina Wastewater Reclamation Facility (WWRF)to the reservoir.

  Improvements to the reservoir will include earthwork to fortify and improve the reservoir and dam as necessary, replacement of the existing reservoir lining, addition of a geosynthetic floating cover over the reservoir, and upgrade of the reservoir appurtenances (including but not limited to the inlet and outlet piping).

  The earthwork modifications are anticipated to maintain or more likely decrease the existing reservoir capacity. The reservoir capacity will not be increased. The reservoir improvements will enhance the reservoir's function as elevated storage of recycled water for irrigation.

- Replace the existing 20-inch recycled waterline (RW) from the Lahaina WWRF to Honokowai Reservoir with a 24-inch RW. The new 24-inch RW will be aligned roughly parallel to the existing 20-inch RW and traverse through TMKs (2)4-4-001:108, (2)4-4-003:001, (2)4-4-001:015, and (2)4-4-002:018. These parcels are owned by Kaanapali Development Corporation, Pioneer Mill Company, LLC, and the Department of Hawaiian Home Lands (DHHL), respectively. The approximate alignment is shown on **Figure 1**.

- Replace the existing reuse water pump station located at the Lahaina Wastewater Reclamation Facility (WWRF) (TMKs (2)4-4-001:104 and (2)4-4-002:029). Improvements will include installation of new pumps and pump discharge piping to replace the existing reuse pump station and electrical system improvements to support the new pumps. Other improvements for the West Maui Recycled Water Expansion project at the Lahaina WWRF will include construction of a new covered recycled water storage basin and improvements to the interconnection of the recycled water transmission system.

- Provide a control valve on the existing 16-inch RW at the Kaanapali Golf Course (TMK (2)4-4-006:010) in an existing vault.

Figure 1 also shows a conceptual alignment for a future 16-inch RW which would extend the recycled water distribution system into the Kaanapali Resort area. This future RW is proposed by COM, DEM-WWRD as part of the Kaanapali Resort R-1 Water Distribution System Expansion Project. The conceptual alignment would connect to the existing RW in Honoapiilani Highway, and continue through the Kaanapali Golf Course (TMK (2)4-4-008:009, 014), along Kaanapali Parkway (TMK (2)4-4-008:011) and Nohea Kai Drive (TMK (2)4-4-013:011), terminating at the Hyatt Regency Resort (TMK (2)4-4-013:013).

All improvements will comply with the Reuse Guidelines of the State of Hawaii Department of Health (DOH) Wastewater Branch, which was updated in January 2016. The Reuse Guidelines documents requirements for facilities that produce and purvey recycled water and requirements for sites that use recycled water, all of which are regulated by DOH.

1.2 Purpose of the Project

The County of Maui has been at the forefront of water reuse in the State of Hawaii and has been proactively developing its reuse programs since the early 1990's. In 1996, Chapter 20.30 – Use of Reclaimed Water, was adopted into the Maui County Code of Ordinances. The provisions contained in Chapter 20.30 were developed to "conserve the limited water resources in the County of Maui, encourage the use of reclaimed water and reduce the reliance on injection wells for the disposal of wastewater effluent." This ordinance mandates the use of recycled water for irrigation by commercial properties where there is a recycled water distribution main contiguous to or within one hundred feet of the consumer's property line. Today, the County continues its commitment to increasing recycled water use and is working towards achieving 100 percent reuse.

The purpose of this project is to upgrade the West Maui Recycled Water System. DEM-WWRD operates the West Maui Recycled Water System and the Lahaina WWRF. The Lahaina WWRF treats all wastewater to R-1 quality, which is the highest grade of non-potable recycled water. R-1 quality recycled water is a valuable resource that is suitable for many uses, including irrigation. As illustrated in **Figure 1**, the existing West Maui Recycled Water System consists of two separate recycled water distribution systems: the Mauka System and the South System.

The Mauka System currently consists of two pumps at the Lahaina WWRF reuse pump station and an existing 20-inch RW that connects to two existing reservoirs: the Honokowai Reservoir at 300-foot elevation and a COM reservoir at 725-foot elevation. There is presently no demand for irrigation water from the Mauka System since MLP has ceased agricultural operations in the area and no longer requires recycled water, and the COM reservoir is no longer in regular operation. The condition of the existing 20-inch RW is not known but is assumed to be poor due to its age and lack of use and maintenance.

The South System currently consists of two pumps at the Lahaina WWRF reuse pump station and an existing 16-inch RW that terminates at a Kaanapali Golf Course reservoir. The South System delivers up to about 1.8 million gallons per day (mgd) to Honua Kai Resort, Kaanapali Golf Course, Hyatt Regency, and Hyatt Residence Club and is pressurized only while the Lahaina WWRF reuse pumps are operating. Therefore, users along the existing distribution system are restricted to taking recycled water only while the Lahaina WWRF reuse pumps are running.

The improvements described in Section 1.1 will interconnect the Mauka and South systems and will result in a more robust distribution system that will be pressurized continually. The elevation head of the Honokowai Reservoir will provide the system with a constant, stable distribution pressure, allowing the recycled water system to function similarly to a potable water distribution system, where users will be able to be supplied with a reliable recycled water supply. The reservoir will also provide necessary storage so that recycled water, which is predominantly generated during the day when wastewater flow into Lahaina WWRF is high, can be stored until when there is user demand, which is typically at night. Providing a cover over the top of the reservoir will help preserve the R-1 quality delivered from the Lahaina WWRF to the service connections. The new reuse pumps will be

selected to operate efficiently with the upgraded distribution system, and replacing the existing 20-inch RW with a new 24-inch RW will provide better reliability. In the future, if DEM-WWRD chooses to rehabilitate the existing 20-inch RW, the new 24-inch RW could be used as a transmission main from the Lahaina WWRF to the Honokowai Reservoir and the rehabilitated RW could be used as the distribution main from the reservoir to the users. Dedicating separate lines into and out of the reservoir will allow for more predictable and stable system hydraulics.

The proposed improvements will facilitate additional users connecting to the system. Potential users are shown on **Figure 1**. Potential users located along the existing 16-inch RW are shown in yellow. Additional users that could be served with expansion of the distribution system are shown in orange.

Overall, the proposed improvements will help to decrease demand on potable water resources and decrease the use of injection wells for effluent disposal from the Lahaina WWRF.

APPENDIX B:

Consulted Parties – Letters Received and Responses

DAVID Y. IGE
GOVERNOR

CURT T. OTAGURO
COMPTROLLER

AUDREY HIDANO
DEPUTY COMPTROLLER

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

(P)20.166

OCT 13 2020

Ms. Amanda Tanaka. P.E.
Fukunaga and Associates, Inc.
1357 Kapiolani Boulevard, Suite 1530
Honolulu, Hawaii 96814

Dear Ms. Tanaka:

Subject: Early Consultation Request
West Maui Recycled Water Expansion Project and
Kaanapali Resort R-1 Water Distribution Expansion Project

Thank you for the opportunity to provide comments on your early consultation for the subject project. We have no comments to offer at this time, as the subject project does not appear to directly impact any of the Department of Accounting and General Services' managed facilities or properties.

If you have any questions, your staff may call Ms. Gayle Takasaki of the Planning Branch at 586-0584.

Sincerely,

CHRISTINE L. KINIMAKA
Public Works Administrator

GT:mo
c: Wade Shimabukuro, DAGS Maui District Office

RECEIVED
OCT 15 2020

USDA
United States Department of Agriculture

Natural Resources
Conservation Service

Pacific Islands Area
Kahului Field Office

77 Hookele St., # 202
Kahului, HI 96732

Voice
808-871-5500 ext. 3
Fax
855-878-2454

October 15, 2020

Ms. Amanda Tanaka
Fukunaga & Associates, INC.
1357 Kapiolani Blvd. Ste. 1530
Honolulu, HI 96814

Subject: Request for Early Consultation for the Proposed West Maui Recycled Water Expansion Project and Kaanapali Resort R-1 Water Distribution System Expansion Project

Dear Ms. Tanaka:

Portions of this project area are located within the County's Special Management Area (SMA), please ensure the proper permits are obtained from the appropriate planning commission before work begins.

The following must be considered:

1. Erosion Control Practices
   a. disturb the smallest area of land possible for the shortest period
   b. stabilize disturbed soils to prevent erosion from occurring
2. Schedule clearing and grading during the time of minimum erosion potential. (May 1 through October 31.)
3. Stage construction- plan and stage land disturbance activities so that only the area currently under construction is exposed, this will reduce sediments loads
4. Clear only areas essential for construction activities. Revegetate as soon as possible utilizing native plants for water savings.
5. Intercept runoff above disturbed slopes and convey to a permanent storm drain.
6. Operations and maintenance plan for the Kahului Lani Project.

Sincerely,

Gerald Gregory
District Conservationist

FUKUNAGA & ASSOCIATES, INC.
CONSULTING ENGINEERS
CELEBRATING 50 YEARS OF SERVICE

February 5, 2021

Mr. Gerald Gregory, District Conservationist
U.S. Department of Agriculture
Natural Resources Conservation Service, Pacific Islands Area Kahului Field Office
77 Hookele Street, #202
Kahului, HI 96732

SUBJECT: Early Consultation Request
West Maui Recycled Water Expansion Project and
Kaanapali Resort R-1 Water Distribution System Expansion Project

Dear Mr. Gregory:

Thank you for your letter dated October 15, 2020 providing early consultation comments on the subject project. We offer the following in response to the comments.

1. The Kaanapali Resort R-1 Water Distribution System Expansion project is within the Special Management Area (SMA), and the scope is to construct an underground recycled waterline. Installation of underground utility lines is generally not considered "development" per HRS Chapter 205A-22 and typically does not require a SMA permit. The County of Maui Planning Department will be consulted as details of the alignment are developed to confirm if a SMA permit will be required.

2. Appropriate erosion control practices are critical for protecting the environment. Best management practices will be implemented to the maximum extent practicable, and the practices recommended in your letter will be considered in the preparation of the construction documents.

We appreciate the input provided by your office and will transmit a copy of the Draft EA when published for review and comment. Should you have any questions, please feel free to contact me at (808) 944-1821.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Amanda Tanaka, P.E.

cc: Albert Hahn, County of Maui, DEM-WWRD

1357 Kapiolani Blvd., Ste. 1530
Honolulu, Hawaii 96814
Ph: 808.944.1821
Fax: 808.946.9339
fukunagaengineers.com
office@fukunagaengineers.com

MICHAEL P. VICTORINO
Mayor

KARLA H. PETERS
Director

MARY A. KIELTY
Deputy Director

DEPARTMENT OF PARKS AND RECREATION

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

October 16, 2020

Ms. Amanda Tanaka, P.E.
Fukunaga & Associates, Inc.
1357 Kapiolani Blvd., Ste. 1530
Honolulu, Hawaii 96814

Dear Ms. Tanaka:

SUBJECT: EARLY CONSULTATION REQUEST, WEST MAUI RECYCLED WATER EXPANSION PROJECT AND KAANAPALI RESORT R-1 WATER DISTRIBUTION SYSTEM EXPANSION PROJECT

Thank you for the opportunity to comment on the subject project. The Department of Parks and Recreation certainly supports the reuse of our valuable resources such as R-1 water. We have no further comments at this time.

Should you have any questions or concerns, please feel free to contact me or Sam Marvel, Acting Chief of Planning and Development, at (808) 270-6173.

Sincerely,

KARLA H. PETERS
Director of Parks and Recreation

c: Mary A. Kielty, Deputy Director
Sam Marvel, Acting Chief of Planning and Development

KHP:SM:kb

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

TIVOLI S. FAAUMU
CHIEF OF POLICE

DEAN M. RICKARD
DEPUTY CHIEF OF POLICE

October 16, 2020

Ms. Amanda Tanaka, P.E.
Fukunaga & Associates, Inc.
1357 Kapiolani Boulevard, Suite 1530
Honolulu, Hawaii 96814

Re: Early Consultation Request
West Maui Recycled Water Expansion Project and
Kaanapali Resort R-1 Water Distribution System Expansion Project

Dear Ms. Tanaka:

This is in response to your letter dated October 6, 2020 requesting comments on the preparation of a Draft Environmental Assessment for the proposed West Maui Recycled Water Expansion project and the proposed Kaanapali Resort R-1 Water Distribution System Expansion project.

In review of the submitted documents, we would like to recommend the project meets the minimal standards set forth by county codes and state laws. In the event improvements reach public roadways and roads will be temporarily closed due to alternating traffic, we ask the project manager utilize flag men to conduct traffic control, as well as post proper signage along the routes during construction.

Thank you for giving us the opportunity to comment on this project.

Sincerely,

AC Jakubczak

Assistant Chief John Jakubczak
for: TIVOLI S. FAAUMU
Chief of Police

FUKUNAGA & ASSOCIATES, INC.
CONSULTING ENGINEERS
CELEBRATING 50 YEARS OF SERVICE

February 5, 2021

Mr. Tivoli Faaumu, Chief of Police
County of Maui
Police Department
55 Mahalani Street
Wailuku, Hawaii 96793

SUBJECT: Early Consultation Request
West Maui Recycled Water Expansion Project and
Kaanapali Resort R-1 Water Distribution System Expansion Project

Dear Mr. Faaumu:

Thank you for your letter dated October 16, 2020 providing early consultation comments on the subject project. The project shall meet the standards set forth by county codes and state laws. Traffic control measures will be implemented to minimize traffic impacts.

We appreciate the input provided by your office and will transmit a copy of the Draft EA when published for review and comment. Should you have any questions, please feel free to contact me at (808) 944-1821.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Amanda Tanaka, P.E.

cc: Albert Hahn, County of Maui, DEM-WWRD

1357 Kapiolani Blvd., Ste. 1530
Honolulu, Hawaii 96814
Ph: 808.944.1821
Fax: 808.946.9339
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office@fukunagaengineers.com

MICHAEL P. VICTORINO
Mayor

DAVID C. THYNE
Fire Chief

BRADFORD K. VENTURA
Deputy Fire Chief

DEPARTMENT OF FIRE & PUBLIC SAFETY
FIRE PREVENTION BUREAU
COUNTY OF MAUI
313 MANEA PLACE
WAILUKU, HI 96793

October 20, 2020

Fukunaga & Associates, Inc.
Attn: Amanda Tanaka P.E.
1357 Kapiolani Blvd. Ste. 1530
Honolulu, Hawaii 96814

SUBJECT: Early Consultation Request for the Draft Environmental Assessment
West Maui Recycled Water Expansion Project and
Kaanapali Resort R-1 Water Distribution System Expansion Project

Dear Amanda,

Thank you for allowing our office to provide comment on the subject proposed project. As per your request, comments are provided below:

- At this time, there are no comments in regards to the proposed Early Consultation Request for the Draft Environmental Assessment, West Maui Recycled Water Expansion Project and Kaanapali Resort R-1 Water Distribution System Expansion Project.

- Our office does reserve the right to comment on the proposed project during the building permit review process should detailed plans for this project be routed to our office for review. At that time, fire department access, water supply for fire protection, and fire and life safety requirements will be addressed.

If there are any questions or comments, please feel free to contact me at (808) 876-4693 or by email at paul.haake@mauicounty.gov.

Sincerely,

Paul Haake

Paul Haake
Captain - Fire Prevention Bureau

Water Resources Research Center

UNIVERSITY of HAWAI'I® MĀNOA

October 20, 2020

To Whom It May Concern,

This is to acknowledge receipt of your letter requesting a review of an environmental assessment (EA) or environmental impact statement (EIS). The Environmental Center at the University of Hawai'i at Mānoa, which for a time was linked to the Water Resources Research Center (WRRC), has been discontinued. As a result of the closure of the Environmental Center, we regret that WRRC no longer has the capacity to review environmental documents.

Sincerely,

Thomas Giambelluca
Director

Attachment

2540 Dole Street, Holmes Hall 283
Honolulu, Hawai'i 96822
Telephone: (808) 956-7847
Fax: (808) 956-5044

FUKUNAGA & ASSOCIATES, INC.
CONSULTING ENGINEERS

October 6, 2020

Dr. Thomas Giambelluca, Director
University of Hawaii, Water Resource Research Center
2540 Dole Street, Holmes Hall 283
Honolulu, Hawaii 96822

SUBJECT: Early Consultation Request
West Maui Recycled Water Expansion Project and
Kaanapali Resort R-1 Water Distribution System Expansion Project

Dear Dr. Giambelluca:

On behalf of the County of Maui (COM), Department of Environmental Management, Wastewater Reclamation Division (DEM-WWRD), we are in the early consultation and data gathering process in preparation of the Draft Environmental Assessment (EA) for the proposed West Maui Recycled Water Expansion Project and the proposed Kaanapali Resort R-1 Water Distribution System Expansion Project. We respectfully request your review of the following project information and provision of any comments and information that may be pertinent to the preparation of the Draft EA for the subject project.

The proposed West Maui Recycled Water Expansion project includes work as described below and shown on the attached figure:

- Renovate the Honokowai Reservoir (TMK (2)4-4-002:019). The reservoir and property are presently owned by the Maui Land and Pineapple Company (MLP). The DEM-WWRD is negotiating with MLP to acquire the reservoir and property. The water in the reservoir was used by MLP for irrigation, and an existing recycled waterline connection supplied recycled water from the Lahaina Wastewater Reclamation Facility (WWRF) to the reservoir.

  Improvements to the reservoir will include earthwork to fortify and improve the reservoir and dam as necessary, replacement of the existing reservoir lining, addition of a geosynthetic floating cover over the reservoir, and upgrade of the reservoir appurtenances (including but not limited to the inlet and outlet piping).

  The earthwork modifications are anticipated to maintain or more likely decrease the existing reservoir capacity. The reservoir capacity will not be increased. The reservoir improvements will enhance the reservoir's function as elevated storage of recycled water for irrigation.

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office@fukunagaengineers.com

- Replace the existing 20-inch recycled waterline (RW) from the Lahaina WWRF to Honokowai Reservoir with a 24-inch RW. The new 24-inch RW will be aligned roughly parallel to the existing 20-inch RW and traverse through TMKs (2)4-4-001:108, (2)4-4-003:001, (2)4-4-001:015, and (2)4-4-002:018. These parcels are owned by Kaanapali Development Corporation, Pioneer Mill Company, LLC, and the Department of Hawaiian Home Lands (DHHL), respectively. The approximate alignment is shown on the attached figure.

- Replace the existing reuse pump station located at the Lahaina WWRF (TMKs (2)4-4-001:104 and (2)4-4-002:029). Improvements will include installation of new pumps and pump discharge piping to replace the existing reuse pump station and electrical system improvements to support the new pumps. Other improvements for the West Maui Recycled Water Expansion project at the Lahaina WWRF will include construction of a new covered recycled water storage basin and improvements to the interconnection of the recycled water transmission system.

- Provide a control valve on the existing 16-inch RW at the Kaanapali Golf Course (TMK (2)4-4-006:010) in an existing vault.

The attached figure also shows a conceptual alignment for a future 16-inch RW which would extend the recycled water distribution system into the Kaanapali Resort area. This future RW is proposed by COM, DEM-WWRD as part of the Kaanapali Resort R-1 Water Distribution System Expansion Project. The conceptual alignment would connect to the existing RW in Honoapiilani Highway, and continue through the Kaanapali Golf Course (TMK (2)4-4-008:009, 014), along Kaanapali Parkway (TMK (2)4-4-008:011) and Nohea Kai Drive (TMK (2)4-4-013:011), terminating at the Hyatt Regency Resort (TMK (2)4-4-013:013).

All improvements will comply with the Reuse Guidelines of the State of Hawaii Department of Health (DOH) Wastewater Branch, which was updated in January 2016. The Reuse Guidelines documents requirements for facilities that produce and purvey recycled water and requirements for sites that use recycled water, all of which are regulated by DOH.

The purpose of this project is to upgrade the West Maui Recycled Water System. DEM-WWRD operates the West Maui Recycled Water System and the Lahaina WWRF. The Lahaina WWRF treats all wastewater to R-1 quality, which is the highest grade of non-potable recycled water. R-1 quality recycled water is a valuable resource that is suitable for many uses, including irrigation. As illustrated on the attached figure, the existing West Maui Recycled Water System consists of two separate recycled water distribution systems: the Mauka System and the South System.

The Mauka System currently consists of two pumps at the Lahaina WWRF reuse pump station and an existing 20-inch RW that connects to two existing reservoirs: the Honokowai Reservoir at 300-foot elevation and a COM reservoir at 725-foot elevation. There is presently no demand for irrigation water from the Mauka System since MLP has ceased agricultural operations in the area and no longer requires recycled water, and the COM reservoir is no longer in regular operation. The condition of the existing 20-inch RW is not known but is assumed to be poor due to its age and lack of use and maintenance.

The South System currently consists of two pumps at the Lahaina WWRF reuse pump station and an existing 16-inch RW that terminates at a Kaanapali Golf Course reservoir. The South System delivers up to about 1.8 million gallons per day (mgd) to Honua Kai Resort, Kaanapali Golf Course, Hyatt Regency, and Hyatt Residence Club and is pressurized only while the Lahaina WWRF reuse pumps are operating. Therefore, users along the existing distribution system are restricted to taking recycled water only while the Lahaina WWRF reuse pumps are running.

The improvements described above will interconnect the Mauka and South systems and will result in a more robust distribution system that will be pressurized continually. The elevation head of the Honokowai Reservoir will provide the system with a constant, stable distribution pressure, allowing the recycled water system to function similarly to a potable water distribution system, where users will be able to be supplied with a reliable recycled water supply. The reservoir will also provide necessary storage so that recycled water, which is predominantly generated during the day when wastewater flow into Lahaina WWRF is high, can be stored until when there is user demand, which is typically at night. Providing a cover over the top of the reservoir will help preserve the R-1 quality delivered from the Lahaina WWRF to the service connections. The new reuse pumps will be selected to operate efficiently with the upgraded distribution system, and replacing the existing 20-inch RW with a new 24-inch RW will provide better reliability. In the future, if DEM-WWRD chooses to rehabilitate the existing 20-inch RW, the new 24-inch RW could be used as a transmission main from the Lahaina WWRF to the Honokowai Reservoir and the rehabilitated RW could be used as the distribution main from the reservoir to the users. Dedicating separate lines into and out of the reservoir will allow for more predictable and stable system hydraulics.

The proposed improvements will facilitate additional users connecting to the system. Potential users are shown on the attached figure. Potential users located along the existing 16-inch RW are shown in yellow. Additional users that could be served with expansion of the distribution system are shown in orange.

Overall, the proposed improvements will help to decrease demand on potable water resources and decrease the use of injection wells for effluent disposal from the Lahaina WWRF.

Thank you in advance for your review of this project. We kindly request a response by November 2, 2020 with any comments or concerns, or indication that there are none. Should you have any questions, please feel free to contact me at atanaka@fukunagaengineers.com or (808) 944-1821.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Amanda Tanaka, P.E.

cc: Albert Hahn, County of Maui, DEM-WWRD

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:
HWY-M 2.300-20

October 21, 2020

VIA EMAIL: atanaka@fukunagaengineers.com

Ms. Amanda Tanaka, P.E.
Fukunaga & Associates, Inc.
1357 Kapiolani Boulevard, Ste 1530
Honolulu, Hawaii 96814

Dear Ms. Tanaka:

Subject: Early Consultation Request
West Maui Recycled Water Expansion Project and
Kaanapali Resort R-1 Water Distribution System Expansion Project

Thank you for the early consultation request dated, October 6, 2020. The Hawaii Department of Transportation (HDOT) has reviewed the proposed project and we offer the following comments/questions. Any work done in our right-of-way will require a permit from our Highways Division Maui District Office. Will the existing 16-inch recycled waterline be able to accommodate the increase in pressure? At the present time, the HDOT has no additional comments to offer.

Should you have any questions, please contact Robin Shishido, District Engineer, Maui District at (808) 873-3535 or by email at robin.k.shishido@hawaii.gov.

Sincerely,

JADE T. BUTAY
Director of Transportation

c: Albert Hahn
County of Maui, DEM-WWRD
(**VIA EMAIL:** albert.hahn@co.maui.hi.us)

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 0942
STP 8.3069

October 29, 2020

Ms. Amanda Tanaka, P.E.
Fukunaga & Associates, Inc.
1357 Kapiolani Boulevard, Ste 1530
Honolulu, Hawaii 96814

Dear Ms. Tanaka:

Subject: Early Consultation Request
West Maui Recycled Water Expansion Project and
Kaanapali Resort R-1 Water Distribution System Expansion Project
Lahaina, Maui, Hawaii
Tax Map Keys: (2) 4-4-001:015, 104, 108; 4-4-002:018, 019, 029; 4-4-003:001; 4-4-006:010

The State of Hawaii Department of Transportation (HDOT) has reviewed the subject project and understands the County of Maui, Department of Environmental Management, Wastewater Reclamation Division is proposing to renovate the Honokowai Reservoir, replace an existing 20-inch recycled waterline (RW) from the Lahaina Wastewater Reclamation Facility (WWRF) to Honokowai Reservoir with a 24-inch RW, replace the existing reuse pump station at the Lahaina WWRF, and provide a control valve on the existing 16-inch RW at the Kaanapali Golf Course.

HDOT previously provided comments from our Highways Division in letter HWY-M 2.300-20 dated October 21, 2020 (Attached). HDOT would like to provide additional comments from our Airports Division as follows:

1. The subject recycled water project involves upgrading existing improvements within existing rights of way, existing water conveyance, and wastewater treatment facilities in the Kaanapali Resort area. The project site is approximately 0.75 miles from the Kapalua Airport at the closest point of proximity. 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 the following link: http://files.hawaii.gov/dbedt/op/docs/TAM-FAA-DOT-Airports_08-01-2016.pdf.

2. Federal Aviation Administration (FAA) regulation requires the submittal of FAA Form 7460-1 Notice of Proposed Construction or alteration pursuant to the Code of Federal Regulations, 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,

shall 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.

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

Attachment

FUKUNAGA & ASSOCIATES, INC.
CONSULTING ENGINEERS
CELEBRATING 50 YEARS OF SERVICE

February 5, 2021

Mr. Jade Butay, Director
State of Hawaii
Department of Transportation
869 Punchbowl Street, Room 509
Honolulu, Hawaii 96813

SUBJECT: Early Consultation Request
West Maui Recycled Water Expansion Project and
Kaanapali Resort R-1 Water Distribution System Expansion Project

Dear Mr. Butay:

Thank you for your letters dated October 21, 2020 and October 29, 2020 providing early consultation comments on the subject project. We offer the following in response to the comments provided.

1. The Kaanapali Resort R-1 Water Distribution System Expansion project includes connection to the existing 16-inch recycled waterline that is in Honoapiilani Highway. Permit to perform work within the State Right-of-Way will be obtained. The pressure rating of the existing 16-inch pipe will be taken into consideration during the design development. A hydraulic analysis of the system will be performed as part of the design process in order to incorporate pressure regulating measures, as may be needed, and to mitigate adverse impacts on the existing 16-inch line.

2. The project site is near the Kapalua Airport. The Technical Assistance Memorandum has been reviewed, and the Federal Aviation Administration (FAA) will be notified of proposed construction as required pursuant to the Code of Federal Regulations, Title 14, Part 77.9.

We appreciate the input provided by your office and will transmit a copy of the Draft EA when published for review and comment. Should you have any questions, please feel free to contact me at (808) 944-1821.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Amanda Tanaka, P.E.

cc: Albert Hahn, County of Maui, DEM-WWRD

1357 Kapiolani Blvd., Ste. 1530
Honolulu, Hawaii 96814
Ph: 808.944.1821
Fax: 808.946.9339
fukunagaengineers.com
office@fukunagaengineers.com

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.mauiwater.org

October 26, 2020

Amanda Tanaka, P.E.
FUKUNAGA & ASSOCIATES, INC.
1357 Kapiolani Blvd., Ste 1530
Honolulu, Hawaii 96814

SUBJECT: Early Consultation Request
West Maui Recycled Water Expansion Project and Kaanapali Resort R-1 Water Distribution System Expansion Project

Dear Ms. Tanaka:

Thank you for the opportunity to provide comments in the early consultation of the Draft Environmental Assessment (DEA).

The County of Maui Department of Water Supply (DWS) provides limited water service to the project area. The proposed improvements could offset DWS potable water for Lots 1 and 2 of the Ocean Resort along the existing 16-inch recycled waterline. Overall, the proposed improvements and distribution system expansion would significantly reduce potable water use for landscape irrigation in Kaanapali. The Draft Maui Island Water Use and Development Plan update, currently under County Council review, supports this project and related capital improvement funding.[1]

To protect ground and surface water resources, we suggest that the following Best Management Practices for pollution prevention be incorporated into the DEA and implemented during construction:

- 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.

[1] Maui Island Water Use and Development Plan March 2019 Draft, Chapter 19 Lahaina Aquifer Sector Area Strategy #9, page 84

Amanda Tanaka
Fukunaga & Associates, Inc.

We hope you find this information useful. Should you have any questions, please contact Planning Program Manager Eva Blumenstein at (808) 463-3102 or eva.blumenstein@co.maui.hi.us.

Sincerely,

Jeffrey T. Pearson, P.E. Director

cc: DWS Engineering Division

File Path: S:\PLANNING\Permit_Review\Projects Review\planning review\EA-EIS\Early Consult\244002019 East Consult West Maui Recycled Water and Kaanapali R-1 Expansion

FUKUNAGA & ASSOCIATES, INC.
CONSULTING ENGINEERS
CELEBRATING 50 YEARS OF SERVICE

February 5, 2021

Mr. Jeffrey Pearson, Director
County of Maui
Department of Water Supply
200 South High Street, Kalana O Maui Bldg., 5th Floor
Wailuku, Hawaii 96793

SUBJECT: Early Consultation Request
West Maui Recycled Water Expansion Project and
Kaanapali Resort R-1 Water Distribution System Expansion Project

Dear Mr. Pearson:

Thank you for your letter dated October 26, 2020 providing early consultation comments on the subject project. We offer the following in response to the comments provided.

1. It is acknowledged that the Draft Maui Island Water Use and Development Plan update supports this project.

2. Pollution prevention is vital, and proper Best Management Practices will be implemented.

We appreciate the input provided by your office and will transmit a copy of the Draft EA when published for review and comment. Should you have any questions, please feel free to contact me at (808) 944-1821.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Amanda Tanaka, P.E.

cc: Albert Hahn, County of Maui, DEM-WWRD

1357 Kapiolani Blvd., Ste. 1530
Honolulu, Hawaii 96814
Ph: 808.944.1821
Fax: 808.946.9339
fukunagaengineers.com
office@fukunagaengineers.com

DAVID Y. IGE
GOVERNOR

DR. CHRISTINA M. KISHIMOTO
SUPERINTENDENT

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

OFFICE OF FACILITIES AND OPERATIONS

October 22, 2020

Amanda Tanaka, P.E.
Fukunaga & Associates, Inc.
1357 Kapiolani Boulevard, Suite. 1530
Honolulu, Hawaii 96814

Re: Pre-Assessment Consultation for the Preparation of a Draft Environmental Assessment for the West Maui Recycled Water Expansion Project and the Kaanapali Resort R-1 Water Distribution System Expansion Project Kaanapali, Maui, Hawaii

Dear Ms. Tanaka:

The Hawaii State Department of Education (HIDOE) has the following comments for the preparation of a Draft Environmental Assessment for the West Maui Recycled Water Expansion Project and the Kaanapali Resort R-1 Water Distribution System Expansion Project (Project) located at Kaanapali, Island of Maui.

The proposed Project will not impact HIDOE schools and facilities.

Thank you for the opportunity to comment. Should you have questions, please contact Robyn Loudermilk of the Facilities Development Branch, Planning Section, at 784-5093 or via email at robyn.loudermilk@k12.hi.us.

Respectfully,

Kenneth G. Masden II
Public Works Manager
Planning Section

KGM:rll

Maui Land & Pineapple Company, Inc.

October 26, 2020

Amanda Tanaka, P.E.
Fukunaga & Associates, Inc.
1375 Kapiolani Blvd. Ste. 1530
Honolulu, HI 96814

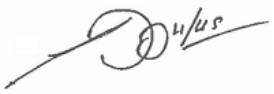
Re: Early Consultation Request for West Maui Recycled Water Expansion Project & Kaanapali R-1 Water Distribution System Expansion Project

Dear Ms. Tanaka:

Thank you for the opportunity to review and comment on the proposed West Maui Recycled Water Expansion Project & Kaanapali Resort R-1 Water Distribution System Expansion project. We don't have any concerns or comments to offer at this time.

Should you have any further questions, please contact me at (808) 757-2666 or psubrata@kapalua.com.

Sincerely,



Paul Subrata
Vice President

DAVID Y. IGE
GOVERNOR OF HAWAII

ELIZABETH A. CHAR, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
SAFE DRINKING WATER BRANCH
ULUAKUPU BLDG. 4
2385 WAIMANO HOME ROAD, SUITE 110
PEARL CITY, HI 96782

In reply, please refer to:
File: SDWB
WestMauiRecycledWaterExpansionProject
KaanapaliResortR-1ExpansionProject01.docx

October 26, 2020

Ms. Amanda Tanaka, P.E.
Fukunaga & Associates, Inc.
1357 Kapiolani Blvd., Ste. 1530
Honolulu, Hawaii 96814
[via atanaka@fukunagaengineers.com only]

Dear Ms. Tanaka:

SUBJECT: Comments on the Early Consultation Request
West Maui Recycled Water Expansion Project and
Kaanapali Resort R-1 Water Distribution System Expansion Project

Thank you for allowing the Safe Drinking Water Branch (SDWB) to comment on the subject projects.

In general, the recycled system should not be directly plumbed to a potable water system of any kind. Where connections are unavoidable, there should be an adequate air gap or reduced pressure principle backflow preventer, which should be tested annually by a certified tester. Such functions should be clearly documented in a cross connection control plan at the facility and updated annually.

If there are any questions, please call Ms. Joan Corrigan of the SDWB Engineering Section at 586-4258.

Sincerely,

JOANNA L. SETO, P.E., CHIEF
Safe Drinking Water Branch

JC:cw

FUKUNAGA & ASSOCIATES, INC.
CONSULTING ENGINEERS
CELEBRATING 50 YEARS OF SERVICE

February 5, 2021

Ms. Joanna Seto, Chief
State of Hawaii
Department of Health
Environmental Management Division, Safe Drinking Water Branch
2385 Waimano Home Road, Uluakupu Building 4, Suite 110
Pearl City, Hawaii 96782

SUBJECT: Early Consultation Request
West Maui Recycled Water Expansion Project and
Kaanapali Resort R-1 Water Distribution System Expansion Project

Dear Ms. Seto:

Thank you for your letter dated October 26, 2020 providing early consultation comments on the subject project. Public health and safety is of the utmost importance, and measures will be taken to ensure protection. Cross-connections of recycled and potable water are prohibited. It is duly noted that recycled water systems should not be directly plumbed to potable water systems, and proper backflow prevention should be provided.

We appreciate the input provided by your office and will transmit a copy of the Draft EA when published for review and comment. Should you have any questions, please feel free to contact me at (808) 944-1821.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Amanda Tanaka, P.E.

cc: Albert Hahn, County of Maui, DEM-WWRD

1357 Kapiolani Blvd., Ste. 1530
Honolulu, Hawaii 96814
Ph: 808.944.1821
Fax: 808.946.9339
fukunagaengineers.com
office@fukunagaengineers.com

From: Winter, Frank J II CIV (USA)
To: Amanda Tanaka
Subject: RE: West Maui Recycled Water Expansion Project
Date: Tuesday, November 3, 2020 8:44:38 AM

Aloha Amanda,

Your project has been assigned Department of the Army File No. POH-2020-00149 (County of Maui, Recycled Water and Distribution Expansion Project, Honokowai Stream, Lahaina, Maui, HI).

Thank you,

Frank J. Winter
Biologist, Regulatory Branch
Honolulu District
U.S. Army Corps of Engineers
Building 230
Fort Shafter, Hawaii 96858-5440
808-835-4107
Frank.J.Winter@usace.army.mil

From: Speerstra, Linda CIV USARMY CEPOH (USA) <Linda.Speerstra@usace.army.mil>
Sent: Wednesday, October 28, 2020 6:03 PM
To: Winter, Frank J II CIV (USA) <Frank.J.Winter@usace.army.mil>
Cc: atanaka@fukunagaengineers.com
Subject: FW: West Maui Recycled Water Expansion Project

Aloha Amanda, I'm forwarding your information to Frank. Please continue your communication in regards to this project with Frank so that we ensure you are working with one project manager.
Linda

Linda Speerstra
Chief, Regulatory Branch
U.S. Army Corps of Engineers
Honolulu District
808-835-4300

From: Amanda Tanaka <atanaka@fukunagaengineers.com>
Sent: Tuesday, October 27, 2020 10:23 AM

To: CEPOH-RO, POH <CEPOH-RO@usace.army.mil>
Cc: Speerstra, Linda CIV USARMY CEPOH (USA) <Linda.Speerstra@usace.army.mil>
Subject: [Non-DoD Source] RE: West Maui Recycled Water Expansion Project

Hi Linda,

Thank you for your response. Please find attached a PDF copy of the letter and the figure. I hope the figure helps to clarify the proposed area, but please let me know if you have any questions. The new pipe is proposed to cross Honokowai Stream at a section where it is a concrete channel. We are tentatively proposing for the pipe to cross above the top of the channel walls; however, this has yet to be coordinated with the landowner. I had an informal discussion with Frank Winter earlier regarding the stream crossing. My understanding is that Honokowai Stream is considered perennial and would be within the Corps jurisdiction; however, going over the top of the channel should not trigger permit requirements. We will look into the maintenance work exemption if we pursue a different installation and I will let you know if we have any questions.

Thanks,

Amanda Tanaka
Fukunaga & Associates, Inc.
1357 Kapiolani Boulevard, Suite 1530
Honolulu, HI 96814
Tel: (808)944-1821
Fax: (808)946-9339

From: CEPOH-RO, POH <CEPOH-RO@usace.army.mil>
Sent: Monday, October 26, 2020 1:52 PM
To: Amanda Tanaka <atanaka@fukunagaengineers.com>
Cc: Speerstra, Linda CIV USARMY CEPOH (USA) <Linda.Speerstra@usace.army.mil>
Subject: West Maui Recycled Water Expansion Project

Aloha Amanda – I'm reaching out to you in regards to your scoping comment request. My hope is that future requests can be sent via email to ensure a more timely response and reduce our scanning efforts which are required for our administrative records. Unfortunately, the illustrations were not in the package received by our mail room. Would it be possible to submit those?

Based on the information provided, the work appears to be maintenance in nature and could potentially be exempt under 33 CFR 323.4(a)(2) Maintenance, including emergency reconstruction of recently damaged parts, of currently serviceable structures. In order to qualify for the exemption the maintenance work would not change the original character, scope and size of the original structure.

Please let me know if you have any other questions and/or require additional information on this response. Linda

Linda Speerstra
Chief, Regulatory Branch
U.S. Army Corps of Engineers
Honolulu District
808-835-4300

From: Maaninen, Michael A CIV USARMY CEPOH (USA) <Michael.A.Maaninen@usace.army.mil>
Sent: Monday, October 19, 2020 12:57 PM
To: CEPOH-RO, POH <CEPOH-RO@usace.army.mil>
Subject: FW: Scanned Document (Signed)

From: Michael.A.Maaninen@usace.army.mil <Michael.A.Maaninen@usace.army.mil>
Sent: Monday, October 19, 2020 12:48 PM
To: Maaninen, Michael A CIV USARMY CEPOH (USA) <Michael.A.Maaninen@usace.army.mil>
Subject: Scanned Document (Signed)

From:	Wayne Hedani
To:	Amanda Tanaka
Cc:	Bill Countryman; Fred Finland; Gregg Lundberg; Tetsuji Yamazaki; Glenn Gazmen; Loretta Lau; Bob Pure; Christopher L. White; Gary Hogan; Greg Oldenberg; Hal Nordblom; Jacob Marsh; Kimberly Brown; Mark Altier, GM; Michael White; Mike Sands; Nikki Nguyen; Rodger May; Todd Madden; Meadows, Todd
Subject:	Early Consultation Request
Date:	Wednesday, October 28, 2020 11:09:55 AM

Amanda Tanaka:
Thank you for your letter of October 6, 2020 on the West Maui Recycled Water Expansion Project and Kaanapali Resort R-1 Water Distribution System Expansion Project.

The Kaanapali Beach Resort has been a leader in the reuse of R-1 water since the early 1960's. We fully support the project goals and objectives and will work with the County of Maui to provide support for access and easements for the required improvements. We believe that the proposed improvements will improve the delivery of water to the golf course and our common areas and will extend the benefits of R-1 water use to our hotels who are eager to obtain access to this water.

Reuse of R-1 water, which is a valuable resource will help to protect our nearshore waters from potential damage from groundwater infiltration. It will also make the system more reliable and robust to allow users to access water on a regular dependable basis. In the past, water has been unavailable for periods of up to several weeks when pump systems were down. The proposed improvements and gravity fed pressurization will allow for a reliable system for delivery of this valuable resource.

We will work with you to enable the construction of the project within the resort common areas. Please accept this email as our response letter of support for this worthwhile project.

Mahalo and Aloha,
Wayne N. Hedani
President and General Manager
Kaanapali Operations Association, Inc.

cc: Board of Directors
Kaanapali Beach Resort Properties
Glenn Gazmen
Loretta Lau

MICHAEL P. VICTORINO
Mayor

MARC I. TAKAMORI
Director

MICHAEL B. DU PONT
Deputy Director

DEPARTMENT OF TRANSPORTATION
COUNTY OF MAUI
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793
TELEPHONE: (808) 270-7511
FAX: (808) 270-7505

October 29, 2020

Fukunaga & Associates, Inc.
Amanda Tanaka, P.E.
1357 Kapiolani Blvd. Ste. 1530
Honolulu, HI 96814

SUBJECT: Early Consultation Request
West Maui Recycled Water Expansion Project and Kaanapali Resort R-1 Water Distribution System Expansion Project

Dear Ms. Tanaka,

Thank you for the opportunity to review and comment on the early consultation of this project. We have no comments to make at this time.

Please feel free to contact me should you have any questions.

Sincerely,

Marc Takamori
Director

DAVID Y. IGE
Governor

JOSH GREEN
Lt. Governor

PHYLLIS SHIMABUKURO-GEISER
Chairperson, Board of Agriculture

MORRIS M. ATTA
Deputy to the Chairperson

State of Hawaii
DEPARTMENT OF AGRICULTURE
1428 South King Street
Honolulu, Hawaii 96814-2512
Phone: (808) 973-9600 FAX: (808) 973-9613

October 29, 2020

Ms. Amanda Tanaka, P.E.
Project Manager
Fukunaga & Associates, Inc.
1357 Kapiolani Boulevard, Suite 1530
Honolulu, HI 96814

Dear Ms. Tanaka:

RE: Early Consultation Request
West Maui Recycled Water Expansion Project and
Kaanapali Resort R-1 Water Distribution System Expansion Project

The State of Hawaii, Department of Agriculture, Agricultural Resource Management Division (ARMD) reviewed the Early Consultation Request for the *West Maui Recycled Water Expansion Project and Kaanapali Resort R-1 Water Distribution System Expansion Project,* dated October 6, 2020. The HDOA has no comments on the proposed action at this time.

Please include us on your list for review of the draft Environmental Assessment and let us know if there are any changes to the scope or location of the project. Should you have any questions, please contact Ms. Janice Fujimoto at of the Agricultural Resource Management Division at (808) 973-9473.

Sincerely,

BRIAN KAU, P.E.
Administrator and Chief Engineer
Agricultural Resource Management Division

Island Fresh

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

October 30, 2020

Fukunaga & Associates, Inc.
Attn: Ms. Amanda Tanaka, P.E.
1357 Kapiolani Blvd., Suite 1530
Honolulu, Hawaii 96814

via email: atanaka@fukunagaengineers.com

Dear Ms. Tanaka:

SUBJECT: Early Consultation Request for Proposed **West Maui Recycled Water Expansion Project** and Kaanapali Resort R-1 Water Distribution System Expansion Project located at Hanakaoo and Honokowai, Lahaina, Island of Maui; TMK: (2) 4-4: Various on behalf of County of Maui, Department of Environmental Management, Wastewater Reclamation Division

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

October 13, 2020

MEMORANDUM

FROM:

~~TO:~~

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

TO:

~~FROM:~~ Russell Y. Tsuji, Land Administrator *Russell Tsuji*

SUBJECT: Early Consultation Request for Proposed **West Maui Recycled Water Expansion Project** and Kaanapali Resort R-1 Water Distribution System Expansion Project

LOCATION: Hanakaoo and Honokowai, Lahaina, Island of Maui; TMK: (2) 4-4: Various

APPLICANT: Fukunaga & Associates, Inc. on behalf of County of Maui, Department of Environmental Management, Wastewater Reclamation Division

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit any comments by **October 29, 2020.**

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

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

Signed: *CSC*
Print Name: Carty S. Chang, Chief Engineer
Division: Engineering Division
Date: Oct 23, 2020

Attachments
cc: Central Files

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/Russell Y. Tsuji

Ref: Early Consultation Request for Proposed West Maui Recycled Water Expansion Project and Kaanapali Resort R-1 Water Distribution System Expansion Project
Location: Hanakaoo and Honokowai, Lahaina, Island of Maui
TMK(s): (2) 4-4: Various
Applicant: Fukunaga & Associates, Inc. on behalf of County of Maui, Department of Environmental Management, Wastewater Reclamation Division

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: Oct 23, 2020

DAVID Y. IGE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 13, 2020

MEMORANDUM

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

FROM: Russell Y. Tsuji, Land Administrator *Russell Tsuji*

SUBJECT: Early Consultation Request for Proposed **West Maui Recycled Water Expansion Project** and Kaanapali Resort R-1 Water Distribution System Expansion Project

LOCATION: Hanakaoo and Honokowai, Lahaina, Island of Maui; TMK: (2) 4-4: Various

APPLICANT: Fukunaga & Associates, Inc. on behalf of County of Maui, Department of Environmental Management, Wastewater Reclamation Division

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit any comments by **October 29, 2020.**

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

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

Signed: _____
Print Name: DAVID G. SMITH, Administrator
Division: Division of Forestry and Wildlife
Date: Oct 30, 2020

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

October 28, 2020

MEMORANDUM

Log no. 2846

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 Proposed West Maui Recycled Water Expansion Project and Ka'anapali Resort R-1 Water Distribution System Expansion Project**

The Department of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW) has received your inquiry regarding the Early Consultation Request for the proposed West Maui Recycled Water Expansion Project and Ka'anapali Resort R-1 Water Distribution System Expansion Project in Ka'anapali on Maui, Hawai'i, TMKs: (2) 4-4-002:019, (2) 4-4-001:108, 4-4-003:001, 4-4-001:015, 4-4-002:018, 4-4-001:104, 4-4-002:029, 4-4-006:010. The proposed project consists of: earthwork to fortify and improve the Honokowai resevoir and dam; replacement of resevoir lining; addition of geosynthetic floating cover; replacing an existing recycled waterline; replacing the existing reuse pump station; and providing a control valve on the existing recycled waterline at the Ka'anapali Golf Course in an existing vault.

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

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

DOFAW is concerned about attracting vulnerable birds to areas that may host nonnative predators such as cats, rodents, and mongoose. Additionally, construction sites are likely to increase human activity in the area and may generate more trash and other predator attractants. We recommend taking action to minimize predator presence; remove cats, place bait stations for rodents and mongoose, and provide covered trash receptacles.

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

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

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

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 Koa Matsuoka, Protected Species Habitat Conservation Planning Associate at (808) 587-4149 or koa.matsuoka@hawaii.gov.

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

October 13, 2020

MEMORANDUM

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

FROM: Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: Early Consultation Request for Proposed **West Maui Recycled Water Expansion Project** and Kaanapali Resort R-1 Water Distribution System Expansion Project
LOCATION: Hanakaoo and Honokowai, Lahaina, Island of Maui; TMK: (2) 4-4: Various
APPLICANT: Fukunaga & Associates, Inc. on behalf of County of Maui, Department of Environmental Management, Wastewater Reclamation Division

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit any comments by **October 29, 2020.**

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

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

Signed: _____
Print Name: Daniel Ornellas
Division: Land Division - DLNR
Date: 10/16/20

Attachments
cc: Central Files

FUKUNAGA & ASSOCIATES, INC.
CONSULTING ENGINEERS
CELEBRATING 50 YEARS OF SERVICE

February 5, 2021

Mr. Russell Tsuji, Land Administrator
State of Hawaii
Department of Land and Natural Resources
Land Division
1151 Punchbowl Street, Room 220
Honolulu, Hawaii 96813

SUBJECT: Early Consultation Request
West Maui Recycled Water Expansion Project and
Kaanapali Resort R-1 Water Distribution System Expansion Project

Dear Mr. Tsuji:

Thank you for your letter dated October 30, 2020 providing early consultation comments from the (a) Engineering Division, (b) Division of Forestry & Wildlife, and (c) Land Division-Maui District on the subject project. We offer the following in response to the comments provided.

Engineering Division:

1. The majority of the project area is in Zone X. However, there is one area that is Zone A. The proposed 24-inch recycled waterline will cross over the Honokowai Stream where it is a concrete channel, and the concrete channel is Zone A. A special flood hazard area development permit will be required from the County of Maui Planning Department for this channel crossing.

Division of Forestry & Wildlife:

1. Your comments are incorporated in the Draft EA. As recommended, we are also consulting with Maui DOFAW and the Maui Invasive Species Committee.

We appreciate the input provided by your office and will transmit a copy of the Draft EA when published for review and comment. Should you have any questions, please feel free to contact me at (808) 944-1821.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Amanda Tanaka, P.E.

cc: Albert Hahn, County of Maui, DEM-WWRD

1357 Kapiolani Blvd., Ste. 1530
Honolulu, Hawaii 96814
Ph: 808.944.1821
Fax: 808.946.9339
fukunagaengineers.com
office@fukunagaengineers.com

From: Fukunaga Office
To: Amanda Tanaka
Subject: FW: Early Consultation Request
Date: Monday, November 2, 2020 10:10:04 AM
Attachments: image002.png
image003.png
image004.png
image005.png
image006.png
image007.png
image008.png
image009.png
image010.png

Thank you,
Jasmyn Honda
Fukunaga & Associates, Inc.
1357 Kapiolani Blvd., Ste. 1530
Honolulu, HI 96814
Phone: (808) 944-1821
Fax: (808) 946-9339
Email: jhonda@fukunagaengineers.com

From: Idica, Alex <alex.idica@mauielectric.com>
Sent: Monday, November 2, 2020 8:56 AM
To: Fukunaga Office <office@fukunagaengineers.com>
Cc: Sakamoto, Keith <keith.sakamoto@mauielectric.com>
Subject: Early Consultation Request

Ms. Amanda Tanaka, P.E.
Fukunaga and Associates, Inc
1357 Kapiolani Boulevard, Suite 1530
Honolulu, Hawaii 96814

VIA EMAIL:
office@fukunagaengineers.com

Re: Early Consultation Request
West Maui Recycled Water Expansion Project and
Kaanapali Resort R-1 Water Distribution System Expansion Project

Dear Ms. Tanaka,

This is in response to a letter dated October 6, 2020 from your office regarding the subject projects.

We currently have one project to upgrade electrical service at the Lahaina WWRF site. There are no other projects planned within the remaining project areas at this time.

Please call Hawaii One Call Center (811 or 1-866-423-7287) to have existing underground lines located before excavating. Should anyone be working or operating equipment in the vicinity of

overhead electrical lines, maintain a minimum of 10’ radial clearance.

Should you have any questions please call or email me.

Sincerely,

ALEX IDICA
Designer III, T&D Engineering

O: 808.872.3203
alex.idica@hawaiianelectric.com

Hawaiian Electric
PO Box 398, Kahului, HI 96733

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MICHAEL P. VICTORINO
Mayor

ROWENA M. DAGDAG-ANDAYA
Director

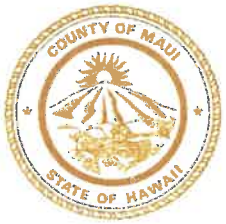
JORDAN MOLINA
Deputy Director

GLEN A. UENO, P.E., L.S.
Development Services Administration

RODRIGO "CHICO" RABARA, P.E.
Engineering Division

JOHN R. SMITH, P.E.
Highways Division

Telephone: (808) 270-7845
Fax: (808) 270-7955



COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
200 SOUTH HIGH STREET, ROOM 434
WAILUKU, MAUI, HAWAII 96793

November 6, 2020

Ms. Amanda Tanaka, P.E.
FUKUNAGA & ASSOCIATES, INC.
1357 Kapiolani Boulevard, Suite 1530
Honolulu, Hawaii 96814

Dear Ms. Tanaka:

SUBJECT: EARLY CONSULTATION REQUEST
WEST MAUI RECYCLED WATER EXPANSION PROJECT AND KAANAPALI RESORT R-1 WATER DISTRIBUTION SYSTEM EXPANSION PROJECT; TMK: (2) 4-4-002:019

We reviewed the subject early consultation request and have the following comments:

Comments from the Highways Division:

1. The Highways Division maintains several large sediment basins in West Maui that accumulate significant volumes of soil collected from stormwater runoff. The project is encouraged to evaluate the suitability of the soils from the debris basins and to utilize these soils for the earthwork associated with the project to the maximum extent practical. Repurposing these soils provides several benefits including reducing the import of soil from outside the region, reducing the distance that material needs to be trucked from its source to the project, and aiding the Department of Public Works' maintenance efforts of these sediment basins.

Comments from the Engineering Division:

2. Drainage improvements shall comply with the following:

- Title MC-15, Chapter 4, "Rules for the Design of Storm Drainage Facilities in the County of Maui";
- Title MC-15, Chapter 111, "Rules for the Design of Storm Water Treatment Best Management Practices"; and
- Title 20, Chapter 20.08, "Soil Erosion and Sedimentation Control".

Please call Jordan Molina at (808) 270-7845 if you have any questions regarding this letter.

Sincerely,

Jordan Molina

FOR ROWENA M. DAGDAG-ANDAYA
Director of Public Works

RMDA:JM:da
xc: Highways Division
Engineering Division
S:\DSA\Engr\CZM\Draft Comments\44002019_w_maui_recycled_water_exp_proj_ecr.rtf

FUKUNAGA & ASSOCIATES, INC.
CONSULTING ENGINEERS
CELEBRATING 50 YEARS OF SERVICE

February 5, 2021

Ms. Rowena Dagdag-Andaya, Director
County of Maui
Department of Public Works
200 South High Street, Kalana O Maui Bldg., 4th Floor
Wailuku, Hawaii 96793

SUBJECT: Early Consultation Request
West Maui Recycled Water Expansion Project and
Kaanapali Resort R-1 Water Distribution System Expansion Project

Dear Ms. Dagdag-Andaya:

Thank you for your letter dated October 30, 2020 providing early consultation comments from the Highways Division and the Engineering Division on the subject project. We offer the following in response to the comments provided.

Highways Division:

1. The West Maui Recycled Water Expansion Project will include substantial earthwork, and use of the accumulated soil in the sediment basins for backfill will be considered. The suitability will need to be assessed to determine if it is feasible to use this accumulated sediment.

Engineering Division:

1. Drainage improvements will comply with the Rules for the Design of Storm Drainage Facilities in the County of Maui, Rules for the Design of Storm Water Treatment Best Managaement Practices, and Maui County Code Chapter 20.08.

We appreciate the input provided by your office and will transmit a copy of the Draft EA when published for review and comment. Should you have any questions, please feel free to contact me at (808) 944-1821.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Amanda Tanaka, P.E.

cc: Albert Hahn, County of Maui, DEM-WWRD

1357 Kapiolani Blvd., Ste. 1530
Honolulu, Hawaii 96814
Ph: 808.944.1821
Fax: 808.946.9339
fukunagaengineers.com
office@fukunagaengineers.com

DAVID Y. IGE
GOVERNOR OF HAWAII

ELIZABETH A. CHAR, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:

LUD – 2 4 4 002 019 Early Cons Req
West Maui Rcycld Water Exp Prj ID 5370

November 6, 2020

Ms. Amanda Tanaka, P.E.
Fukunaga & Associates, Inc.
1357 Kapiolani Blvd., Suite 1530
Honolulu, Hawaii 96814
Email: atanaka@fukunagaengineers.com

Dear Ms. Tanaka:

Subject: Early Consultation Request
West Maui Recycled Water System Expansion Project and
West Maui Recycled Water Expansion Kaanapali Resort R-1 Water Distribution System Expansion Project, Kaanapali, Maui 96761 TMK (2) 4-4-002: 019

The Wastewater Branch has the following comments to offer for the subject projects.

- The subject projects may be funded by the State of Hawaii Clean Water State Revolving Fund (CWSRF) Program. If this is the case, then please ensure that the draft and final environmental decision documents address all applicable federal environmental cross-cutting authorities and the Hawaii State Environmental Review Process as required by the CWSRF Program.

- Please be informed that the proposed wastewater systems for the subdivision/development may have to include design considerations to address any effects associated with the construction of and/or discharges from the wastewater systems to any public trust, Native Hawaiian resources or the exercise of traditional cultural practices. In addition, all wastewater plans must conform to applicable provisions of the Hawaii Administrative Rules, Chapter 11-62, "Wastewater Systems," the Department of Health's "Reuse Guidelines" Volumes 1 and 2, 2016 and the Department of Health's Animal Waste Guidelines.

Should you have any questions, please call Mr. Mark Tomomitsu of my staff at 586-4294.

Sincerely,

SINA PRUDER, P.E., CHIEF
Wastewater Branch

LM/MST:SP

FUKUNAGA & ASSOCIATES, INC.
CONSULTING ENGINEERS
CELEBRATING 50 YEARS OF SERVICE

February 5, 2021

Ms. Sina Pruder, Chief
State of Hawaii
Department of Health
Environmental Management Division, Wastewater Branch
2827 Waimano Home Road, Hale Ola Building, Room 207
Pearl City, Hawaii 96782

SUBJECT: Early Consultation Request
West Maui Recycled Water Expansion Project and
Kaanapali Resort R-1 Water Distribution System Expansion Project

Dear Ms. Pruder:

Thank you for your letter dated November 6, 2020 providing early consultation comments on the subject project. We offer the following in response to the comments provided.

Comment #1: *The subject projects may be funded by the State of Hawaii Clean Water State Revolving Fund (CWSRF) Program. If this is the case, then please ensure that the draft and final environmental decision documents address all applicable federal environmental cross-cutting authorities and the Hawaii State Environmental Review Process as required by the CWSRF Program.*

There are no current plans to utilize funding from the CWSRF Program for the subject projects. However, Section 5 is included in the Draft EA to discuss federal cross-cutting authorities.

Comment #2: *Please be informed that the proposed wastewater systems for the subdivision/development may have to include design considerations to address any effects associated with the construction of and/or discharges from the wastewater systems to any public trust, Native Hawaiian resources or the exercise of traditional cultural practices. In addition, all wastewater plans must conform to applicable provisions of the Hawaii Administrative Rules, Chapter 11-62, "Wastewater Systems," the Department of Health's "Reuse Guidelines" Volumes 1 and 2, 2016 and the Department of Health's Animal Waste Guidelines.*

Duly noted.

We appreciate the input provided by your office and will transmit a copy of the Draft EA when published for review and comment. Should you have any questions, please feel free to contact me at (808) 944-1821.

1357 Kapiolani Blvd., Ste. 1530
Honolulu, Hawaii 96814
Ph: 808.944.1821
Fax: 808.946.9339
fukunagaengineers.com
office@fukunagaengineers.com

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Amanda Tanaka, P.E.

cc: Albert Hahn, County of Maui, DEM-WWRD

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawai‘i 96850

In Reply Refer To:
01EPIF00-2021-TA-0025

November 9, 2020

Ms. Amanda Tanaka, P.E.
Fukunaga & Associates, Inc.
1357 Kapiolani Blvd, Suite 1530
Honolulu, Hawai‘i 96814

Subject: Technical Assistance for the Proposed West Maui Water Expansion and Kā‘anapali Resort R-1 Distribution Expansion System Project, Maui

Dear Ms. Tanaka:

Thank you for your letter of September 8, 2020 requesting comments for the proposed West Maui water expansion and Kā‘anapali Resort R-1 distribution system expansion project in Kā‘anapali, Maui. The work involves the renovation of the Honokōwai Reservoir (TMK (2) 4-4-002:0019) including earthwork to fortify and improve the reservoir and dam as necessary, replacement of the existing reservoir lining, addition of a geosynthetic floating cover, and upgrade of the reservoir appurtenances. The reservoir capacity will not be increased. Proposed work also includes the replacement of the existing 20-inch (in) recycled waterline (RW) from the Lahaina Wastewater Reclamation Facility (WWRF) to Honokōwai Reservoir with a 24 in RW that will be run roughly parallel to the existing RW. Replacing the existing reuse pump station located at the Lahaina WWRF (TMKs (2)4-4-001:104 and (2)4-4-002:009) and providing a control valve on the existing 16 in RW at the Kā‘anapali Golf Course in an existing vault. The Service offers the following comments to assist you in your planning process so that impacts to trust resources can be avoided through site preparation and construction. This letter has been prepared under the authority of, and in accordance with, provisions of the Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq*.) as amended (ESA).

We have reviewed the information you provided and pertinent information in our files, as it pertains to listed species in accordance with section 7 of the ESA. Our data indicate the following federally listed species may occur or transit through the vicinity of the proposed project area: the endangered Hawaiian hoary bat *(Lasiurus cinereus semotus*), Blackburn’s sphinx month (*Manduca blackburni*), Hawaiian petrel (*Pterodroma sandwichensis*), Hawai‘i distinct population segment (DPS) of the band-rumped storm-petrel (*Oceanodroma castro*), Hawaiian stilt (*Himantopus mexicanus knudseni*), Hawaiian coot (*Fulca alai*), and Hawaiian duck (*Anas wyvilliana*), and the federally threatened Newell’s shearwater (*Puffinus auricularis*

newelii) and Hawaiian goose (*Branta sandvicensis*). The Hawaiian petrel, band-rumped storm-petrel, and Newell's shearwater will hereafter collectively be referred to as "Hawaiian seabirds". The Hawaiian stilt, Hawaiian coot, and Hawaiian duck will hereafter collectively be referred to as "Hawaiian waterbirds".

Hawaiian hoary bat

The Hawaiian hoary bat roosts in woody vegetation across all islands and will leave their young unattended in trees and shrubs when they forage. If trees or shrubs 15 feet or taller are cleared during the pupping season, June 1 through September 15, there is a risk that young bats could inadvertently be harmed or killed, since they are too young to fly or move away from disturbance. Hawaiian hoary bats forage for insects from as low as 3 feet to higher than 500 feet above the ground and can become entangled in barbed wire used for fencing.

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

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

Blackburn's sphinx moth

The adult Blackburn's sphinx moth feeds on nectar from native plants, including *Ipomoea pes-caprae* (beach morning glory), *Plumbago zeylanica* ('ilie'e), and *Capparis sandwichiana* (maiapilo). Blackburn's sphinx moth larvae feed on non-native *Nicotiana glauca* (tree tobacco) and native *Nothocestrum* sp. ('aiea). To pupate, the larvae burrow into the soil and can remain in a state of torpor for a year or more before emerging from the soil. Soil disturbance can result in death of the pupae.

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

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

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

- Remove any tree tobacco less than 3 feet tall.

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

Hawaiian sea birds
Hawaiian seabirds may traverse the project area at night during the breeding, nesting and fledging seasons (March 1 to December 15). Outdoor lighting could result in seabird disorientation, fallout, and injury or mortality. Seabirds are attracted to lights and after circling the lights they may become exhausted and collide with nearby wires, buildings, or other structures or they may land on the ground. Downed seabirds are subject to increased mortality due to collision with automobiles, starvation, and predation by dogs, cats, and other predators. Young birds (fledglings) traversing the project area between September 15 and December 15, in their first flights from their mountain nests to the sea, are particularly vulnerable to light attraction.

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

- Fully shield all outdoor lights so the bulb can only be seen from below.
- Install automatic motion sensor switches and controls on all outdoor lights or turn off lights when human activity is not occurring in the lighted area.
- Avoid nighttime construction during the seabird fledging period, September 15 through December 15.

Hawaiian goose
Hawaiian geese are predominately found on the islands of Hawai‘i, Maui, Moloka‘i, and Kaua‘i. They may be observed in a variety of habitats, but prefer open areas, such as pastures, golf courses, wetlands, natural grasslands and shrublands, and lava flows. Threats to the species include introduced mammalian and avian predators, wind facilities, and vehicle strikes.
To avoid and minimize potential project impacts to Hawaiian geese we recommend you incorporate the following applicable measures into your project plan:

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

Hawaiian waterbirds

Hawaiian waterbirds are currently found in a variety of wetland habitats including freshwater marshes and ponds, coastal estuaries and ponds, artificial reservoirs, *Colocasia esculenta* (kalo or taro) loʻi or patches, irrigation ditches, sewage treatment ponds, and in the case of the Hawaiian duck, montane streams and marshlands. Hawaiian stilts may also be found wherever ephemeral or persistent standing water may occur. Threats to these species include non-native predators, habitat loss, and habitat degradation. Hawaiian ducks are also subject to threats from hybridization with introduced mallards.

Based on the project details provided, your project contains a reservoir that could attract Hawaiian waterbirds to the project site. In particular, the Hawaiian stilt is known to nest in sub-optimal locations (e.g. any ponding water), if water is present. Hawaiian waterbirds attracted to sub-optimal habitat may suffer adverse impacts, such as predation and reduced reproductive success, and thus the project may create an attractive nuisance. Therefore, we recommend you work with our office during project planning so that we may assist you in developing measures to avoid impacts to listed species (e.g., fencing, vegetation control, predator management).

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

- In areas where waterbirds are known to be present, post and implement reduced speed limits, and inform project personnel and contractors about the presence of endangered species on-site.
- If water resources are located within or adjacent to the project site, incorporate applicable best management practices regarding work in aquatic environments into the project design (see enclosure).
- Have a biological monitor that is familiar with the species' biology conduct Hawaiian waterbird nest surveys where appropriate habitat occurs within the vicinity of the proposed project site prior to project initiation. Repeat surveys again within 3 days of project initiation and after any subsequent delay of work of 3 or more days (during which the birds may attempt to nest). If a nest or active brood is found:
    - Contact the Service within 48 hours for further guidance.
    - Establish and maintain a 100-foot buffer around all active nests and/or broods until the chicks/ducklings have fledged. Do not conduct potentially disruptive activities or habitat alteration within this buffer.
    - Have a biological monitor that is familiar with the species' biology present on the project site during all construction or earth moving activities until the chicks/ducklings fledge to ensure that Hawaiian waterbirds and nests are not adversely impacted.

Measures to Avoid the Spread of Invasive Species and Best Management Practices

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

Best Management Practices (BMPs) for working around aquatic environments have been included as an enclosure. Working around aquatic environments provides additional safety risk to humans as well as fish and wildlife resources. These BMPs are recommended in addition to, and do not over-ride any terms, conditions, or other recommendations prepared by the USFWS, other federal, state or local agencies.

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

If you have any questions, please contact me at christina_richards@fws.gov or by telephone at 808-792-9450. When referring to this project, please include this reference number: 01EPIF00-2021-TA-0025.

Sincerely,

Aaron Nadig

Digitally signed by Aaron Nadig
Date: 2020.11.09 14:50:04 -10'00'

Island Team Manager
Pacific Islands Fish and Wildlife Office

Enclosures: BMPs for Work in or Around Aquatic Environment

U.S. Fish and Wildlife Service
Recommended Standard Best Management Practices

The U.S. Fish and Wildlife Service (USFWS) recommends the following measures to be incorporated into project planning to avoid or minimize impacts to fish and wildlife resources. Best Management Practices (BMPs) include the incorporation of procedures or materials that may be used to reduce either direct or indirect negative impacts to aquatic habitats that result from project construction-related activities. These BMPs are recommended in addition to, and do not over-ride any terms, conditions, or other recommendations prepared by the USFWS, other federal, state or local agencies. If you have questions concerning these BMPs, please contact the USFWS Aquatic Ecosystems Conservation Program at 808-792-9400.

1. Authorized dredging and filling-related activities that may result in the temporary or permanent loss of aquatic habitats should be designed to avoid indirect, negative impacts to aquatic habitats beyond the planned project area.

2. Dredging/filling in the marine environment should be scheduled to avoid coral spawning and recruitment periods, and sea turtle nesting and hatching periods. Because these periods are variable throughout the Pacific islands, we recommend contacting the relevant local, state, or federal fish and wildlife resource agency for site specific guidance.

3. Turbidity and siltation from project-related work should be minimized and contained within the project area by silt containment devices and curtailing work during flooding or adverse tidal and weather conditions. BMPs should be maintained for the life of the construction period until turbidity and siltation within the project area is stabilized. All project construction-related debris and sediment containment devices should be removed and disposed of at an approved site.

4. All project construction-related materials and equipment (dredges, vessels, backhoes, silt curtains, etc.) to be placed in an aquatic environment should be inspected for pollutants including, but not limited to; marine fouling organisms, grease, oil, etc., and cleaned to remove pollutants prior to use. Project related activities should not result in any debris disposal, non-native species introductions, or attraction of non-native pests to the affected or adjacent aquatic or terrestrial habitats. Implementing both a litter-control plan and a Hazard Analysis and Critical Control Point plan (HACCP – see https://www.fws.gov/policy/A1750fw1.html) can help to prevent attraction and introduction of non-native species.

5. Project construction-related materials (fill, revetment rock, pipe, etc.) should not be stockpiled in, or in close proximity to aquatic habitats and should be protected from erosion (*e.g.*, with filter fabric, etc.), to prevent materials from being carried into waters by wind, rain, or high surf.

6. Fueling of project-related vehicles and equipment should take place away from the aquatic environment and a contingency plan to control petroleum products accidentally spilled during the project should be developed. The plan should be retained on site with the person responsible for compliance with the plan. Absorbent pads and containment booms should be stored on-site to facilitate the clean-up of accidental petroleum releases.

7. All deliberately exposed soil or under-layer materials used in the project near water should be protected from erosion and stabilized as soon as possible with geotextile, filter fabric or native or non-invasive vegetation matting, hydro-seeding, etc.

FUKUNAGA & ASSOCIATES, INC.
CONSULTING ENGINEERS
CELEBRATING 50 YEARS OF SERVICE

February 5, 2021

Mr. Aaron Nadig, Island Team Manager
U.S. Fish and Wildlife Service
Pacific Islands Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawaii 96850

SUBJECT: Early Consultation Request
West Maui Recycled Water Expansion Project and
Kaanapali Resort R-1 Water Distribution System Expansion Project

Dear Mr. Nadig:

Thank you for your letter dated November 9, 2020 providing early consultation comments on the subject project. The general information provided on listed species that may occur or transit through the vicinity and guidance have been incorporated into the Draft EA. A discussion of invasive species and best management practices has also been incorporated into the Draft EA.

We appreciate the input provided by your office and will transmit a copy of the Draft EA when published for review and comment. Should you have any questions, please feel free to contact me at (808) 944-1821.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Amanda Tanaka, P.E.

cc: Albert Hahn, County of Maui, DEM-WWRD

1357 Kapiolani Blvd., Ste. 1530
Honolulu, Hawaii 96814
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MICHAEL P. VICTORINO
Mayor

MICHELE CHOUTEAU MCLEAN, AICP
Director

JORDAN E. HART
Deputy Director

DEPARTMENT OF PLANNING
COUNTY OF MAUI
ONE MAIN PLAZA
2200 MAIN STREET, SUITE 315
WAILUKU, MAUI, HAWAII 96793

November 20, 2020

Ms. Amanda Tanaka, P.E.
Fukunaga & Associates, Inc.
1357 Kapiolani Blvd., Ste. 1530
Honolulu, Hawaii 96814

Dear Ms. Tanaka:

SUBJECT: REQUEST FOR COMMENT RE: WEST MAUI RECYCLED WATER EXPANSION PROJECT AND KAANAPALI RESORT R-1 WATER DISRIBUTION SYSTEM EXPANSION PROJECT

The County of Maui Department of Planning (Department) has received your letter dated October 6, 2020 regarding the above matter. The Department has the following preliminary comments at this time:

1. Portions of the project(s) expansion may fall within the County of Maui's Special Management Area and would require a Special Management Area Permit.

2. There is significant trenching proposed and this would require approval from the State Historic Preservation Division before initiation of earth moving.

If additional clarification is required, please contact staff planner, Paul Fasi at paul.fasi@mauicounty.gov or 808-270-7814.

Sincerely,

CLAYTON I. YOSHIDA, AICP
Planning Program Administrator

for MICHELE MCLEAN, AICP
Planning Director

xc: Paul F. Fasi, Staff Planner (PDF)
Amanda Tanaka, Fukunaga Engineers (PDF)
Project File
MCM:CIY:PFF:th
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FUKUNAGA & ASSOCIATES, INC.
CONSULTING ENGINEERS
CELEBRATING 50 YEARS OF SERVICE

February 5, 2021

Ms. Michele Chouteau McLean, Director
County of Maui
Planning Department
2200 Main Street, One Main Plaza, Suite 315
Wailuku, Hawaii 96793

SUBJECT: Early Consultation Request
West Maui Recycled Water Expansion Project and
Kaanapali Resort R-1 Water Distribution System Expansion Project

Dear Ms. Chouteau McLean:

Thank you for your letter dated November 20, 2020 providing early consultation comments on the subject project. We offer the following in response to the comments.

1. The Kaanapali Resort R-1 Water Distribution System Expansion Project falls within the Special Management Area (SMA). The project is to install an underground recycled waterline, and installation of underground utility lines generally is not considered "development" per HRS Chapter 205A-22. The Planning Department will be consulted as details of the alignment are developed to confirm if the Kaanapali Resort R-1 Water Distribution System Expansion project will require a SMA permit.

2. It is acknowledged that approval from the State Historic Preservation Division will be required prior to initiation of earth moving.

We appreciate the input provided by your office and will transmit a copy of the Draft EA when published for review and comment. Should you have any questions, please feel free to contact me at (808) 944-1821.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Amanda Tanaka, P.E.

cc: Albert Hahn, County of Maui, DEM-WWRD

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